



آغا خان یونیورسٹی

THE AGA KHAN UNIVERSITY

Celebrating 25 years

*Health Sciences
Research Assembly 2010*



Abstract Book



March 9 and 10, 2010





آغا خان یونیورسٹی

THE AGA KHAN UNIVERSITY

Celebrating 25 years

Health Sciences Research Assembly 2010



Abstract Book



March 9 and 10, 2010



Message from the Dean, Medical College

The Aga Khan University (AKU) has recently celebrated its 25th anniversary. As we embark on the next 25 years, we must continue to strive for excellence in academic engagements and scholarship and foster a productive and vibrant research culture, the cornerstone of any highly reputed academic institution.

Our Health Sciences Research Assemblies (HSRA) from 2005 to 2008 have produced over 2,500 abstracts, providing faculty, fellows, residents and students a platform to show their work.

This year, HSRA 2010 will be a two-day event at the Stadium Road, Karachi, campus and I am pleased to see that our health sciences fraternity has participated with their usual enthusiasm and have submitted their ongoing and completed research work which we will have the opportunity to review and discuss.

This event will be a forum not only to disseminate work but also to forge new interdisciplinary and multidisciplinary collaborations. As AKU matures into a comprehensive university and a centre of excellence, scholarly academic engagements including research that has relevance in the local and global context will increasingly be the determinants of success and impact. The scientific committee has placed a larger emphasis on quality of research work this year and I hope that we will continue to enhance this particular aspect.

I must deeply appreciate and recognise the superb efforts of Dr M. Asim Beg and members of the scientific committee in making this event a success and hope that we will continue to strive for excellence.

Dr Farhat Abbas
Dean, Medical College
Aga Khan University

Message from the Chair

The Health Sciences Research Assembly has become an important and integral part of the academic calendar at AKU.

This year we have received a befitting response from faculty, staff, graduate students and postgraduate trainees who have shown their support overwhelmingly and contributed in great numbers. HSRA 2010 is an event which will bring together researchers from all backgrounds within the University. It encourages a collegial coming together across specialties and disciplines. As in previous years, we are holding a two-day event. Abstract submissions have surpassed expectations in a testament to research of high quality being done within AKU. On behalf of the organising committee, I would like to thank all colleagues and students for participating so enthusiastically.

I take this opportunity to thank my wonderful colleagues on the organising committee for their hard work; their friendship and sincerity are gratefully acknowledged.

I am grateful for the support given by the Conference Secretariat, Research Office and the IT and Public Affairs Departments for their valuable input in the production of the posters and this Abstract Book.

I also thank Dr Rozina Karmaliani and the University's School of Nursing for participating with such enthusiasm. Finally I would like to thank the Dean of the Medical College, Dr Farhat Abbas, for his guidance and support in making this a successful event.

Dr M. Asim Beg
Chair, Organising Committee
Health Sciences Research Assembly 2010

Organising Committee
Health Sciences Research Assembly 2010

Chair

Dr M Asim Beg, Department of Pathology & Microbiology

Members

Dr Abdul Hakeem Jokhio, Department of Community Health Sciences

Mr Akber Andani, Department of Anaesthesia

Dr Anwar A Siddiqui, Research Office/Department of Biological & Biomedical Sciences

Dr Gauhar Afshan, Department of Anaesthesia

Dr Hammad Ather, Department of Surgery

Mr Jack Fernandes, Research Office

Dr Kulsoom Ghias, Department of Biological & Biomedical Sciences

Dr Mohammad Wasay, Department of Medicine

Mr Muhammad Irshad, Conference Secretariat

Dr Raisa Gul, School of Nursing

Dr Sarah Saleem, Department of Community Health Sciences

Mr Suleman Merchant, Information Systems Division

Dr Waseem Akhtar Mirza, Department of Radiology

TABLE OF CONTENTS

ID	Theme	Page
01	Bone and Joint Diseases / Orthopaedics	1
02	Cancer	5
03	Orthodontics / Dental Surgery	23
04	Drug Trials	30
05	Endocrinology / Diabetes	32
06	GI / Liver	43
07	Infectious Diseases	63
08	Medical Education	90
09	Neurosciences / Mental Health	102
10	Public Health	120
11	Reproductive / Child Health	161
12	Renal and Urology	182
13	Respiratory Diseases	191
14	Techniques / Innovations	195
15	Miscellaneous	211
	Authors Index	293

ABSTRACTS

1.25

MORTALITY AND MORBIDITY POST AUSTIN-MOORE HEMIARTHROPLASTY: ONE YEAR FOLLOW-UP

*Muhammad Hamayun Hameed, Pervaiz Hashmi
Department of Surgery, Aga Khan University, Karachi*

Introduction/Objective: Femur neck fracture is a disease of elderly people; incidence is increasing as life expectancy is increasing. This has tremendous impact on health care system. The goals of treatment are: 1) to improve outcome over natural history 2) minimize risks and avoid complication 3) return to pre-injury level of function 4) provide cost effective treatment. Austin-Moore hemiarthroplasty is indicated in low demand, household ambulatory, elderly patients with displaced femoral neck fracture. Objective: To determine mortality and morbidity in elderly patients with fracture neck of femur treated by Austin-Moore hemiarthroplasty during one year period postoperatively.

Method: It is a prospective audit of 30 patients of 5 months duration from 1st November 2008 to 31st March 2009. A proforma was designed and all variables related to morbidity, mortality and functional status were entered. The Inclusion criteria were: 1) Age 60 years or above. 2) Femoral Neck fractures of Garden type III or IV. 3) Isolated neck of femur fracture. 4) All patients without or with systemic co-morbid. We excluded all those patients having pre-existing symptomatic acetabular diseases.

Results: There were 17 female, 13 male patients and followed for one year. The mean age was 74.4 years. 25 patients were having some systemic comorbid. Fall was the commonest mechanism of injury. 21 patients were using some kind of support for ambulation pre-operatively. Garden III was the commonest fracture type. In complication one patient developed acetabular erosion. The functional outcome was assessed with D'Arcy scoring system, 17 patients scored excellent-good and 12 patients scored fair-poor grade. Seven patients died postoperatively. Age, gender, hospital stay, mode of injury, postoperative ambulation and systemic comorbid didn't effected mortality. There was a higher trend of mortality in the comorbid group, those operated under regional anesthesia, fair-poor group patients but the results were not statistically significant. The postoperative ambulation was better in those patients who stayed in the hospital 7 days, patients who were not using any kind of support pre-operatively and those who were operated by a lateral surgical approach.

Conclusion: Mortality during the first year is high and is comparable with international studies. Age and comorbidities didn't effected mortality. Surgical procedure and implant choice didn't affected mortality. Absence of post surgical complications may be due to small sample size.

Keywords: Austin-Moore, Hemiarthroplasty, Femur Neck Fracture

1.26

GANGLIONEUROBLASTOMA OF THE POSTERIOR MEDIASTINUM: A CASE REPORT

*Samira Ahmad Bawany, Saulat H. Fatimi,
Section of Cardiothoracic Surgery, Department of Surgery,
Aga Khan University, Karachi*

Introduction: Literature search has not revealed any case of Ganglioneuroblastoma of the mediastinum from Pakistan. We report the case of Ganglioneuroblastoma in an 11-year old boy incidentally found to have a large posterior mediastinal mass.

Case Presentation: An otherwise healthy 11-year old boy presented with a 1-week history of right-sided lumbar pain. Ultrasound of the abdomen was unremarkable. Chest X-ray showed homogenous soft tissue density mass in the posterior mediastinum. CT guided biopsy of the mass showed morphological and immunohistochemical features consistent with Ganglioneuroma. Whole body skeletal scintigraphy performed for metastatic work-up did not show any areas of abnormal tracer uptake. Surgery was planned for resection of tumor. The tumor was excised from aorta, subclavian vessels and vertebral column and sent for histopathology. The boy recovered uneventfully and subsequently remained stable on follow-up. Final post-resection histopathology report showed that the tumor was a Ganglioneuroblastoma.

Discussion: Ganglioneuroblastoma is a rare peripheral neuroblastic tumor derived from developing neuronal cells of sympathetic nervous system. It occurs almost exclusively in children, with equal frequency in both genders and is the third commonest childhood malignancy after leukemia and brain tumors. Histologically, it is considered malignant as it contains primitive neuroblasts along with mature ganglion cells. The commonest sites of occurrence are the adrenal medulla, retroperitoneum and posterior mediastinum. It presents clinically with pain caused either by primary tumor or metastasis. Mediastinal tumors can present with stridor and shortness of breath secondary to tracheal deviation. Often it remains asymptomatic which was the case with our patient, who was largely free of symptoms. Histologic confirmation is required for definitive diagnosis. CT scan is the imaging modality of choice as it helps to determine the tumor size, organ of origin, tissue invasion, vascular encasement, lymphadenopathy, and calcifications. No immunohistochemical marker is at present available to differentiate between Ganglioneuroblastoma and Ganglioneuroma hence histopathology is the mainstay of diagnosis. However, in this case since resection of the tumor was planned either way, initial diagnosis did not significantly affect the final outcome.

Keywords: Ganglioneuroblastoma, Ganglioneuroma, tumor

1.78**CLINICAL AND IMMUNOLOGICAL PROFILE OF CHILDREN WITH JUVENILE RHEUMATOID ARTHRITIS (JRA): EXPERIENCE FROM A TERTIARY HOSPITAL**

*Shakeel Ahmed, Syed Rehan Ali, Nabil Sami, Sidra Ishaq
Department of Paediatrics & Child Health, Aga Khan
University, Karachi*

Design: Prospective hospital based study Setting: Paediatric clinics at Aga Khan University Hospital Subjects: Patients attending Paediatric Rheumatology Clinic over last two and a half years (January 2007-July 2009 Results: 35 patients were enrolled during 30 months period that satisfies the American College of Rheumatism (ACR) criteria for Juvenile Rheumatoid Arthritis. Patients were aged nine months to fifteen years with mean age group of 5.74 years. 6 (17.1%) patients had systemic onset JRA, 17 (48.6%) had polyarticular onset type and 12 (34.3%) had pauciarticular onset type JRA. Gender distribution showed female preponderance in all 3 types of JRA with F: M ratio of 2.2:1. Uveitis and Psoriasis were present in one patient each. Rheumatoid factor was positive in 14 (56%) and antinuclear antibody was present in 7 (23%) patients. Conclusion: The clinic-immunological profile of JRA at AKU appears to be somewhat different from that reported from other parts of the world

Keywords: Juvenile, Arthritis, Immunology

1.93**TEMPORAL EXPRESSION OF CALCIUM/CALMODULIN DEPENDENT ADENYLYL CYCLASE ISOFORMS AT TRANSCRIPTION AND TRANSLATION IN RAT ARTICULAR CHONDROCYTES**

Ismail Memon¹, Khalid M. Khan², Sammer Siddiqui¹, Siddiqi Perveen¹

¹Department of Biological & Biomedical Sciences, Aga Khan University, Karachi and ²Kuwait University, Kuwait

Objective: A myriad of signaling cascades is implicated in the homeostasis of articular chondrocytes. However, the exact mechanism of signal transduction in articular chondrocytes is still unknown. cyclicAMP mediated signaling is archetypical. Adenylyl cyclase (AC) is an effector enzyme responsible for the synthesis of cAMP. There are ten mammalian AC isoforms with differential tissue specificity, sequence homology and regulatory properties. Calcium with calmodulin (Ca²⁺/ CaM) is an important regulator of some AC isoforms. Furthermore, Calcium has important role in the development and maintenance of skeletal tissues. We proposed that Ca²⁺/ CaM dependent AC isoforms could play important role in the development and maintenance of articular cartilage.

Method: Identification of Ca²⁺/ CaM dependent AC isoforms and their temporal expression in articular chondrocytes was investigated through RT-PCR and immunohistochemistry.

Results: All Ca²⁺/ CaM dependent AC isoforms were found to be expressed in chondrocytes from all age groups examined. Each isoform was differentially expressed in developing and

adult articular chondrocytes. Generally, expression of AC isoforms was noted to be increasing with age, but the increase was not uniform in all AC isoforms. Co-relation was observed in expression of AC isoforms through RT-PCR and immunohistochemistry.

Conclusion: Presence of all Ca²⁺/ CaM dependent AC isoforms and many other signaling molecules in the articular chondrocytes indicate complicated and multifactorial signaling cascades involved in the development and homeostasis of articular cartilage. Further studies are needed to unravel the mechanism of cross talk among known the signaling mechanisms in the articular chondrocytes.

Keywords: Signaling, Chondrocytes, Adenylyl Cyclase

1.96**OUTCOME OF HIP RECONSTRUCTION OSTEOTOMY**

*Hasnain Raza, Masood Umer, Haroon Ur Rashid
Department of Surgery, Aga Khan University, Karachi*

Background/Objective: Instability of the hip joint can be secondary to congenital pathologies like dysplastic dislocated hips (DDH) which are neglected and proximal femoral focal deficiency or acquired such as sequele of infective or neoplastic process. An unstable hip is usually associated with loss of bone from the proximal femur, proximal migration of the femur, lower-extremity length discrepancy, abnormal gait, and pain. In this study we report our results in the treatment of the unstable hip joint by hip reconstruction osteotomy using the Ilizarov method. This includes an acute valgus and extension osteotomy at the proximal part of the femur combined with gradual distraction for realignment and lengthening at a second, more distal, femoral osteotomy. Objective: To review our clinical results of hip reconstruction osteotomy by Ilizarov method for unstable hip joint.

Method: It is a case series of 16 consecutive patients who underwent hip reconstruction osteotomy for unstable hip at The Aga Khan University Hospital, Karachi between May 2005 and July 2008. Six males and 10 females were operated with an average age of 21yrs at time of surgery. Seven left sided hips, eight right sided and one bilateral were operated. They have various etiologies, six hips were diagnosed as neglected dysplastic dislocated hips (DDH), six were sequele of septic arthritis, 2 had history of tuberculous arthritis and one case of Giant cell tumour of femur head and proximal femoral focal deficiency each. Outcomes were evaluated clinically by Harris hip scoring system.

Results: At the time of follow-up, at a mean of 23 months, the post operative Harris hip score was significantly improved as compared to preop. Mechanical alignment and equal length of lower extremity were achieved in almost all cases.

Conclusion: The Ilizarov hip reconstruction can successfully correct a Trendelenburg gait by stabilizing the hip and supporting the pelvis and simultaneously restore knee alignment and correct lower-extremity length discrepancy.

Keywords: Hip Instability, Reconstruction Osteotomy, Ilizarov

1.111

ILIZAROV TECHNIQUE FOR LONG BONE NON UNION: AKUH EXPERIENCE

*Naveed Baloch, Haroon Rashid, Masood Umer
Department of Surgery, Aga Khan University, Karachi*

Objective: Despite recent developments in fracture treatment, cases of failed union after a long bone fracture still are encountered. Nonunion and repeated surgeries are a cause of considerable pain and disability in these patients because of stiffness of neighboring joints, deformity, and limb length discrepancy. Secondary procedures are often required for correction of bone defects and deformity. Ilizarov method addresses all the above problems simultaneously and offers a treatment solution especially for infected non-unions. The stability of the fixation and provision for bone transport allows bridging of bone defects, limb lengthening, early weight bearing ambulation and joint mobilisation.

Method: We retrospectively reviewed those patients who had non-union of long bone fractures and were treated with ilizarove fixator application between Januarys 2004to May 2008. Apart from demographic data, type of non union, any additional intervention including bone graft, complications and duration with fixator recorded. Radiological outcome measured according to ASAMI criteria.

Results: We identified twenty patients with long bone nonunion who underwent treatment with ilizarov during this time period. Five patients excluded due to incomplete follow-up. Out of fifteen ten were male and five were female patients. Eleven patients had femur non-union and four had tibia non-union. Union was achieved in all cases with two patient's required additional procedure for readjustment of fixator and two patients required bone grafting. Four patients developed superficial pintract infection treated with oral antibiotics and local care without any consequences.

Conclusion: Treatment of non-unions of long bones with Ilizarov ring fixation is effective, with reducing number of procedures and good outcome. Early referral, patient selection and education regarding the duration of treatment, emotional, financial and social support are absolutely essential.

Keywords: Long Bones, Ilizarov, Non Union

1.106

OUTCOME OF INTERNAL FIXATION OF FRACTURES OF THE FEMORAL NECK

*Aurangzeb H. Qureshi¹, Fawwad Hussain², Tashfeen Ahmed¹,
Mohsin-e-Azam¹*

*¹Department of Surgery, Aga Khan University, and ²Dow
University of Health Sciences, Karachi*

Objective: To determine the outcome of internal fixation for fractures of the femoral neck

Method: This was a retrospective case series. Medical records and X-Ray review of last 10 year's cases was done. Coding used was fracture neck of femur and only those patients with screw fixation were selected. Sample sizes of 70 patients were included in the study which had a complete medical record

and had no other intervention done along with fixation of the femoral neck.

Results: 40 patients were males and 30 were females. Minimum follow up was at least 1 year. Outcome was assessed by evaluating clinical and radiological outcome for healing, non-union and avascular necrosis of the femoral head. Non-union developed in only 1 patient with avascular necrosis in 11.7% of the patients.

Conclusion: Fixation with cannulated screws of femoral neck fractures appears to be a successful procedure in young and relatively old high demand patients. In majority of cases patient's own hip was preserved. Patients with AVN of the femoral head also remained asymptomatic and went on to healing.

Keywords: Cannulated Screws, Neck of Femur, Internal Fixation

1.222

LOCAL INFILTRATION VS EPIDURAL ANALGESIA FOR PAIN MANAGEMENT IN TOTAL KNEE ARTHROPLASTY

Mohsin-e-Azam¹, Riaz Lakdawala²

*¹Alumni, ²Department of Surgery, Aga Khan University,
Karachi*

Objective: To compare the efficacy of periarticular soft-tissue infiltration with epidural infusion for peri-operative pain relief in total knee arthroplasty along with assessment of overall patient satisfaction.

Method: Patients were assigned to either the Epidural or Local Infiltration arm. Preoperatively, Knee Society Knee and Function Score were calculated. Peri operative pain control was assessed using Visual Analog Score (VAS). Overall satisfaction regarding pain control was recorded at the time of discharge.

Results: 60 patients were studied 30 in each Epidural analgesia and Local Infiltration analgesia group In the Epidural group means age was 64 years and was 63 years in the Local Infiltration group There were 26 females and 4 males in the epidural group as opposed to 25 females and 5 males in the local infiltration group • Mean Clinical Knee Society score were 48.17 (Epidural Gp) and 46.37 (Local Infiltration Gp) • The mean post op pain scores (VAS) were significantly lower in the Local infiltration group in the first 24 hrs • Fewer patients required parenteral analgesia in the Epidural analgesia group until the epidural catheter was in place • 5 out of 30 in the epidural seemed to have failed epidural and required rescue analgesia as opposed to 22 out of 30 in the local infiltration group • The amount of parenteral analgesia required in patients with apparently failed epidural analgesia was significantly higher than that in the local infiltration group • Virtually all of the patients were satisfied with over all pain management and also answered in affirmative to a question regarding undergoing surgery in similar circumstances
Conclusion: Both the groups underwent expected recovery, rehabilitation and on our measures were satisfied with the overall pain management. Epidural and Local Infiltration analgesia have been studied in case control studies individually

and never been compared head to head. In our study we have compared them and found that even with inherent differences both are effective means of peri operative pain management.

Keywords: Knee Arthroplasty, Analgesia, Local Infiltration

1.248

COMPARISON OF ONE INCISION VS TWO INCISION TECHNIQUE IN CARPAL TUNNEL RELEASE

Muhammad Aamir Rehman¹, Pervaiz Hashmi²
¹Alumni, ²Department of Surgery, Aga Khan University, Karachi

Objective: To compare the outcome of one incision technique with two incisions technique in carpal tunnel release

Method: 60 patients were included in study in one year of study period with six months of follow up. 30 patients were operated by conventional one incision technique and 30 by two incision technique. All base line information like demographics, symptoms signs were recorded by author. Levine symptom severity score and total functional score was used preoperatively and postoperatively to assess the improvement in symptoms and recovery of function. The data was analyzed to determine the improvement in symptom severity score and total functional score at 2, 4 and 8 weeks postoperatively in two groups.

Results: Levine symptom severity score was found to be 40.6 ± 4.9 in one incision group and 40.5 ± 3.4 in two incision group preoperatively. Total functional score was 31.4 ± 3.4 in one incision group and 31.7 ± 2.3 in two incision group preoperatively and found to be almost similar in two groups. There was not much difference in two groups at 2 weeks postoperatively. At 4 weeks postoperatively one incision group was having total symptom severity score of 20.2 ± 3.2 as compare to two incision group with 18.2 ± 1.7 with $p=0.004$. Total functional score was 16.9 ± 3.9 in one incision group and 14.6 ± 1.7 in two incision group at 4 weeks postoperatively with $p=0.005$. At 8 weeks postoperatively, symptom severity score was 17.2 ± 2.2 and 14.5 ± 1.7 in two groups respectively with p value of <0.001 . Total functional score at 8 weeks postoperatively was 13.6 ± 3.1 and 9.9 ± 1.2 with p value of <0.001 .

Conclusion: Symptom severity score and total functional score was found to be better statistically in two incision group as compare to one incision group showing early recovery.

Keywords: Carpal Tunnel, Symptom Severity Score, Two Incision Technique

2.5

THE CLASSIC VARIANTS OF MEDIASTINAL LYMPHOMAS: A CLINICAL SERIES AND AN IMMUNOHISTOCHEMICAL WORKUP

Shahid Pervez¹, Ranish Deedar Ali Khawaja²
Department of¹Pathology & Microbiology, and²Medical
College, Aga Khan University, Karachi

Objective: Hodgkin's lymphomas (HL) and the non-Hodgkin's lymphomas (NHLs) have long been regarded as separate disease entities; recent observations suggest a closer association. A B-lineage large cell lymphoma in particular 'Primary Mediastinal (Thymic) Large B-cell Lymphoma' (PMLBL) not infrequently demonstrates overlapping clinical, morphological and/or immunohistochemical features, with 'classical Hodgkin lymphoma' (cHL).

Method: Our study compared the immunohistochemical profile of PMLBL versus mediastinal cHL in a cohort of 18 patients, out of which 11 were diagnosed with PMLBL and 7 were diagnosed with mediastinal cHL. Biopsy slides and blocks of all patients were retrieved, and further immunohistochemical workup was done on all the cases. This included staining with a panel of antibodies including LCA, CD20, CD3, CD30, CD15 and IRF4/MUM1.

Results: All PMLBL cases (100%) showed positivity both for LCA and Pan B (CD20), and negativity for Pan T (CD3). All mediastinal cHL cases (100%) showed negativity both for LCA and Pan T (CD3). Both entities showed variable positivity for IRF4/MUM1 i.e., 73% in PMLBL vs 100% in cHL. CD30 was expressed in 36% cases of PMLBL vs 100% cases of cHL. CD15 was expressed in a single case of PMLBL vs 86% cases of cHL.

Conclusion: We conclude that 'Leucocyte Cell Antigen' (LCA) is the only marker which was consistently positive in PMLBL and negative in cHL. Other IHC markers though still helpful may be expressed in either entity.

Keywords: B-Cell Lymphoma (Unclassifiable), Mediastinal Classical Hodgkin Lymphoma, Primary Mediastinal Large B-Cell Lymphoma

2.6

POINT OF CARE PHARMACY SERVICE IN ONCOLOGY UNIT: CLINICAL AND ECONOMICAL OUTCOMES

Nadia Ayoub, Sahwa Ahsan, Abdul Lateef Sheikh, Shamim Raza
Department of Pharmacy, Aga Khan University, Karachi

Background: The Aga Khan University Hospital is a tertiary care teaching hospital. Oncology pharmacist plays an active role in the management of drug related problems, management of complications of chemo drugs esp. Chemo Induced Nausea Vomiting (CINV), and other supportive care to oncology patients. In order to enhance clinical pharmacy services in

the oncology unit, a team of trained pharmacists was deputed in the chemo admixture area and as a point of care pharmacy service inside ward

Objective: The primary aim was to assess the Pharmacist's contribution towards patient care through determining the nature and significance of Pharmacist interventions. A secondary aim was to establish the importance of Oncology Pharmacist in the health care team

Method: A Pharmacist participated in the multidisciplinary clinical round on daily basis. Drug related problems (DRPs) were identified during round as well as during processing of computerized Physician Order Entry (POE) of chemotherapeutic drugs. Pharmacist reviewed patient profile and laboratory results; and any identified potential or actual DRP was discussed with oncologists. Upon acceptance of intervention the orders were changed and interventions were logged in the computer system.

Results: A total of 300 interventions were documented in 2 months. Category wise these interventions were Untreated indications (20%), Wrong patient selected, wrong dose, wrong route etc were (18%), Unnecessary drug treatment (16%), Pharmacotherapeutic recommendations (15%), IV to oral switch over (12%), Drug-drug interaction (5.6%), Renal or hepatic dose adjustment (4.5%), Culture sensitivity not followed (4%), Duplication of same class (3%), Adverse drug reactions (1.8%). Cost saving was approximately 0.1 million Rupees (approx. \$1240) per month.

Conclusion: The data demonstrates substantially beneficial outcomes achieved by Pharmacist interventions in oncology units. A specialty trained Pharmacist is a valuable tool in improving drug use and also prevents medication errors.

Keywords: Pharmacist Role, Patient Care, Clinical and Economical Outcomes

2.7

INTRAMEDULLARY DORSAL SPINE GANGLIOGLIOMA

Manzar Hussain, Ather Enam
Department of Surgery, Aga Khan University, Karachi

Objective: We report a case of 23 year old male, who presented to us with complain of numbness involving both lower limbs along with abdominal pain.

Method: MRI dorsal spine with contrast was done which showed intramedullary lesion at D7/8 level

Results: Patient underwent D7-9 laminectomy along with near total excision of the intramedullary lesion. The histopathology came out to be ganglioglioma

Conclusion: Spinal gangliogliomas are rare and MRI findings are non-specific. Total resection offers best chance. The role of adjuvant radiotherapy therapy is not defined.

Keywords: Ganglioglioma, Intramedullary Spinal Tumor, Dorsal Spine Tumor

2.8 EARLY POSTOPERATIVE OUTCOME AFTER CURATIVE COLORECTAL CANCER SURGERY

Rizwan Khan, Hassaan Bari
Department of Surgery, Aga Khan University, Karachi

Objective: Colorectal cancer is relatively uncommon in Asia, particularly the subcontinent region; and there is scarcity of 'outcomes' data from this region. We are a low-volume tertiary care hospital in Asia and the aim of our study was to determine the incidence and risk factors responsible for early postoperative morbidity and mortality following curative colorectal cancer surgery in our set-up.

Method: The data on patients with pathologically confirmed colorectal cancer who underwent curative surgery at our hospital between January 1999 and December 2008 were recorded. The patients who developed early postoperative morbidity or mortality were compared with those who followed a healthy course after surgery. Data were analyzed using Statistical Package for Social Sciences (SPSS version 11.0). Descriptive statistics were computed and univariate and multivariate analysis was carried out through multiple logistic regression.

Results: A total of 257 consecutive patients underwent colorectal cancer surgery during the study period, and the incidence of early postoperative complications was 36.2% (92 patients), including 6 (2.3%) deaths. Serum albumin levels of less than 3.5 g/dl (OR=3.21, 95% CI: 1.21, 8.49) and tumor involving the left colon (OR=2.65, 95 % CI: 1.05, 6.73) were identified as independent risk factors for early postoperative complications on multivariate analysis.

Conclusion: Our mortality and morbidity rates after curative colorectal cancer surgery are comparable to the published data. An estimated knowledge of incidence and risk factors for early postoperative outcome might be an important consideration for patients and surgeons from low volume centers located in low incidence zones for colorectal carcinoma.

Keywords: Colorectal Cancer, Postoperative Complications, Risk Factors

2.12 THE VALUE OF INTRAOPERATIVE FROZEN EXAMINATION OF SENTINEL LYMPH NODE IN BREAST CANCER

Lubna Mushtaque Vohra¹, Romana Idress², Shaista Khan¹,
Naila Kayani²
Departments of ¹Surgery and ²Pathology & Microbiology,
Aga Khan University, Karachi

Objective: Sentinel node (SN) biopsy is the standard of care for the assessment of axilla in early breast cancer patients with clinically node negative disease. Absence of tumor deposit in node on intraoperative frozen section (FS) examination saves the patient from complete axillary dissection. However controversies arise when the inconsistencies found in the results of frozen and permanent section comparison. The purpose of this study was to determine the sensitivity of

frozen examination of sentinel node in breast cancer. The sensitivity of frozen examination in SN is reported in literature ranging from 70-95%.

Method: A retrospective analysis of 127 patients with sentinel node procedure between June 2004 to September 2009 was done. All SNs removed at surgery were submitted for FS and the results were later compared with the permanent sections.

Results: Out of 127 patients 39 were true positive and 82 were true negative. Six patients reported negative on FS later turned out to be positive on permanent section. The accuracy of FS was 95.28%. The sensitivity of frozen was 86.67%. The false negative rate was 6.82%. The mean size of nodal metastasis in false negative case was significantly smaller than that of true positive i.e 2mm with minimum of 1 mm and maximum size of 4 mm. The false negative cases were further classified for assessment into technical and interpretative error.

Conclusion: The intraoperative FS examination is a reliable technique for the assessment of SN with a high accuracy rate. It spares the patient from complete axillary dissection and its subsequent morbidity like lymphedema and shoulder pain.

Keywords: Frozen, Sentinel Node, Breast Cancer

2.13 ROLE OF LAMR1 IN ENDOTHELIAL CELL MOTILITY, WHEN LAMR1 IS A TIMAP/PP1 DEPENDENT SUBSTRATE IN ENDOTHELIAL CELLS

Ranish Deedar Ali Khawaja¹, Marya Obeidat², Barbara J.
Ballermann²
¹Medical College, Aga Khan University, Karachi and
²University of Alberta, Canada

Introduction: TGF- β -inhibited membrane-associated-protein (TIMAP) is one the molecules regulating endothelial cell (EC) motility. It is selectively expressed in endothelial-cells and regulates protein phosphatase-1 (PP1c) activity. The non-integrin 67kDa laminin receptor (LAMR1) also regulates EC motility. We have found that TIMAP interacts with LAMR1 in filopodia of EC, and this interaction is prenylation-dependent. It is the MLC2 phosphorylation/dephosphorylation status that determines the endothelial cell motility. We postulate that the association between TIMAP and LAMR1 may anchor TIMAP/PP1c complex in filopodia for the localized regulation of Myosin Light Chain II (MLC2) phosphorylation.
Method: The regular human umbilical vein endothelial cells (HUVECs) were trypsinized, centrifuged and re-plated on coverslips. The coverslips were coated with three different extracellular matrices i.e., fibronectin, laminin, and a combination of both. The cells were incubated overnight (>20 hours) at 37°C. At specific time-point, immunofluorescence was performed to localize LAMR1 protein using rabbit His-LAMR1 primary antibody at the concentration of 1:100 and TIMAP protein using mouse TIMAP primary antibody.
Results 1: TIMAP and LAMR1 were found co-localized at the filopodial plasma membrane and cytoplasm on fibronectin coated coverslips. 2. They both showed co-localization

strikingly at the filopodia plasma membrane on laminin coated coverslips. 3. Both TIMAP and LAMR1 co-localized at the filopodial plasma membrane and perinuclear areas on both fibronectin and laminin coated coverslips. CONCLUSION TIMAP/PP1c co-localizes with LAMR1 in presence of either fibronectin or laminin. LAMR1 is TIMAP/PP1c dependent substrate controlling the endothelial cell motility via regulation of MLC2 phosphorylation status.

Keywords: LAMR1, TIMAP, Endothelial Cell (EC) Motility

2.16

AWARENESS AND PRACTICES OF SELF BREAST EXAMINATION: SYSTEMATIC REVIEW

Zehra Parvani

Nursing Education Services, Aga Khan University, Karachi

Aim: The purpose of this systemic review is to explore the literature on breast self examination, its awareness and its practices. Objectives To evaluate the effectiveness of awareness and practices of breast self examination. To recommend self breast examination as a cost effective method for screening breast cancers.

Methodology: To review the literature supporting breast self examination, its awareness and its practice Medline, CINAHL, Pubmed, Science Direct and Cochrane Databases were used. The key words “awareness”, “knowledge”, “practice” and “breast self examination” were used in conjunction with “breast cancer”, “breast screening” and “early detection” to search the recent articles of last 8 years from 2000 to 2009. *Results:* Breast cancer is the most common cause of cancer related mortality in women. It is a disease that has clutched both the developed and the developing populations in its paws including Pakistan. Thus, it needs to be dealt seriously. Early detection of cancer significantly increases the chances of cancer survival therefore, the importance of breast self examination cannot be ignored. Conclusion The literature supports that the self breast examination can be a cost effective method to decrease morbidity and mortality related to breast cancer through early detection. Hence, Health care providers can play a significant role to aware the women about the importance of practicing breast self examination.

Keywords: Breast Self Examination, Breast Cancer, Awareness Practices,

2.19

CLINICOPATHOLOGICAL SPECTRUM AND THERAPEUTIC OUTCOMES IN BURKITT'S LYMPHOMA: A TEN YEAR EXPERIENCE IN A TERTIARY CARE SETTING

Farheen Karim, Bushra Moiz, Raihan Sajid
Department of Pathology & Microbiology, Aga Khan University, Karachi

Objective: To evaluate clinico-pathological spectrum of Burkitt's Lymphoma and to evaluate treatment outcomes along with survival studies.

Method: All patients with established diagnosis of Burkitt's lymphoma who presented between 1998 and 2008 to The Aga Khan University Hospital were reviewed retrospectively. The patients were identified using International classification of diseases ICD version 9.0. Medical records were evaluated for clinical and laboratory details using an in-house questionnaire. Statistics like multivariate analysis and survival studies (Kaplan Meier) were computed through SPSS version 16.0 *Results:* The median age was 10 years (± 18 years 1 SD) and range was from 3.5 to 67 years. Thirty one (84.6%) patients were male and six (15.4%) were female. Hepatomegaly was seen in 11 (28.2%), Splenomegaly in 8 (20.5%), Lymphadenopathy was present in eighteen (46.2 %) patients respectively and three patients had CNS involvement at the time of presentation. Initial hemogram showed mean hemoglobin was $9.4 \pm$ G/dl (1.7-15), white blood cells $10.5 \times 10^9/L \pm$ (2.6-33.1) and platelets $315 \times 10^9/L \pm$ (10-994). Results of cytogenetics were available in 9 patients only with normal cytogenetics in 5 patients, t(8;14) in three patients while one patient showed hyperploidy.

Conclusion: Burkitt's lymphoma has a male predominance and is commonly seen in children. We found abdominal presentation as the most common manifestation of Burkitt's lymphoma. It is an uncommon malignancy but carries a poor prognosis.

Keywords: Burkitt, Lymphoma, Survival

2.20

OUTCOME OF ADULT PATIENTS WITH ACUTE LYMPHOBLASTIC LEUKEMIA RECEIVING MRC UK ALL XII PROTOCOL – A TERTIARY CARE CENTER EXPERIENCE

Natasha Ali, Usman Shaikh, Salman Adil, Mohammad Khurshid
Department of Pathology & Microbiology, Aga Khan University, Karachi

Objective: To study the outcome of adult patients with Acute Lymphoblastic Leukemia receiving MRC UK ALL XII protocol.

Method: This study was conducted at The Aga Khan University Hospital from January 2001 – December 2008. It was a

retrospective analysis using an in house questionnaire. Medical records of all patients with age >15 years and diagnosed as acute lymphoblastic leukemia were reviewed using international classification of disease (ICD) version 9. Patient records were analyzed with respect to their clinical, morphological and immunological features at presentation and their impact on treatment outcomes. Multivariate analysis and survival studies were performed using Kaplan Meier statistics and Cox Regression Analysis

Results: Total number of patients included in the study were n=54 with a male to female ratio of 3.4:1. The median age was 28 years (range 16-53 years). Common presenting symptoms were fever in n=49 patients (81.9%) and bleeding seen in n=14 (25.5%). Hemoglobin of <10gms/dl was present in n=38 (80%), WBC = 50x10E9/L in n=21 (43.8%) and LDH = 1000 was seen in n=35 patients (mean: 5173IU/L). Morphologically, FAB L2 was the most common subtype (91.8%). Immunophenotyping revealed n=38 (82.6%) were B-ALL, n=8 (17.4%) were T-ALL. Multivariate analysis showed age>30 years, male sex, WBC count >50x10E9/L and T-ALL subtype were independent risk factors for poor survival. All patients were treated with MRCUK XII protocol. n=4 (7.4%) patients died during induction therapy secondary to tumor lysis syndrome (3.7%) and primary induction failure (3.7%). n=46 (85%) achieved complete remission. Median survival was 12.3 months. Median relapse duration was 8.2 months after remission. At the end of 5 years n=16 patients are alive out of which n=2 are alive with disease and n=14 are in complete remission.

Conclusion: Overall survival and relapse rate is comparable with international literature. Age >30 years, male sex, WBC count >50x10E9/L and T-ALL subtype had an adverse impact on survival.

Keywords: Acute Lymphoblastic Leukemia, MRC UKALLXII protocol, Treatment Outcome

2.21

OUTCOME OF ADULT LYMPHOBLASTIC LEUKEMIA: A SINGLE CENTER EXPERIENCE

Natasha Ali, Usman Shaikh, Salman Adil, Mohammad Khurshid
Department of Pathology & Microbiology, Aga Khan University, Karachi

Objective: To study the outcome of adult patients with Acute Lymphoblastic Leukemia

Method: This study was conducted at The Aga Khan University Hospital from January 2004 – December 2008. It was a retrospective analysis using an in house questionnaire. Medical records of all patients with age >15 years and diagnosed as acute lymphoblastic leukemia were reviewed using international classification of disease (ICD) version 9. Patient records were analyzed with respect to their clinical, morphological and immunological features at presentation and their impact on treatment outcomes. Multivariate analysis and survival studies were performed using Kaplan Meier statistics and Cox Regression Analysis

Results: Total number of patients included in the study were n=51 with a male to female ratio of 3.2:1. The median age was 29 years (range 14-70 years). Common presenting symptoms included fever in 27 patients (53%) followed by bleeding (33.3%) and lymphadenopathy (30.6%). Splenomegaly was observed in 35% (n=18) while hepatomegaly was present in n=12 patients. Hemoglobin of =10gms/dl was present in n=18 (35%), WBC = 50x10E9/L in n=12 (21%) and LDH = 1000 was seen in 14 patients (mean: 5908IU/L). Morphologically, FAB L2 was the most common subtype (61%). Immunophenotyping by flowcytometry revealed n=21 (41%) were precursor B-ALL, n=10 (20%) were B-ALL and n=5 (10%) were Precursor T-ALL. Multivariate analysis showed age>30 years, male sex, WBC count >50x10E9/L and T-ALL subtype were independent risk factors for poor survival. All patients were treated with MRCUK X and XII protocol. n=8 (16%) of the patients died during induction therapy secondary to sepsis (10%), tumor lysis syndrome (4%) and primary induction failure (2%). 78.4% (n=40) achieved complete remission. Median survival was 17.4 months. Median relapse duration was 8.2 months after remission. At the end of 5 years n=11 patients are alive out of which 4% are alive with disease and 18% are in complete remission.

Conclusion: Overall survival and relapse rate is comparable with international literature. Age >30 years, male sex, WBC count >50x10E9/L and T-ALL subtype had an adverse impact on survival.

Keywords: ALL, Outcomes, Adult

2.22

CLINICOPATHOLOGIC SPECTRUM OF WALDENSTROM'S MACROGLOBULINEMIA: A SINGLE CENTER EXPERIENCE

Raihan Sajid¹, Sarah Hasan², Usman Shaikh¹, Salman Adil¹
¹Department of Pathology & Microbiology, Aga Khan University and ²Dow University of Health Sciences, Karachi

Objective: Waldenstrom Macroglobulinemia (WM) is a B cell neoplasm characterized by infiltration of the bone marrow by a lymphoplasmacytic infiltrate and an IgM monoclonal gammopathy. Epidemiological data for Pakistan is not available as only occasional case reports of this disease are published in this part of the world. We did a retrospective analysis of this disease at our center for the last 15 years with analysis of clinicopathologic spectrum, treatment given and outcomes in this cohort of patients.

Methods: This was a retrospective analysis of data from January 1994 to Feb 2009 at our center. A computerized data base search (through International Classification of Disease (ICD) version 9.0) for obtaining anonymous information was conducted. Patients with established diagnosis of WM were included in the study. The WHO criteria were followed for diagnosis and patients fulfilling those criteria were included in the study. The data included clinicopathologic features, laboratory parameters, treatment protocols and outcomes. Overall Survival (OS) was considered from the time of

diagnosis to death. To assess the patient's response to treatment, the criteria developed by "The International working group on WM Patients" were followed. The response to therapy was evaluated at 6 and 12 months.

Results: We report a fifteen year review of patients diagnosed with Waldenstrom Macroglobulinemia at our center. A total of 18 patients were diagnosed and treated at our center during the study period. Neurological symptoms were seen in almost 95 % while B symptoms were present in almost 80 % of patients. More than two third of patients were anemic at the time of presentation and more than 90% showed bone marrow infiltration with lymphoplasmacytoid cells. Anemia, B symptoms, splenomegaly and neurological symptoms were the primary reasons in the majority of patients to initiate treatment. Chlorambucil was the primary treatment in more than half the patients followed by CVP. The median overall survival in all patients was 29 months (range 22-81 months). **Conclusion:** We conclude that Waldenstrom is a rare disorder and novel therapeutic modalities need to be identified to improve survival in these patients.

Keywords: Waldenstrom's Macroglobulinemia, Hyperviscosity, Igm

2.23 PSYCHOSOCIAL ASPECTS F CHILD CANCER CARE IN PAKISTAN

*Barkat Hooda, Rozina Essani, Gulrose Kassamali, Veronica Braganza
School of Nursing, Aga Khan University, Karachi*

Introduction: Cancer creates an emotional storm anywhere in the world. This storm becomes sensational if it is the child who gets the cancer. While a diagnosis of cancer in a child is not necessarily synonymous with poor prognosis and death in Pediatric Oncology, it results in significant mental and psychosocial trauma for the entire family structure centered around the child with this potentially life threatening condition. **Purpose:** The purpose of the study is to identify the major contributor/s of psychosocial stress in families with a child having cancer. **Method:** This is a descriptive exploratory study of randomly selected families having children diagnosed with cancer treated during 2009.

Findings: Cancer was found to be stressful in all families as expected; almost half of the families were unable to quantify the stress on a simple scale. Financial concerns of cancer care emerged as the major cause of stress for the majority. While psychosocial support provided by the healthcare team was judged excellent, 6% of the families thought it was inadequate. 78% of the families were of the view that an expert clinical Psychologist must be available and be part of the team. The results of our study on psychosocial issues in Pediatric Oncology may not be generalized for the developed world where healthcare resources are not as scantily available as is the case in a developing nation like Pakistan.

Conclusion: Multidisciplinary approach to child cancer care must focus on psychosocial issues that so often overwhelm families of a child with malignant disorder. Expert psychology

consultant support must be an integral component of oncology care. High cost of child cancer must be brought down through governmental legislation and supported generously through philanthropy.

Keywords: Psychosocial Trauma, Financial Concerns, Philanthropy.

2.25 APLASTIC ANEMIA: CLINICOHAEMATOLOGICAL, TREATMENT OPTIONS, RESPONSE AND OUTCOME ANALYSIS.

*Rabia Wali¹, Zehra Fadool¹, Salman Adif², Syed Ahmed Naqvi¹
Departments of ¹Paediatrics & Child Health and ²Pathology
& Microbiology, Aga Khan University, Karachi*

Objective: To study the demographic features, treatment and outcome of children diagnosed with aplastic anemia at a single institution over a period of 10 years.

Methods: Medical records of patients less than 15 years of age diagnosed with aplastic anemia on bone marrow trephine were reviewed. Demographic and clinical features, treatment, response to therapy with outcome were recorded.

Results: 90 patients were diagnosed to have aplastic anemia (AA); 65 male and 25 female. Ages ranged from 1 to 15 years. Fever (71.4%), pallor (58.9%), subcutaneous bleed (54.4%) and epistaxis (34.4%) were the common clinical features. Etiology was hepatitis in 6 (6.7%), Fanconi's anemia in 15 (16.6%) and idiopathic in 69 (76%) of patients. Very Severe aplastic anemia (VSAA) was seen in 29 (32.2%), 26 (28.9%) had severe AA and 17 (18.9%) had moderate AA. 8 patients (8.9%) underwent hematopoietic stem cell transplantation (HSCT), 12 (13.3%) received immunosuppressive therapy (IST), and 45 (50%) received supportive therapy. 5 (62.5%) patients showed complete response to HSCT and 3 (37.5%) failed to engraft. IST showed complete response in 3 (25%), partial response in 5 (41.6%) and 4 (33.3%) patients showed no response. 22 (24.4%) patients expired, 10 (11.1%) patients were referred out, 10 (11.1%) are well off therapy with 3 (3.3%) still on treatment. 45 (50%) were lost to follow up. **Conclusion:** Common causes of AA is idiopathic and Fanconi's anemia. VSAA and SAA were frequent. Response to HSCT and IST was poor as compared with international literature. A majority could not receive therapy because of financial constraints.

Keywords: Aplastic Anemia, Treatment, Outcome

2.26 ACCURACY OF ULTRASOUND IN CLINICALLY NODE NEGATIVE EARLY BREAST CANCER PATIENTS

*Farrukh Rizvi, Shaista Khan
Department of Surgery, Aga Khan University, Karachi*

Objective: Breast cancer is the most common malignancy in females of our country, involvement of axillary nodes is an

important prognostic factor in breast cancer patients. Clinical examination is not reliable so we need a diagnostic modality to decide which patients will need staging procedure on axilla and which will need definitive surgery. Ultrasound of axilla might solve this problem. Objective:- To determine the accuracy of axillary ultrasound in clinically node negative early breast cancer patients. And to see if ultrasound can help us in selecting patients for sentinel node biopsy/ axillary node sampling

Method: We did a diagnostic cohort study to look at clinically node negative early breast cancer patients who had preoperative ultrasound followed by biopsy of the nodes. Study duration was 2002-2009 and is done at Aga Khan University hospital. Sample size as calculated by WHO software was 186 patients to get results with 95% CI.

Results: Ultrasound was found to be 33% sensitive and 98% specific. Accuracy was 90%. Majority of false negative patients had single node involvement and size of metastasis was less than 10mm.

Conclusion: Ultrasound of axilla has got good accuracy to predict lymph node status and can be safely used as a tool to plan sentinel node biopsy. Its false negative rate will decrease with experience.

Keywords: Early Breast Cancer, Accuracy, False Negative

2.28

OUTCOME AND PROGNOSTIC FACTORS SEEN IN PEDIATRIC ONCOLOGY PATIENTS ADMITTED IN PEDIATRIC INTENSIVE CARE UNIT IN A DEVELOPING COUNTRY

Zehra Fadoo, Anwar ul Haq, Nida Akhtar, Sukaina Panju, Ahmed Naqvi

Department of Paediatrics & Child Health, Aga Khan University, Karachi

Objective/Background: Higher mortality and morbidity are well established in children with malignancies in whom intensive care admissions are required. Objective: - To evaluate the outcome and prognostic factors for oncology patients in the PICU of a tertiary care centre in a developing country.

Methods: - A retrospective study was conducted to assess the outcome of children with cancer in the pediatric intensive care unit (PICU) from January 2000 to December 2009. 74 medical records were reviewed for data regarding demographics, admitting diagnosis, Pediatric Risk of Mortality (PRISM) III score and the therapeutic modalities used.

Results: Of the 74 children admitted with mean age 6.3 yrs (range 1-14); 53 were male (71.6%) and 21 were female (28.4%). Majority of the patients (37%) had hematological malignancy. The most common reason for PICU admission was acute respiratory failure (24.3%), followed by neurological complications (20.3%). The median PRISM III score was 7.0 (range 0 – 30). The median PRISM III among survivors was significantly lower than among non-survivors (5.00; range 0 – 26 vs. 17.00; range 0 – 30; p-value < 0.001). The overall mortality was 32.4% (24/74). 44.6 % of the children had multi organ failure (MOF). Mortality was significantly related to presence and number of organ dysfunction (79% had MOF

among the expired; p-value <0.001). Out of the 59 children who needed mechanical ventilation, 23 died (39 %), and when they needed inotropic support, the mortality increased upto 65%. The mean length of PICU stay was 6.3 days (ranging from 0 – 28 days).

Conclusion: Our outcome highlights that mortality is related to higher PRISM III. However, other factors like MOF, need for mechanical ventilation and inotropic support should also be taken into consideration.

Keywords: Pediatric, Oncology, PRISM III

2.29

PATTERN OF RELAPSE IN PEDIATRIC ACUTE LYMPHOBLASTIC LEUKEMIA FROM A TERTIARY CARE UNIT

Sayyeda Ghazala Irfan Kazi, Muhammad Irfan Habib, Khalid Mehmood Ahmed Khan, Emaduddin Siddiqi

Department of Emergency Medicine, Aga Khan University, Karachi

Objective: To determine the frequency, site and time to relapse from diagnosis, relationship of relapse with important prognostic factors i.e. age, sex and initial leukocyte count.

Method: Descriptive study conducted at Oncology unit, NICH, Karachi, over a period of 2 years. 60 newly diagnosed pediatric (1-14 years of age) cases of acute lymphoblastic leukemia were taken as subjects and then followed for 2 years. Bone marrow aspiration was done only on reappearance of blast cells in peripheral smear and cerebrospinal fluid Detailed Report was done each time when intra-thecal chemotherapy was given or there were signs and symptoms suggestive of CNS relapse.

Results: Out of 60 patients [37(62%) boys and 23(38%) girls], 4 patient's expired and 1 patient lost during treatment so remaining 55 was completely followed for 2 years. Mean age for relapse is 6.7±2.5 years. Mean time to relapse from diagnosis is 1.3±0.54 years. Male: female ratio is 1:1.75. Among them, 12 patients suffered relapse (22%) including 5(41.6%) boys out of 36 and 7(58.3%) girls out of 19 girls. 8 patients had CNS relapse (66.66%) 3 boys and 5 girls, 3 patients suffered BM relapse (25%) 2 boys, 1 girl and only 1 female patient suffered combined relapse i.e.; BM + CNS relapse (8.3%). Out of 12 patients, 9(75%) had WBC count less than 50,000/cm while only 3(25%) had WBC count more than 50,000/cm.

Conclusion: Relapse in ALL is common, although treatment modalities are improving day by day.

Keywords: Acute Lymphoblastic Leukemia, Hematopoietic Cells, Blast Cells

2.30 CANCER KNOWLEDGE AND SKILLS OF FRESH MEDICAL GRADUATES OF PAKISTAN

*Babar Dildar, Muhammad Irfan, Ahmed S. Haque, Najeeb Naimatuallah, Javaid A. Khan
Department of Medicine, Aga Khan University, Karachi*

Objective: To find out about fundamental knowledge, educational and clinical training that medical graduates receive in the under graduate curriculum and to assess their competencies to deal with common cancers.

Method: Descriptive cross sectional questionnaire based study on recently graduated interns regarding basic knowledge and their clinical training of common cancers in Pakistan. *Results:* There were 71 responses from interns, 36 from 6 private sector medical colleges and 35 from 7 public sector medical colleges. Interns experienced different methods of teaching; small group tutorial, n=59(83%), problem-based learning, n=48(68%), clinical skills laboratories, n=38(53%), formative assessment, n=34(47%), critical appraisal of medical literature, n=32(45%), role play, n=20(28%) and contact with patients in their first year, n=16(22%). The time spent in clinical attachments 3 weeks or more in radiation oncology, n=54(76.05%), medical oncology, n=46(65%), surgeons dealing with cancer, n=43(60%), and communication skills, n=35(49%). Interns who had examined primary lesion in rectal cancer were 18(24%), melanoma 22(31%), in prostate 34(48%), mouth 43(60%) and breast 57(80%). Age at greatest risk for colorectal cancer were correctly stated by 27(38%), lung cancer 21(30%), breast cancer and cervical cancer 13(18%). Frequency of familial breast cancer was correctly estimated by 20(28%) interns. When asked which cancers had a five-year survival of more than 50%, correct answer for Hodgkin's disease and prostate were given by 62(87%), breast 58(82%), ovary 54(76%), colon 44(62%), lung 30(42%) and testis 12(17%). Interns rated their teaching as good/very good for certain topics as follows; management of curable cancer n=25(35%); smoking cessation n=22(31%); primary prevention of cancer n=20(28%) and management of dying patients n=19(27%). There were no significant differences in responses between interns of public and private sector medical colleges in any aspect of oncology training.

Conclusions: This survey reveals lack of adequate training in knowledge about different management aspects of common cancer, less opportunity to examine primary lesion in patients with cancer and need for improving and implementation of proper methods of teaching for both public and private sector medical colleges.

Keywords: Cancer, Medical Graduates, Knowledge

2.31 ESOPHAGECTOMY: 12 YEARS EXPERIENCE OF A TERTIARY CARE CENTRE OF ASIA.

*Hassaan Bari, Inam Pal
Department of Surgery, Aga Khan University, Karachi*

Objective: Esophageal cancer is one of the 10 most common cancers and the sixth most common cause of cancer deaths worldwide. The malignancy is relatively more common in Pakistan, being the seventh most common cancer in men and the sixth most common in females, with increased incidence of squamous cell carcinoma as compared to adenocarcinoma. Esophagectomy with curative intent remains the most effective treatment for this disease. This study evaluated the perioperative outcomes of patients who underwent esophagectomy in a tertiary care centre, of a South-Central Asian country, during a 12 - year period.

Method: A retrospective study was performed by reviewing the medical records of all patients who underwent elective esophagectomy, at the Department of Surgery of Aga Khan University Hospital (AKUH), Karachi from January 1997 to December 2008. A detailed performa was developed to record information on demographics, co-morbidities, intra and postoperative complications and hospital mortality. Data were analyzed using Statistical Package for the Social Sciences (SPSS version 11.0).

Results: A total of 117 esophagectomies for esophageal tumor were performed in the study period of 12 years, with a mean age of 51.9 years. Lower third of esophagus (66.7 %) was the most frequent site of lesion. Squamous cell carcinoma (68.4 %) was the most common type of tumor, compared to adenocarcinoma (29%). Early postoperative morbidity was recorded in 47.9 % of patients. Most frequent surgical and systemic complications were anastomotic leak (5.1 %) and pneumonia (38.5%) respectively. The anastomotic leaks were all managed conservatively. There were 4 in-hospital deaths during this study, with a 30-day mortality of 3.4 %. *Conclusion:* Our overall morbidity rate of 48 % and 30-day mortality of 3.4 % clearly indicates that esophagectomy can be performed safely in a low volume centre of a developing country, provided it is done by experienced surgeons along with excellent peri and postoperative management strategies.

Keywords: Esophageal Cancer, Complications, Mortality

2.32 EFFECT OF HOSPITAL VOLUME AND EXPERIENCE ON OUTCOMES FOR PANCREATODUODENECTOMY: IN A TERTIARY CARE CENTRE OF A DEVELOPING COUNTRY

*Hassaan Bari, Inam Pal
Department of Surgery, Aga Khan University, Karachi*

Objective: Pancreaticoduodenectomy (PD) is one of the most complex surgical procedures, and is still associated with substantial operative morbidity rates. Operative mortality from the original report of Whipple to well into the 1970s

was in excess of 25%. It was only in 1990s; when several major western centers reported reduction in postoperative mortality rates of less than 5%, as a result of improved surgical management. This study evaluated the perioperative outcomes of 112 patients who underwent pancreaticoduodenectomy in a local tertiary referral centre of a developing country during a 22.3 - year period.

Method: A retrospective study was performed by reviewing the medical records of all patients who underwent elective PD, at the Department of Surgery of Aga Khan University Hospital (AKUH), Karachi from January 1986 to March 2009, maintained in the Department of Health Information and Management Systems. A detailed performativa was developed to record information on preoperative laboratory investigations, postoperative complications and mortality. Data were analyzed using Statistical Package for the Social Sciences (SPSS version 11.0).

Results: A total of 112 patients underwent PD during the study period in AKUH. Patients included 72 men. Carcinoma of the head of pancreas was the most common indication for PD (48.2 %). A total of 124 postoperative complications were recorded in sixty-four (57.1%) patients. The occurrence of delayed gastric emptying was significantly ($p=0.02$) more common in patients who had pylorus preserving PD (29.7%) when compared to patients who underwent standard PD (12%). Overall there were ten (8.9%) postoperative deaths within 30 days after surgery.

Conclusion: This study shows that pancreaticoduodenectomy can be performed with controlled mortality rate in a developing country, provided it is done by experienced surgeons in a tertiary referral centre that offers high-quality perioperative care.

Keywords: Whipples, Pancreatic Tumor, Mortality

2.34

IS SELECTIVE NECK DISSECTION AS EFFECTIVE AS MODIFIED RADICAL NECK DISSECTION FOR NODE POSITIVE HEAD AND NECK SQUAMOUS CELL CANCERS? A COMPARISON

Lakhani, Madiha¹, Haleem, Sohail¹, Zia, Hassaan Ashraf², Khan, Mumtaz Jamshed³

¹Medical College, and ²Department of Surgery, Aga Khan University, Karachi

Objective/Introduction: While the prognostic significance of cervical node metastasis has been recognized unanimously, to date decision regarding absolute management of neck stay in a state of flux. Objectives: The aim of this study is to compare the regional recurrence (RR) and survival rates of neck node positive head and neck squamous cell cancer (HNSCC) patients treated with selective neck dissection (SND), modified radical neck dissection (MRND) and radical neck dissection (RND).

Methods: A retrospective review of all patients registered with HNSCC as their diagnoses from February 2000 to June 2009 was conducted at the Aga Khan University Hospital. Records of a total of 157 patients were retrieved by this criteria. Comparison was made in the regional recurrence rates of selective, modified radical and radical neck dissections

and Kaplan-meier graphs for survival were plotted. Results: Analysis: Of the 157 neck dissections there were 37 SNDs, 97 MRNDs and 26 RNDs. Median follow-up period was 14 months. Among node-positive patients, 4 SNDs were done in n1 patients, 18 in n2 patients and none in n3 patients. The RR in the n1 group was 25% for SND compared to 19% in MRND and 50% in RND whereas for the n2 group RR were 11%, 26% and 25% for SND, MRND and RND respectively. The differences were not statistically significant. **Conclusion:** Selective neck dissection is as effective as modified radical and radical neck dissections for node positive head and neck squamous cell cancers as the difference in recurrence and survival rates were shown to be insignificant.

Keywords: Neck Dissection, Squamous Cell Cancer, Node Positive

2.35

OUTCOMES OF SURGICALLY TREATED JUVENILE NASOPHARYNGEAL ANGIOFIBROMA CASES AT AGA KHAN UNIVERSITY HOSPITAL

Adeel Ahmed Shamim¹, Kulsoom Ghias², Mumtaz Jamshed Khan³

¹Medical College, Departments of ²Biological & Biomedical Sciences, and ³Surgery, Aga Khan University, Karachi

Introduction: Juvenile nasopharyngeal angiofibroma (JNA) is histologically a benign neoplasm arising almost exclusively from the nasopharynx. Recurrence of JNA is unpredictable and contributes to the morbidity associated with this neoplasm. The purpose of this study was to investigate the outcomes of JNA patients at Aga Khan University Hospital (AKUH). **Methods:** This is a retrospective review of 18 patients with histologically confirmed JNA treated at Aga Khan University Hospital between 2000 and 2008. The following data was collected from patient records: age at diagnosis, sex, presenting symptoms, diagnostic procedure, tumour site, blood supply, embolization, treatment procedure, complications and recurrences, if any. The data was analysed for post-surgical intervention recurrence rates.

Results: All patients were male and aged between 11 and 28 years (mean 16 years). None of the patients received adjuvant treatment preoperatively. All patients presented with nasopharyngeal mass and were staged according to Andrews staging. Four patients presented with stage I disease, 5 with stage II, 4 with stage IIIA, 1 with stage IIIB and 4 patients with stage IVB disease. Collectively, the JNA patients underwent surgical intervention 24 times, with recurrence on 9 occasions (37.5%). Lateral rhinotomy was the preferred surgical approach All surgically operated stage IVB tumours were successfully treated without any recurrences.

Conclusion: JNA is a highly intractable tumour and must be managed skilfully. Our data, in accordance with previously reported studies, illustrates that as the tumour becomes advanced and impinges on essential anatomical structures, complete excision of the mass is extremely critical to avoid morbidity

Keywords: JNA, Surgical Intervention, Outcome

2.39 BRCA1 MUTATION CONTRIBUTION IN MODERATE AND EARLY PAKISTANI BREAST CANCER PATIENTS

Muniba Aban¹, Shaista Khan², Shahid Pervez¹, Tariq Moatter¹
Departments of ¹Pathology & Microbiology, and ²Surgery,
Aga Khan University, Karachi

Objective: BRCA1 (breast cancer gene one) is a source of affliction for number of growing females of all population and responsible for familial breast cancer. BRCA1 mutation are found in approximately 12 percent of early onset breast cancer with family history

Method: Overall, 53 breast cancer patients on the basis of clinical and laboratory diagnosis was recruited from oncology clinic of Aga Khan Hospital. Out of these, 23 did not report family history but demonstrated early onset breast cancer and their range between 20 and 37 years. On the other hand, remaining 30 patients exhibited moderate family history. Peripheral blood samples were collected from each patient and DNA was extracted from blood sample by Wizard DNA extraction kit (Promega, USA). Mutational analysis of BRCA1 exon 2, 5 and 6, 16, 20, 22 was carried out using single strand conformation polymorphism assay and exon 11 with protein truncation test followed by sequencing.

Results: The median age of patients at the time of diagnosis of breast cancer was 39 years (range 24-65 years). Out of 53 patients, analyzed by SSP assay, mobility were identified in exon 6, 16 and 20 of BRCA1 gene. Four patients with BRCA1 mutation were confirmed by sequencing. Out of four mutations c.4837A>G in exon 16 that was common polymorphism also reported in other Asian populations, other two mutations in exon 6 (c.271T>G) and 20 (c.5231 delG) and (c.1123T.G) were novel mutations and first time reported in Pakistani population.

Conclusion: Increased frequency of BRCA1 mutation were observed in breast cancer patients with moderate family history. Therefore mutation based genetic counseling for small and moderate family should facilitate if one first or second degree relative or early onset disease is apparent.

Keywords: Breast Cancer, Brca1, Mutation

2.40 EFFECTS OF BISDEMETHOXYCURCUMIN ON VIABILITY AND MIGRATION OF HUMAN GLIOMA CELLS

Ghulam Rehmani Lakho¹, S Ather Enam², Romena Qazi³,
Anwar H Gilani¹
Departments of ¹Biological & Biomedical Sciences, ²Surgery,
and ³Pathology & Microbiology, Aga Khan University, Karachi

Introduction: Glioma is the most common primary brain tumor in adults. The ability of these cells to invade surrounding brain tissues precludes the total surgical resection of tumor. Adjunctive measures (chemotherapy and radiation) offer some benefit but survival rate is still under 2 year. Recent advances in medicinal plants have shown promising antitumor effects of curcumin (CUR); a curcuminoid, found in turmeric

(*Curcuma longa*). Previous studies in our lab have also shown antitumor effects of CUR on glioma cell line (A172). Another curcuminoid; bisdemethoxycurcumin (BDMC) has been found beneficial in non-gliomatous model. However, BDMC has not been tested for its antitumor effect on human glioma cells. **Objectives:** To determine the viability and migratory effects of bisdemethoxycurcumin on human glioma cell line (A172).

Method: An in vitro monolayer cell culture model using human glioma cell line (A172) was used. Cells were maintained in DMEM with 10% fetal calf serum. MTT and scratch wound assays were employed to determine BDMC effects at 24-72 hours. Level of significance < 0.05 was set by employing ANOVA

Results: BDMC (50 µM) causes significant (p < 0.05) inhibition of cell survival and migration at 72 hours of treatment. The antiproliferative effect of BDMC was evident morphologically by lack of processes growth in A172 cultures (observed under phase contrast microscope). By 48 hours wound gap is almost sealed off in control cells, whereas no change seen in treated cultures

Conclusion: Our results indicated that BDMC significantly inhibit A172 cell viability and migration. These results merit further investigation in other curcuminoids.

Keywords: Glioma, Antimigratory, Curcuminoid

2.41 IDENTIFICATION OF DNA METHYLATION MARKERS TO DIAGNOSE & PROGNOSTICATE BLADDER CANCER

Farhat Abbas¹, Sohail Qureshi², Shahid Pervez³, Shumaila Bilgrami²
Departments of ¹Surgery, ²Biological & Biomedical Sciences,
and ³Pathology & Microbiology, Aga Khan University, Karachi

Background: Urinary bladder cancer represents the second most frequent urologic cancer and accounts for 3.3% of newly diagnosed cancer cases and 2.1% of cancer deaths worldwide. Alarmingly, among Asian population, Pakistan carries the second highest burden of disease. At present, there is no validated biomarker for the early detection & predicting progression of disease. The important role of epigenetic changes, especially DNA methylation, in promoting bladder cancer has been well documented. Aberrations in methylation pattern are accompanied with either hypomethylation or hypermethylation of CpG dinucleotides found in the promoter regions of several genes. Hypermethylation leads to gene repression while hypomethylation promotes gene expression. **Method:** We analyzed promoter methylation in p16, p15, MGMT, APC & Rb. 17 Bladder cancer FFPE samples were used and were categorized into 7 non-invasive low grade, 5 invasive high grade & 4 recurrent cancer samples along with 1 sample of normal bladder mucosa. DNA was extracted from the samples, subjected to Bisulfite modification followed by real-time methylation-specific PCR using SYBR green. **Results** were analyzed with GENEX. Results MGMT and p15 were found to be hypermethylated in all non-invasive low grade samples analyzed, whereas APC and p15 were

hypermethylated in 43% and 14% samples respectively. Interestingly, MGMT and APC were hypomethylated in all invasive high grade samples, with promoter hypomethylation of p15 in 80% and of p16 and Rb in 60% samples. In recurrent cancer samples, promoter hypomethylation of MGMT and p15 was observed in all cases with 25% samples showing hypomethylation of Rb, APC and p16. No gene was found to be hypermethylated in normal bladder mucosa sample. The bladder cancer samples analyzed so far (work in progress) showed hypermethylation (of varying degree) of all genes in non-invasive and hypomethylation (of varying degree) in recurrent and invasive samples.

Keywords: DNA Methylation, Biomarker, Bladder Cancer

2.42 SIGNIFICANCE OF CORRECT INTERPRETATION OF VARIANT FISH SIGNAL PATTERNS IN BCR-ABL POSITIVE CML PATIENT

Tariq Moatter, Usman Shaikh, Sarwat Maroof, Muniba Aban, Salman Adil
Department of Pathology & Microbiology, Aga Khan University, Karachi

Objective: In a subset of chronic myeloid leukemia (CML) patient BCR-ABL FISH assay shows a variant signal pattern, which is either due to a deletion at 9q34 or formation of complex karyotype. Previous studies have associated 9q34 deletion with rapid progression of disease to blast crisis and short survival. In this study we have evaluated 9q34 deletion in patient positive for variant FISH signals.

Method: Blood or bone marrow samples were collected from CML patients for dual color dual fusion FISH analysis. Processed cells from each sample were hybridized to DNA probes specific for BCR-ABL fusion gene and 9q34 deletion. Fluorescent signals were observed under a microscope and pattern were recorded. A minimum of 500 nuclei with defined hybridization signals were counted for each probe.

Results: Overall, 758 samples were received for t(9;22) FISH analysis. Patient group consist of 332 (56%) females and 426 (44%) males. The mean age at the time of reporting was 35±16 (61%) patients, who showed two red signals, which is a normal FISH signal pattern. Classical BCR-ABL translocation pattern which is two fusion signals and one green signal was observed in 245 (33%) patients. Moreover, 51 (20%) patients showed two different variant FISH signal pattern. These samples had 9q34 deletion which was confirmed by LSI 9q34 spectrum analysis probe.

Conclusion: This study showed that a large number (20%) of BCR-ABL positive patients demonstrated variation in FISH signal pattern, which is primarily due to a deletion in the breakpoint region of chromosome 9. Since, this deletion has an impact on disease progression and management, therefore, it should be investigated in patients who exhibit aberrant FISH signals.

Keywords: Chronic Myeloid Leukemia, FISH Assay, Karyotype

2.43 PROGNOSTIC SIGNIFICANCE OF WHO GRADES OF GLIOMAS, P53 EXPRESSION AND MIB1 LABELING INDEX AND THEIR CORRELATION WITH ONE YEAR PATIENT SURVIVAL

Huma Arshad, Sheema H. Hasan, Zubair Ahmad, Yasmin Burghari
Department of Pathology & Microbiology, Aga Khan University, Karachi

Objective: To correlate WHO histological grades of gliomas, p53 expression and MIB-1 LI with the clinical outcome of patients, as observed at the end of one year.

Method: A total of 50 cases of gliomas were collected. The diagnosis was made on hematoxylin and eosin stained sections and the tumors were graded according to WHO grading for glial neoplasms. Immunohistochemical stains including p53 and Ki-67 (MIB-1) were used to assess the expression of p53 and proliferating potential of the tumors.

Results: Stratified histological data show that the most common morphological pattern observed was Glioblastoma Multiforme [22 cases (44.0%)]. Survival analysis shows that significant correlation exists between WHO grades and patient's survival (p=0.004) while a marginal correlation is seen between MIB-1 score and survival of patients (p=0.089). No correlation exists between p53 scores and patient's survival (p=0.233).

Conclusion: Grade per se remains the most important prognostic factor with respect to patient's survival. Immunostaining of astrocytomas for p53 and Ki-67 may be a valuable tool in the determination of clinical course and be helpful in better tailoring modalities of therapeutic intervention to the individual clinical case but cannot be used as a diagnostic factor alone and should be used in combination with established criteria of histological malignancy.

Keywords: Gliomas, p53, MIB-1 LI (Ki-67)

2.44 GRANULOCYTIC SARCOMA OF THE PANCREAS - A CASE REPORT AND REVIEW OF LITERATURE

Yasmin Abdul Rashid¹, Nehal Masood¹, Ahmedyar Janjua², Nasiruddin³
Departments of ¹Medicine, ²Medical College, and ³Pathology & Microbiology, Aga Khan University, Karachi

Introduction: Granulocytic Sarcomas are extramedullary tumor masses composed of immature cells of the myeloid series. These tumors usually occur in association with acute myeloid leukemia, as a sign of leukemic transformation in myeloproliferative or myelodysplastic disorders, and rarely present as an isolated finding without haematological manifestation. Though pancreas is a frequent site for secondary metastasis from solid tumors but primary granulocytic sarcoma of pancreas is very rare. To our knowledge, there have been only seven previously reported cases of pancreatic GS.

Case Report: A 65 years old gentleman was evaluated for abdominal pain and weight loss. CT Scan Abdomen revealed mass at the head of pancreas. Whipple's surgery for suspected

Ca head of pancreas was planned; but exploratory laparotomy and triple bypass was done as the mass was unresectable. Para-pancreatic lymph node was sent for biopsy. Initial report of frozen section was metastatic carcinoma. Final pathology was consistent with malignant hematopoietic neoplasm with features favoring granulocytic sarcoma. Tumor cells showed LCA, CD117 and CD43 positivity with Ki-67 positive in 70-80% cells; and CD20, CD3, CD5, CD30 were negative. Peripheral blood film did not show any blast cells. Peripheral blood RT-PCR for bcr-abl was negative. Bone marrow examination was suggested but the patient refused for the procedure and declined any further treatment. Conclusion: Isolated pancreatic granulocytic sarcomas are rare. Accurate Immunohistochemical methods are important for correct diagnosis. Survival rate of patients with GS is similar to that of AML. Although the tumor is localized; early aggressive AML-type chemotherapy is necessary. Imatinib has a role in Ph+ AML. Radiation may result in prompt regression of local tumor but due to universal relapse in such patients systemic therapy is important.

Keywords: Granulocytic sarcoma, Pancreas, AML

2.45 PERCEPTIONS OF PATIENTS REGARDING CANCER TREATMENT DURING RAMADAN

*Yasmin Abdul Rashid¹, Nehal Masood¹, Samia Tasleem³,
Omair Shakil²*
*Department of¹ Medicine, and² Medical College, Aga Khan
University and³ Jinnah Postgraduate Medical Centre, Karachi*

Introduction: Generally patients insist on fasting despite acute or chronic illness even though they are permitted not to by Islamic rules. Effects of controlled fasting is a poorly researched area especially in oncology patients. This is a common belief that devoutness to religion improves quality of life. Scientific evidence regarding feasibility of fasting while on cancer treatment is poorly studied area and there are few animal studies suggestive of tumor regression after fasting. We interviewed patients presenting to us in the month of Ramadan to determine their perceptions about the subject. *Objective:* To explore the perceptions of patients about different aspects of fasting while undergoing cancer treatment. Study Design: Prospective, Cross-sectional study Methods: 102 patients were interviewed who visited oncology outpatient facility in AKUH and JPMC during the month of Ramadan (August/September '09) and responses were recorded on pre-designed questionnaires. Results: Out of 102 patients, 58 (56.9%) were males and 44 (43.1%) females. Mean age was 44.5±15.7. Five (4.9%) were fasting and ninety seven (95.1%) were not fasting during treatment. Sixty three (61.8%) were receiving IV chemotherapy. Seventy six (74.5%) patients felt more optimistic during Ramadan. Sixty four (62.7%) patients were regretful that they could not fast and forty five (44.1%) patients were not comfortable in telling others that they are not fasting. Eighty eight (86.3%) thought that fasting will hasten their treatment. These trends were similar among both genders and in all age groups.

Conclusion: Feasibility/safety of fasting during chemotherapy is scientifically not established. Common perception is of general well being. Physicians should discuss these issues with their patients when Ramadan approaches.

Keywords: Fasting, Chemotherapy, Perceptions

2.46 MALIGNANT BREAST TUMORS IN FIRST THREE DECADES OF LIFE

Saba Hassan, Naila Kayani, Shahid Pervez
*Department of Pathology & Microbiology, Aga Khan
University, Karachi*

Introduction: Malignant breast tumors among young women are infrequent and are often associated with high-risk features. The incidence of malignant breast tumors, including malignant Phyllodes, is very low in younger females, according to the published literature. However, in our practice, we witness an increasing number of breast malignancies emerging in women of a younger age group. Here, we look at the spectrum of the various breast malignancies that occur in women aged 30 and below in one of the largest histopathology departments of Pakistan.

Objective: To see the prevalence of the different histological types of breast malignancies in women aged 30 years and below.

Settings: Histopathology Section, Department of Pathology and Microbiology, Aga Khan University Hospital, Karachi.

Material and Methods: Over a period of one year (2008), a total of 80 cases of breast malignancies in females 30 years and below, were identified from the medical records. Data regarding the patient's age, tumor type, (classified according to WHO histological classification of breast tumors) size (greatest dimension) and grade and stage (where applicable), and associated DCIS (ductal carcinoma in-situ) was collected. The diagnosis was made on H & E stained sections. RESULTS: A total of 80 cases of breast malignancies in young women, aged 30 years and below, were reviewed. Majority of these were carcinomas (69 cases, 86.25%, out of which, 66 {95.65%} were infiltrating ductal carcinomas NOS, 2 cases {2.89%} were infiltrating lobular carcinomas and 1 {1.44%}, was Mucinous carcinoma, followed by malignant Phyllodes (8 cases, 10%), Lymphomas (2 cases, 2.5%) and Angiosarcoma (1 case, 1.25%).

Conclusion: In younger Pakistani women, the most common malignancy seen is infiltrating ductal carcinoma grade II and stage II, which is similar to what is seen in women of a relatively older age group. Malignant Phyllodes is the second most common malignancy observed.

Keywords: Malignant Breast Tumors, Young Women, Histological Types

2.47**PENILE METASTASIS AS A PRESENTING SIGN OF LUNG CANCER: A CASE REPORT AND REVIEW OF LITERATURE**

Yasmin Abdul Rashid¹, Nehal Masood¹, Asim Jamal Sheikh¹, Romana Idrees²

Departments of ¹Medicine and ²Pathology & Microbiology, Aga Khan University, Karachi

Introduction: Metastatic lesion affecting penis is a rare entity, with majority having a primary from the pelvis itself. Lung cancer is an extremely rare cause of penile metastasis, especially rare is presentation of lung cancer with such metastasis without any systemic symptoms.

Case Report: A 74 years old gentleman, presented in clinic with history of penile swelling, dysuria and painful coitus, he had no systemic features. On examination he was found to have hard plaques on dorsal surface of penis. Histopathology of plaque was suggestive of adenocarcinoma; a history of smoking prompted chest CT which revealed large necrotic mediastinal mass. Video assisted thoracoscopic biopsy confirmed an adenocarcinoma originating from lung. Metastatic workup including a bone scan was negative. Palliative radiation to chest and penis was given to him for symptom control. He was subsequently started on chemotherapy (Carboplatin/Paclitaxel) to which his lesion responded well and his penile lesion almost completely disappeared. On disease progression he was switched to Gemcitabine. He remained stable and did not require oxygen supplement. After receiving three cycles of Gemcitabine he developed liver metastasis. He subsequently received three cycles of Pemetrexed and after one month admitted with altered conscious level. Brain imaging confirmed metastasis and CSF cytology was positive. He received biweekly intra-thecal methotrexate but he switched to alternative treatment after a month and finally succumbed to the disease. This case is perhaps the first in which a metastatic adenocarcinoma lesion on penis, lead to the diagnosis of primary lung cancer.

Conclusion: Solitary cutaneous lesion without evidence of metastasis elsewhere is a rare possibility in primary lung cancer.

Keywords: Penile Metastasis, Lung Cancer, Adenocarcinoma

2.48**HISTOLOGICAL SPECTRUM OF OVARIAN TUMORS IN**

Beena Umar, Naila Kayani, Shahid Pervez
Department of Pathology & Microbiology, Aga Khan University, Karachi

Introduction: Ovarian tumors occurring in children and adolescents are unique with regard to their rarity and are reported to be 2% of all the cases seen. These are notoriously lethal when malignant and controversial in management. Most commonly neoplasms in this age group arise from primordial germ cells followed by the tumors

arising from the surface epithelium. International data on teenage ovarian tumors is scarce and very few local studies have been carried out yet.

Objective: To see the prevalence of ovarian tumors in children and adolescents. (under 20 years of age).

Setting: Histopathology Section, Department of Pathology & Microbiology, Aga Khan University Hospital, Karachi.

Material and Methods: A total of 50 cases of ovarian tumors diagnosed in children/adolescents in less than 20 years of age were included in our study. Data was retrieved from the medical records held at Aga Khan University hospital over a period of two years (2007-2008). The diagnosis was made on Haematoxylin and Eosin (H&E) stained sections. Data regarding the patient's age, presenting complaints, tumor type (classified according to the WHO classification of ovarian tumors), size (greatest dimension) and capsule integrity was collected.

Result: Out of a total of 50 ovarian tumors, germ cell tumors were the most frequent (29 cases, 58%, in these the yolk sac tumors were the commonest (11 cases, 37.93%), followed by surface epithelial tumors (14 cases, 28%), sex cord stromal tumors (3 cases, 6%) and 4 cases, 8% of miscellaneous malignancies (including lymphomas and metastatic carcinoma). Eight (8) patients presented between 0-10 years of age while remaining 42 were between 11-20 yrs of age.

Conclusion: Our study concluded that the most common ovarian neoplasm in this age group (0-20) is germ cell tumor followed by surface epithelial tumors (all benign). Within the group of germ cell tumors, Yolk sac tumor is the commonest.

Keywords: Ovarian Tumors, Children and Adolescents, Germ Cell Tumors

2.49**EVALUATION OF PATHOLOGICAL RESPONSE IN LOCALLY ADVANCED RECTAL CANCER TREATED WITH NEOADJUVANT CHEMORADIATION**

Yasmin Abdul Rashid¹, Nehal Masood¹, Nasir Ali², Ahmedyar Janjua³, Omair Shakil¹

Department of ¹Medicine, ²Radiation Oncology and ³Medical College, Aga Khan University, Karachi

Introduction: It is now established that neoadjuvant chemoradiation in locally advanced rectal cancer improves pathological response and sphincter preservation. Due to this there has been increased reliance on pretreatment imaging for staging.

Objective: To assess the pathological response in patients who underwent neoadjuvant concurrent chemoradiation for locally advanced rectal cancer in Aga Khan University Hospital.

Methodology: This is a retrospective study conducted at Aga Khan University Hospital by reviewing medical records of all patients with Rectal Carcinoma who were treated with neoadjuvant chemoradiation followed by surgery from February 2006 till December 2009 at this institute.

Results: Total 15 patients met the criteria for inclusion. Eleven (68.8%) were males and five (31.3%) were females. Mean distance of tumor from anal verge was 4.68±3.2 cm. Average

pre-CRT radiological size was 5.56 cm±3.23 and post-CRT size was 3.70±4.55 with mean difference of 1.86±3.68. Average was more in pre-treatment cases except in two cases. There were four patients (26.6%) with T4, ten (66.6%) with T3 and one (6.6%) with T2 lesions. 27% were downstaged and 20% showed complete pathological response. Average number of nodes extracted was 16±9.76 and number of positive nodes were 6±6.43. 33.5% patients initially staged as N0 had pathologically positive lymph nodes. Pre-treatment CEA level of > 2.5 (p=0.005) and distance from the anal verge >5cm (p=0.035) was associated with lower pathological response. Eight (53.3%) patients are in remission, five (33.3%) lost to follow up and two (13.3%) patients relapsed.
Conclusion: Use of neoadjuvant chemoradiation has improved the outcomes in locally advanced rectal carcinoma. Pre-operative CEA and distance from the anal verge are good predictors for pathological response to treatment.

Keywords: Rectal Carcinoma, Neoadjuvant Chemoradiation, Pathological Response

2.50 MALE BREAST CANCER; A TERTIARY CARE HOSPITAL EXPERIENCE

Ataf Ali Laghari¹, Ammar Rafiq², Omer Hassan Jamy², Tabish Chawla¹
Department of ¹Surgery, and ²Medical College, Aga Khan University, Karachi

Objective: To review the risk factors, presentation, management and outcomes of male patients with breast cancer.

Method: It's a non-randomized, retrospective study including male patients with breast cancer confirmed by biopsy. A total of 19 male patients registered during January 1986 to December 2009 at The Aga Khan University Hospital Karachi, were reported to have breast cancer. One file was missing and data from rest of 18 patient's record was collected and analyzed.

Results: The mean age of at the time of presentation was 51.7 years (SD 8.2). Most common presenting complain was breast lump associated with nipple discharge and erythema. Axillary lymph nodes were involved in 66.7% of the patients. Family history for cancer was positive in 27.8% patients. Most common diagnostic test was FNAC (70.6%) and 88.9% of the patients were proven to have invasive ductal carcinoma. 50% of the patients had stage two disease on presentation. Estrogen receptors were positive in 70.6% while 46.7% were progesterone positive. Modified radical mastectomy was the preferred surgical treatment (66.7%) and half of the patients were given tamoxifen as hormonal therapy. Chemotherapy alone was administered to 35.3% of the patients. During follow up local recurrence rate was 14.3% and distant metastatic rate was 33.2% with bone being the most common site. Five year survival rate was 60.0%.

Conclusion: Male breast cancer is a rare disease, < 1% of total cancers in males and relatively less studied as compared to its female counterpart. As compared to western studies, onset of disease is earlier in our study population. Rest of our findings corresponds with the current world literature.

Keywords: Male Breast Cancer, Breast Beoplasm, Cancer

2.51

A CLINICOPATHOLOGICAL STUDY OF PAPILLARY LESIONS OF BREAST

M. Khurram Minhas, Naila Kayani
Department of Pathology & Microbiology, Aga Khan University, Karachi

Objective: The objectives of this study are to describe the clinicopathological features of different papillary breast lesions at a tertiary care hospital and to determine the immunohistochemical expression for Anti-smooth muscle actin and cytokeratin 5/6 immunostain in these papillary lesions of breast

Method: Clinicopathological data of 100 cases of papillary neoplasm was collected on a proforma along with results of immunohistochemical stains (Anti-smooth muscle actin and cytokeratin 5/6) and final diagnosis. Hematoxylin and eosin stained slides of all cases were reviewed to see the morphological features of the cases.

Results: Of the 100 cases studied 83 cases were Papillomas, 08 cases were papillary carcinoma in-situ and 9 cases were of Invasive papillary carcinomas. All the patients were females. Papillomas were mostly seen in fifth decade of life mostly presenting as nipple discharge while papillary carcinoma in-situ and invasive papillary carcinomas presented mostly in sixth decade of life, with most presenting as a breast lump. Morphological features seen in papillomas were different from those seen in the papillary carcinomas. Both the immunohistochemical markers (Cytokeratin 5/6 and Anti smooth muscle actin) were helpful in distinguishing benign from malignant papillary lesions. Expression of cytokeratin 5/6 (basal cytokeratin) and Anti-smooth muscle actin immunostains was moderate to strong in cases of papillomas while it was weak to absent in cases of papillary carcinomas in-situ and invasive papillary carcinomas.

Conclusion: Our data supports previous conclusions that the papillary lesions mostly occurs in fifth and sixth decades of life with benign papillary lesions occurring in a slightly younger age group than their malignant counterpart. Similarly nipple discharge was mostly seen in benign papillary lesions while breast lump was the commonest presenting symptom in malignant papillary lesions. Our study further validates that in addition to the morphological features, basal cytokeratins (cytokeratin 5/6) and myoepithelial cell markers (Anti smooth muscle actin) are helpful in order to arrive at the correct diagnosis in difficult cases as well as in cases of papillary lesions encountered on core biopsies. Our data supports previous conclusions that the papillary lesions mostly occurs in fifth and sixth decades of life with benign papillary lesions occurring in a slightly younger age group than their malignant counterpart. Similarly nipple discharge was mostly seen in benign papillary lesions while breast lump was the commonest presenting symptom in malignant papillary lesions. Our study further validates that in addition to the morphological features, basal cytokeratins (cytokeratin 5/6) and myoepithelial cell markers (Anti smooth muscle actin) are helpful in order to arrive at the correct diagnosis in difficult cases as well as in cases of papillary lesions encountered on core biopsies.

Keywords: Papilloma, Papillary Carcinoma In-Situ, Invasive Papillary Carcinoma

2.52**SURGICAL RESECTION OF BRONCHIAL ATYPICAL CARCINOID TUMOR INVOLVING RIGHT MAIN STEM BRONCHUS AND CARINA - A CASE REPORT**

Ranish Deedar Ali Khawaja, Hashim H. Ahmed, Taimur Asif Ali, Saulat H. Fatimi

Department of Surgery, Aga Khan University, Karachi

Objective: Bronchial Atypical Carcinoid tumors account for approximately 1 to 2 percent of all lung malignancies in adults. These are thought to arise from a specialized bronchial cell (the Kulchitsky cell) which belongs to a diffuse system of neuroendocrine cells.

Method: We present the case of a 49-years-old male diabetic, non-smoker, presented with the primary complains of cough with hemoptysis and shortness of breath for two years. Chest X-ray showed diaphragmatic lump on the right side without any active lung lesion. CT scan of the chest showed an ill defined mass projecting in the right main bronchus, and multiple smaller nodules scattered throughout the lung parenchyma. Right postero-lateral thoracotomy with right pneumonectomy and dissection of right bronchial nodules was performed. Histopathological findings showed neoplastic growth in the bronchus with features were consistent with Atypical Carcinoid Tumor.

Results: Bronchial carcinoids are the most common primary lung neoplasm of children, typically presenting in late adolescence. Compared to a chest x-ray, CT provides better resolution of tumor extent, location, and the status of mediastinal adenopathy. Surgery is the treatment of choice being the only therapeutic option offering a real chance of cure. The goal is resection of the entire neoplasm with preservation of as much functional lung as possible. Histologic criteria for intermediate-grade atypical carcinoids include the presence of carcinoid morphology and either necrosis or 2 to 10 mitoses per 10 HPF. Atypical carcinoids have a greater tendency to metastasize and to recur locally.

Conclusion: Bronchial Atypical Carcinoid is a rare entity. In our patient, surgical management cured the patient. Regular follow-up is required to look for metastasis and/or recurrence.

Keywords: Atypical Carcinoid, Bronchial Tumor, Carina

2.53**SURGICAL RESECTION OF THORACIC EPITHELOID HEMANGIOENDOTHELIOMA OF THE AXILLARY VEIN: A CASE REPORT OF AN UNUSUAL VASCULAR TUMOR**

Ranish Deedar Ali Khawaja, Hashim H. Ahmed, Shabuddin, Saulat H. Fatimi

Department of Surgery, Aga Khan University, Karachi

Objective: An epithelioid hemangioendothelioma is a rare, low-grade malignant neoplasm with unknown etiology.

Method: We report a case of thoracic epithelioid hemangioendothelioma (EHE) in a 53-year-old man who presented with a painless mass in left upper chest. CT and

MRI imaging revealed an encapsulated tumor located adjacent to of brachial plexus. Surgical management of the patient included resection of tumor in the left anterior chest wall and axilla. Peroperatively tumor was found to be adherent and arising from left axillary vein. Surgical resection with axillary vein repair was done. Microscopically, tumor focally showed strands and solid nests of rounded to spindle endothelial cells. Differentiation into small intracellular lamina is also present. Immunohistochemical stains revealed that the tumor cells were positive for the endothelial markers CD31 and CD34, Vimentin. The tumor revealed minimal to mild cellular atypia and no mitotic activity. The pathological diagnosis was an epithelioid hemangioendothelioma.

Results: An epithelioid hemangioendothelioma is a rare, low-grade malignant neoplasm of endothelial origin. This kind of a soft-tissue tumor is a member of a family of vascular tumors characterized by epithelioid endothelial cells, displaying a clinical behavior that is intermediate between that of epithelioid hemangioma (a benign entity) and epithelioid angiosarcoma (a frankly malignant entity). It occurs in all age groups with a male to female sex predilection of 2:1, with the exception of pediatric age group. The surgery is indicated when tumor is encapsulated. The diagnosis is histologic, requiring an immunohistochemical workup.

Conclusion: This case represents a very rare situation, because it the first reported thoracic EHE arising from axillary vein. A longer period of close follow-up is necessary due to the unpredictable prognosis of epithelioid hemoangioendothelioma.

Keywords: Vascular Tumor, Epithelioid Hemangioendothelioma, Axillary Vein

2.54**MEDIASTINAL LYMPHOMAS: PRIMARY MEDIASTINAL (THYMIC) LARGE B-CELL LYMPHOMA VERSUS CLASSICAL HODGKIN LYMPHOMA, HISTOPATHOLOGICAL DILEMMA SOLVED?**

Ranish Deedar Ali Khawaja¹, Shahid Pervez²

¹Medical College and ²Department of Pathology & Microbiology, Aga Khan University Karachi

Objective: Hodgkin's lymphomas (HL) and the non-Hodgkin's lymphomas (NHLs) have long been regarded as separate disease entities; recent observations suggest a closer association. A B-lineage large cell lymphoma in particular 'Primary Mediastinal (Thymic) Large B-cell Lymphoma' (PMLBL) not infrequently demonstrates overlapping clinical, morphological and/or immunohistochemical features, with 'classical Hodgkin lymphoma' (cHL). Accordingly, the aim of this study was to compare the immunohistochemical profile of PMLBL versus mediastinal cHL in a cohort of our patients, and to come up with recommendations to confidently make distinction between the two entities.

Method: This study was carried out in a tertiary hospital which is a major referral centre for entire Pakistani population. Our study compared the immunohistochemical profile of PMLBL versus mediastinal cHL in a cohort of 18 patients, out of which 11 were diagnosed with PMLBL and 7 were diagnosed with mediastinal cHL. Biopsy slides and blocks of all patients

were retrieved, and further immunohistochemical workup was done on all the cases. This included staining with a panel of antibodies including LCA, CD20, CD3, CD30, CD15 and IRF4/MUM1.

Results: All PMLBL cases (100%) showed positivity both for LCA and Pan B (CD20), and negativity for Pan T (CD3). All mediastinal cHL cases (100%) showed negativity both for LCA and Pan T (CD3). Both entities showed variable positivity for IRF4/MUM1 i.e., 73% in PMLBL vs 100% in cHL. CD30 was expressed in 36% cases of PMLBL vs 100% cases of cHL. CD15 was expressed in a single case of PMLBL vs 86% cases of cHL.

Conclusion: We conclude that 'Leucocyte Cell Antigen' (LCA) is the only marker which was consistently positive in PMLBL and negative in cHL. Other IHC markers though still helpful may be expressed in either entity.

Keywords: Mediastinal Lymphomas, Mediastinal Tumors, Hodgkin Lymphomas

2.55

UNUSUAL PRESENTATION OF CARCINOID TUMOR OF THE RIGHT LUNG: A CASE REPORT

Ranish Deedar Ali Khawaja¹, Hashim H. Ahmed², Masooma Zaidi², Saulat H. Fatimi²

¹Medical College and ²Department of Surgery, Aga Khan University, Karachi

Method/Case-Report: A 35 years-old woman presented with high-grade temperature, cough and shortness of breath. She gave a history of with recurrent chest infections and persistent cough for over six years and progressive shortness of breath. She had been treated empirically with multiple antibiotics and anti-tuberculous treatment but had no response. On evaluation, she was found to have a complete opacification of the right lung with multiple small air fluid levels. CT Scan chest was performed which showed that the entire right lung parenchyma was replaced with numerous small lung abscesses and there was no functional lung. A bronchoscopy was planned but patient was unable to tolerate it. Patient was started on IV antibiotics but the temperature did not settle and her condition continued to deteriorate. At this time, it was decided to take her to the OR and under general anesthesia, proceeded with flexible bronchoscopy and right pneumonectomy. Bronchoscopy showed a very inflamed fleshy mass arising from the right main stem bronchus and completely occluding it. With this finding, patient was positioned and via right postero-lateral thoracotomy, right pneumonectomy was performed without any complication. The postoperative course was unremarkable. The fever resolved completely and patient was discharged on fifth operative day. The histopathology showed a carcinoid tumor arising from the right main stem bronchus and completely occluding it. The entire right lung was full of multiple lung abscesses with no functional parenchyma left. Patient was kept on oral antibiotics after six weeks. Patient was doing very well at a six month followup. This case was unusual because it presented with recurrent

infections and lung abscessed and not hemoptysis which is usually the presenting symptom in carcinoid tumors of the lungs.

Keywords: Carcinoid Tumor, Lung Abscess, Recurrent Infections

2.56

PATIENT PRESENTING WITH HEMODYNAMIC COMPROMISE DUE TO TAMPONADE EFFECT FROM GIANT TUMOR AND ITS SUCCESSFUL TREATMENT

Ranish Deedar Ali Khawaja¹, Hashim H. Ahmed², Adil Ejaz², Masooma Zaidi², Saulat H. Fatimi²

¹Medical College and ²Department of Surgery, Aga Khan University, Karachi

Method/Case Report: A 2 years-old child presented with extreme shortness of breath and cough. There was no past history of any medical illnesses. On examination, his heart rate was 140/min; respiratory rate was 60/min, blood pressure of 65/40 mmHg and oxygen saturation of 88% on room air. He had reduced air entry on left side on chest auscultation. Chest x-ray showed complete opacification of the left hemithorax with mediastinal shift to the right side. Patient was intubated and chest CT scan was done which showed a complete displacement of the left lung with a giant tumor which was completely filling the left hemithorax and was pushing the mediastinum and heart to right side. Patient was transferred to the ICU and was kept on inotropic support but with no improvement in hemodynamics, cardiothoracic service was called as a last resort. We did not have a diagnosis at that time and patient was taken to the OR for a very unconventional kind of surgery. He was having tamponade effect from the tumor and the plan was to emergently debulk this tumor to allow the mediastinal structures to the midline. Via standard postero-lateral thoracotomy, the left chest was opened and the tumor was found to be filling the entire chest but not attached to the lung. It was arising from the 2nd rib and was encasing all the great vessels and pushing the lung posteroinferiorly. The tumor was completely removed and was shaved off from the 2nd rib. The left lung expanded completely. The hemodynamics improved and patient was extubated within 48 hours. The rest of the hospital course was unremarkable. The histopathology showed neuroectodermal tumor for which patient was started on chemotherapy. The case is unique because the tamponade effect and hypoxemia was caused by the neuroectodermal tumor and all these effects got corrected after the tumor removal.

Keywords: Hemodynamic compromise, Tamponade effect, Giant tumor

2.57 SURGICAL RESECTION OF LEFT PULMONARY SARCOMA WITH MEDIASTINAL SHIFT AND PERICARDIAL INVASION – A CASE REPORT

Ranish Deedar Ali Khawaja¹, Hashim H. Ahmed², Humayun²,
Saulat H. Fatimi²

¹Medical College, and ²Department of Surgery, Aga Khan
University, Karachi

Objective: Sarcomas are rare malignant tumors that arise from mesenchymal tissue at any body site. The biologic behavior of soft tissue tumors ranges from completely benign to aggressively malignant or even tumors with metastatic propensity.

Method/Case-Report: We present the case of a 29-years-old male, a non- smoker without any co-morbidity. Two years back, he presented with left lower chest pain and shortness of breath. CT scan thorax showed a mass in left mediastinum. Mediastinal mass biopsy showed a high grade sarcoma with myogenic differentiation, based on which he was advised for chemotherapy, for which he failed to follow up. Two years later, he came back with a repeat CT scan of thorax that redemonstrated a lobulated soft tissue density mass occupying left hemithorax with right sided mediastinal shift. Surgical management of the patient included resection of chest wall sarcoma with left pneumonectomy. Post-operatively the patient became hemodynamically unstable and was given a cardiopulmonary resuscitation. The pathological diagnosis was a pulmonary sarcoma with pericardial invasion.

Keywords: Sarcoma, Pericardial Invasion, Mediastinum

2.58 SURGICAL RESECTION OF MALIGNANT MEDULLARY THYROID CARCINOMA WITH MEDIASTINAL EXTENSION: A CASE REPORT

Ranish Deedar Ali Khawaja¹, Hashim H. Ahmed², Shezad,
Saulat H. Fatimi²

¹Medical College and ²Department of Surgery, Aga Khan
University, Karachi

Method/Case Report: We present the case of a 49-years-old male diabetic and an ex-smoker presented with the primary complains of painless central neck swelling since 1 year which gradually increased in size on presentation. It was associated with hoarseness of voice and productive cough. There were no associated tremors, weight loss, excessive sweating, cold/heat intolerance, dysphagia or dyspnea. Fine needle aspiration biopsy of a cervical lymph node showed clusters of malignant cells exhibiting enlarged, hyperchromic, pleomorphic nuclei with irregular nuclear contour, and immunostaining showed TTF-1 equivocal with features consistent with metastatic adenocarcinoma. Excision biopsy of cervical lymph node showed neoplastic lesion arranged in group of basaloid cells with hyperchromatic nuclei. Immunostaining showed positivity of PAS-D, CKAE1/AE3,

synaptophysin, chromogranin in tumor cells and negativity of CD45, thyroglobulin and CDX-2. These features were consistent with metastatic small cell neuroendocrine cancer. General Physical examination was unremarkable. Initial laboratory investigations revealed hemoglobin of 9.9 g/dL, hematocrit of 29.5 g/dL, and a white blood cell count of 16000 x10⁶ cells/dL. The patient's blood urea nitrogen (BUN) and creatinine was normal. Chest x-ray was evident of bilateral superior mediastinal widening with bilateral enlargement of hila and lobulated margins due to marked lymphadenopathy. Non-ionic CT scan of the neck and chest showed a large heterogenous mass involving the right lobe of thyroid gland with superior extension up to the level of inferior margin of thyroid cartilage and inferior extension up to the level of thoracic inlet. The mass extended across the midline involving isthmus. The mass showed diffuse low density areas with necrosis. Right sided lymphadenopathy noted in neck level III and IV, paratracheal, lateral aortic, aorto-pulmonary, carinal and subcarinal region. No primary or metastatic lesion found in lungs. Both MRI brain and bone scan was unremarkable. The patient was then referred to our institution and started with first cycle of chemotherapy including cisplatin (100g/m²) and etoposide (150mg/m²). The biopsy tissue was reviewed at our institution that showed tumor cells with vesicular nuclei, numerous blood vessels, with immunostaining showed positivity of cytokeratin CAM5.2, CD56, TTF-1 and focal positivity in thyroglobulin and calcitonin. These findings were consistent with medullary carcinoma of thyroid. Calcitonin levels were 894. Second cycle of cisplatin and adriamycin (50g/m²) upon confrontation of diagnosis. Surgical management of the patient included total thyroidectomy with modified radical neck dissection and mediastinal lymph node dissection.

Keywords: Thyroid Gland, Medullary Tumor, Calcitonin

2.59 IMPACT OF DIFFERENT TYPES OF NECK DISSECTIONS ON SHOULDER FUNCTION

Adil Sheikh¹, Hussain Shalwani¹, Shehzad Ghaffar²
¹Medical College and ²Department of Surgery, Aga Khan
University, Karachi

Introduction: Neck dissections have played a very important role in surgical management of head and neck cancers. Shoulder complaints of decreased range of motion, decreased muscle power, shoulder droop and shoulder pain have been reported in patients after neck dissection surgeries. Preserving the accessory nerve results in a better outcome of the shoulder function after neck dissection as international studies have proved. This study aims to describe the shoulder function after different types of neck dissections done in Aga Khan University Hospital, Karachi, Pakistan. 63 patients accounting for a total of 72 neck dissections (with 9 patients receiving bilateral procedures) – have been assessed subjectively and objectively, using a questionnaire and physical examination. Questionnaire inquired about shoulder pain, status

of postoperative radiation, post operative physiotherapy and the mobility of shoulder in activities of daily life. The physical exam included observation of active range of motion, measurement of shoulder muscle power against resistance, degree of forward flexion, degree of abduction, clinical exam of the spinal accessory nerve and the time taken to repeat active shoulder flexion 5 times. Factors other than the type of surgery likely to affect the shoulder function include the time duration elapsed since surgery, patient co-morbidities, postoperative radiation and physiotherapy. Our main limitations are the smaller sample size in the Radical neck dissection group compared to nerve sparing procedure group due to poor patient compliance to follow up. Data collected would be analysed and the difference coming in both groups would be checked for statistical significance using SPSS v.17.0.

Keywords: Radical Neck Dissection, Shoulder Function, Quality of Life

2.60

ESTABLISHMENT AND CHARACTERIZATION OF AKU-BC1: A BREAST CANCER CELL LINE OF PAKISTANI ORIGIN

Aisha Sultana¹, Syed Zulfiqar Ali Naqvi¹, Shaista Khan², Anwar Ali Siddiqui³, El-Nasir Lalani¹
Departments of ¹Pathology & Microbiology, ²Surgery and ³Biological & Biomedical Sciences, Aga Khan University, Karachi

Objective: Breast cancer (BCa) is the most common cancer and a frequent cause of cancer-related deaths in women worldwide. Cell lines widely used in cancer research are largely derived from Caucasians with few exceptions. We have not come across any cell line derived from Pakistani ethnic group. We aim to establish breast cancer cell lines derived from tissue of Pakistani subjects. Use of breast cancer cell lines of Pakistani origin would enhance our understanding of the underlying disease mechanisms that may vary due to genotype differences.

Method: Surgically removed breast cancer tissue was processed to generate the cell line. Cell line was genotypically and phenotypically characterized by karyotyping and detecting specific markers respectively.

Results: A new breast cancer cell line designated AKU-BC1 has been successfully established from invasive ductal carcinoma of a 69 year-old Pakistani female patient. This newly established cell line is growing as adherent monolayer with characteristic epithelial morphology. Epithelial cell markers like cytokeratin 8, 18, and 19 were evaluated for confirmation of epithelial cells. AKU-BC1 is positive for estrogen, progesterone, HER2/neu and androgen receptors. Chromosomal analysis suggests that the cell line is aneuploid with many chromosomal abnormalities.

Conclusion: AKU-BC1 cell line could serve as a new model in breast cancer research studies. This will help researchers to determine the effect of drugs, radiation, and other

environmental factors on cell growth and behavior of breast cancer cells.

Keywords: Pakistani, Breast Cancer, Cell Line

2.61

ANDROGEN ACTION ON BREAST CANCER: COMBINED TARGETING OF FIBROBLASTS AND EPITHELIAL CELLS

Aisha Sultana¹, Syed Zulfiqar Ali Naqvi¹, Shaista Khan², Anwar Ali Siddiqui³, El-Nasir Lalani¹
Departments of ¹Pathology & Microbiology, ²Surgery and ³Biological & Biomedical Sciences, Aga Khan University

Introduction: Breast cancer (BCa) is known to be a frequent cause of cancer-related deaths in women worldwide. In spite of extensive research, the exact mechanism of breast carcinogenesis remains elusive. Steroid sex hormones like estrogen have been found to influence BCa risk and this led to the development of anti-estrogen endocrine therapies. In addition to the steroid hormones, breast cancer epithelial cells are also influenced by surrounding fibroblast. These fibroblast-epithelial interactions are critical for mediating the effect of steroid hormones such as estrogen on cancer epithelial cells. Another steroid hormone i.e. androgen and its receptor (AR) are reportedly present on approximately 70-90% of invasive breast cancers which is comparable with or higher than estrogen receptor (70-80%). However, the role of androgens and their receptor in mammary growth and BCa pathogenesis through fibroblast-epithelial interaction is yet to be determined. This study will demonstrate the effect of androgen on growth and invasion of BCa through epithelial-fibroblast interaction in an in vitro co-culture system. Our first objective is to develop an in vitro model of BCa epithelial cell and cancer-associated fibroblasts (CAFs) with and without androgen receptor. We then aim to examine the direct, paracrine and contact dependent effect of androgen on growth and invasion of CAFs and epithelial cells. Cell lines will be established from primary breast tumor. After treating the CAFs and epithelial cells with androgen, proliferation and invasion will be measured by cell proliferation and Boyden chamber assays. This study will lead us to understand the functional role and biological significance of androgen and AR in breast cancer.

Keywords: Androgen Action, Breast Cancer, Fibroblast-Epithelial Interaction

2.62**PATTERN OF RECURRENCE OF HEAD AND NECK
CANCERS IN PAKISTAN**

Anam Hameed¹, Resam Nazir¹, Sana Mansoor¹, Nazia Dhanjee¹, Shehzad Ghaffar²

¹Medical College, ²Department of Surgery, Aga Khan University, Karachi

Objectives: To determine the pattern of recurrence of head and neck squamous cell carcinoma and to identify/asses the factors associated with this recurrence. The factors studied include site of primary tumor, primary curative treatment, and degrees of differentiation of the tumor, surgical margins, muscular, vascular and skin involvement and post operative adjuvant treatment. We also looked into the details of who identified the recurrence, time taken for the recurrence to occur, treatment undergone for the recurrence and the disease free interval. DESIGN: Retrospective review.

Setting: Department of Otolaryngology and Head and Neck Surgery, Aga Khan University Hospital, Karachi.

Patients: Between January 2006 to June 2008, 325 patients with squamous cell carcinoma of the head and neck were taken.

Results: Recurrence occurred in 38% of the patients, with oral cavity having the maximum recurrence rate. Of the total recurrence that occurred, 71% occurred in patients who underwent surgery as their primary mode of treatment. Regional recurrence was the most commonly noted followed by local recurrence. Of the total recurrences, 66% were identified by the patient themselves. Mean time interval for recurrence to develop was 319 days. 52% of these patients underwent curative treatment for their recurrences.

Conclusion: Most of the recurrence of head and neck squamous cell carcinoma occur in patients with oral cavity tumors with majority of them identified by the patient and half of them underwent curative treatment.

Keywords: Recurrence, Adjuvant Treatment, Head and Neck Cancers

3.1

A RANDOMIZED CLINICAL TRIAL OF FISSURE SEALANT RETENTION: SELF ETCH ADHESIVE VERSUS TOTAL ETCH ADHESIVE

Nadia Aman¹, Ali Khan Khuwaja², Farhan Raza Khan¹
Departments of ¹Surgery and ²Community Health Sciences,
Aga Khan University, Karachi

Objective: Pit and fissures are naturally occurring surface defects of teeth of varying depth and morphology. About 90 percent of carious lesions are found in the pits and fissures of the permanent posterior teeth (molars and premolars). Pit and fissure sealant has been considered as a highly effective caries preventive dental treatment. The principal feature required for achieving success in caries prevention is adequate retention. Pit and fissure sealants have conventionally been placed with and without use of bonding agent or adhesive. There are limited studies on comparison of Total etch (TE) and Self etch (SE) adhesive for placement of sealants. Our study was based on comparison of effect of seventh generation Self etch bonding agent versus fifth generation Total etch adhesives in fissure sealant retention.

Method: This study was a randomized clinical trial; split mouth design was used for treatment allocation. Subjects were enrolled from patients visiting the dental section at Aga Khan University Hospital. Subjects were eligible if they were in the age range of 6-25 years with indication for sealant placement and had at least one pair of permanent first or second molar. The total sample size required was 84 pairs for this study. The sample size was inflated by 20% to compensate for attrition. The treatment allocation was done by simple randomization, where treatment was allocated to tooth on right side and alternate was allotted to left side tooth. The SE arm was treated with SE adhesive (Adper Easy One 3M ESPE) before sealant placement according to manufacturer's guidelines. The TE adhesive arm (Adper Single Bond 2 3M ESPE) was treated by acid etching and drying followed by adhesive application and subsequent application of TE adhesive and cured, this was followed by sealant application. The patients were followed up after 3 months and were clinically examined for assessment of sealant retention. The sealant retention was assessed by independent assessor blinded to treatment allocation.

Results: 37 subjects with 101 pair of teeth were recruited in the study, 33 subjects (89.2%) and 91 pairs of molar (90%) were reevaluated clinically for sealant retention. Mean age of the study participants was 15.73(S.D 6.18) years of age. The average number of intervention pair included per subject was 3 pairs of teeth. The most common indication for sealant placement in the subjects was presence of deep occlusal fissure (59.5%). There was no significant difference in the distribution of caries in right and left of teeth included in study. There was significant difference between proportion of teeth with partial or complete absence of sealants in SE compared to TE (p-value<0.001). Sealant retention in TE was 56% compared to 28% in SE based sealants.

Conclusion: Higher proportions of Total etch adhesive based sealants were found to be retained in the occlusal fissures

than the SE based sealants. Therefore, the use of TE based sealants is recommended

Keywords: Fissure Sealants, Self Etch, Bonding Agent

3.2

ASSOCIATION OF SAGITTAL AND VERTICAL FACIAL PATTERNS WITH PHARYNGEAL DIMENSIONS

Sarwat Memon, Mubassar Fida
Department of Surgery, Aga Khan University, Karachi

Objective: The aim of this study was to determine any association of upper and lower pharyngeal widths with various sagittal and vertical facial patterns.

Method: This cross sectional analytical study was conducted using data from pretreatment lateral cephalographs of patients who visited the orthodontic clinic from 2002 to 2008. The inclusion criteria were subjects of Pakistani origin and having no pharyngeal pathology or complaints of nasal obstruction at the initial visit. The sample comprised a total of 150 subjects divided into 2 groups: skeletal Class I (n=77) and skeletal Class II (n=73) subdivided according to vertical pattern into normodivergent, hyperdivergent and hypodivergent facial patterns. Upper and lower pharyngeal airways were measured using McNamara's airway analysis. The intergroup comparison of upper and lower airways was performed with one way ANOVA.

Results: Hyperdivergent facial pattern subjects belonging either to skeletal class I or class II malocclusions showed a statistically significantly narrow upper pharyngeal airway width as compared to normodivergent and hypodivergent facial pattern.

Conclusion: Subjects with skeletal Class I and Class II malocclusions showing hyperdivergent facial pattern have narrower upper pharyngeal airways.

Keywords: Upper and Lower Pharyngeal Width, Airway Analysis, Facial Patterns

3.3

CORRELATION AMONGST CHRONOLOGICAL AGE, SKELETAL MATURITY AND DENTAL AGE

Rashna Firoze Aga, Mubassar Fida
Department of Surgery, Aga Khan University, Karachi

Objective: The aim of this study was to determine any significant correlation amongst chronological age, skeletal maturity and dental age and their gender dimorphism.

Method: The study was conducted on 419 subjects (167 males and 252 females) aged between 7 to 22 years. Chronological age was recorded according to the subject's date of birth in years and months. Skeletal maturity was assessed using the cervical vertebral maturation stages described by Baccetti et al. Dental age was determined using Demirjian's dental age assessment method. Spearman rank order correlation coefficient

was used to assess any correlation between skeletal maturity and chronological age and skeletal maturity and dental age. Pearson's correlation coefficient was used amongst chronological and dental age to assess any significant correlation.

Results: Statistically significant results were seen amongst chronological age, skeletal maturity and dental age for both male and female subjects. In females the mandibular first premolar and in males the mandibular second molar were seen to have the highest correlation with skeletal maturity stages.

Conclusion: As statistically significant correlations are seen for skeletal maturity and dental age, dental developmental stages may be used in our patients to assess their skeletal maturity without additional radiation exposures at an early age.

Keywords: Chronological Age, Skeletal Maturity, Dental Age

3.4

DEMIRJIAN'S DENTAL AGE ASSESSMENT METHOD: ITS APPLICABILITY IN ORTHODONTIC PATIENTS AT THE AGA KHAN UNIVERSITY AND HOSPITAL KARACHI

Rashna Firoze Aga, Mubassar Fida

Department of Surgery, Aga Khan University, Karachi

Objective: Dental age amongst other maturity indicators has been assessed in the literature using stage of tooth eruption or by the stage of tooth formation. Demirjian et al described a method for estimating the dental age and since then this method has been widely used to assess the same. The aim of this study was to evaluate the applicability of the Demirjian's Dental age assessment method in orthodontic patients at the Aga Khan University and Hospital Karachi, Pakistan.

Methods: The sample was derived from pre treatment orthopantomographs of 438 patients (180 males and 258 females), aged between 7–17 years, attending the orthodontic clinic the Aga Khan University Hospital Karachi, Pakistan. Dental age was assessed using Demirjian's dental age assessment method. Paired t-test was used to assess the difference between mean dental age and chronological age. *Results:* For our study sample the difference between chronological age and dental age assessed using the Demirjian's method for boys ranges between -2.212 to 0.433 and for girls ranges between -1.730 to 1.583. Dental age was significantly over-predicted in age groups 11 to 15 in boys and 10 to 14 in girls while it was under-predicted in age groups 16 and 17 in girls.

Conclusion: Statistically significant differences were found in the chronological age and dental age assessed by Demirjian's method for patients attending the Orthodontic clinic AKUH and therefore it is recommended to formulate a dental age table for our orthodontic patients.

Keywords: Dental Age, Demirjian's Method, Orthodontic Patients

3.7

SMILE PREFERENCES IN VARIOUS VERTICAL FACIAL PROPORTIONS

Nabila Anwar, Mubassar Fida

Department of Surgery, Aga Khan University, Karachi

Objective: Orthodontists are involved in treatment which can alter a patient's facial appearance and particularly a patient's 'smile'. Face type can have an influence on the smile perception and the opposite can also be true. This study was undertaken to clarify the effect of alteration of different smile parameters on attractiveness, to find attractive smile parameters for a particular face type and to determine any difference in perception of esthetics amongst people belonging to different professions.

Method: Photographs of two selected subjects were altered using Adobe Photoshop software to produce three face types for the same individual with the aim of keeping the frame of the smile constant. Smile parameters were then altered in terms of lip line, smile width, smile arc and axial incisor angulation. The pictures were rated by different professionals for attractiveness.

Results: The total number of raters was 50 with the mean age of 31.7 years \pm 7 years. The alterations in the variables produced statistically significant difference in the attractiveness of faces whereas the perception difference was found to be insignificant amongst raters of different professions. Preferred lip line was the one showing the upper incisors only except in brachyfacial subjects where 2 mm gum show was preferred. Broad smile widths were preferred in all subjects except in male doliofacial subjects. Consonant smile arc was preferred in all subjects except for brachyfacial subjects where a flat smile arc was preferred. Incisal angulation of 5° and 10° degrees were acceptable to the raters.

Conclusion: The variability in smile parameters showed significant difference in the esthetic score. Preferred smile characteristics were found for individual face types in both genders.

Keywords: Esthetics, Face Types, Attractive Smile

3.9

EFFECT OF EXTRACTION OF FIRST FOUR PREMOLARS ON SMILE ESTHETICS AFTER ORTHODONTIC TREATMENT

Farhana Ghaffar, Mubassar Fida

Department of Surgery, Aga Khan University, Karachi

Objective: To assess smile esthetics after orthodontic treatment in subjects with and without extraction of first four premolars.

Methods: Post-treatment colored printed frontal photographs (4 × 6") of 40 subjects were assessed. For half of the patients (n =20), treatment included the extraction of first four premolars, whereas the other half were treated without extractions. Smile esthetic parameters were measured with

the help of seven variables and ratios amongst them were calculated in order to assess the change in smile esthetics in both groups.

Results: All variables and ratios measuring smile esthetics in our study, namely smile width, smile height, visible dentition width, maxillary intercanine width, visible maxillary first molars, visible mandibular teeth and visible maxillary marginal gingiva showed no detrimental effects of extraction of first four premolars on smile esthetics.

Conclusion: The results indicate that treatment involving the extraction of first four premolars does not have a detrimental effect on smile esthetics.

Keywords: Smile Esthetics, Orthodontic Treatment, Premolar Extraction

3.10

DENTOALVEOLAR HEIGHTS IN SKELETAL CLASS I NORMODIVERGENT FACIAL PATTERNS

Zafar Ul Islam, Attiya Shaikh
Department of Surgery, Aga Khan University, Karachi

Introduction: Diagnosis of various malocclusions is extremely important to direct the treatment plan in a right way. There are different factors that can contribute to the development of malocclusion so a thorough evaluation is very important. Dentoalveolar segment is that part of the jaw that contains teeth and the alveolar bone. Changes in the height of the dentoalveolar segment can give rise to various malocclusions. Therefore it is important to know the normal values of the dentoalveolar heights in order to detect any changes and its effects on occlusion and facial patterns.

Objectives: • To determine dentoalveolar heights in skeletal class I normodivergent facial patterns • To see gender dimorphism, if any

Method: It was a cross sectional study carried out at orthodontics clinic, AKUH from July to August 2009. A sample of 81 subjects was selected of age 12-30 years having fully erupted first permanent molars and central incisors. The pretreatment cephalographs of subjects were traced manually over an illuminator. The various parameters like angle ANB, angle SN-MP and dentoalveolar heights were measured. The values were analyzed using SPSS version 16 software. An independent sample 't' test was used and 'P' value of less than 0.05 was taken to be normal.

Results: The total sample size of 81 subjects comprised of 33% males and 66% females. The mean age of the subjects was 15.8 years. The mean value for angle ANB was 2.6 degrees and that for angle SN-MP was 31.5 degrees. The dentoalveolar heights like UADH, UPDH, LADH and LPDH were having mean values of 28.5mm, 22.9mm, 41.3mm and 31.5mm respectively. The 'p' value for LADH and LPDH was statistically significant.

Conclusion: The mean value for UADH was 28.5mm and that of UPDH was 22.9mm. The mean value for LADH was 41.3mm and that of LPDH was 31.5mm. No gender dimorphism was seen in UADH and UPDH. The LADH and LPDH were greater in males as compared to females.

Keywords: Dentoalveolar, Class I, Normodivergent

3.11

PARENTAL PERCEPTION OF CHILDREN DENTAL HEALTH: A TERTIARY HOSPITAL BASED STUDY

Huma Farid, Durr-e-Sadaf, Munawar Rahman,
Farhan Raza Khan
Department of Surgery, Aga Khan University, Karachi

Objectives: 1. To assess parents knowledge of children dental health. 2. To determine association of various factors with parents perception about children dental health.
Methods/Settings: AKUH & peripheral centers Study duration: Feb-May 2009, Sample Size: 207 respondents, Sampling technique: Non probability purposive, Data collection tool: Self administered questionnaire Data Analysis: SPSS version 16, Ethical Clearance: 1222-Sur/ERC-09.

Inclusion Criteria: Parents having children between 2 -10 years of age. *Exclusion Criteria:* 1) Parents having mentally and physically handicapped children. 2) Incomplete forms
Results: Among 207 participants 123 were mothers and 84 were fathers. Age of majority of participants (54%) were between 31-40 years with mean age of 35.52 years. Forty-eight percent participants were graduate. Parents tooth brushing frequency and their dental visit regularity were associated with their perception and attitude toward children dental health. Majority of parents used to visit dentist when there is some problem and they think same for their children that first dental visit of children should be at time when there is some problem ($p < 0.001$). A statistically significant association also existed between parents and children tooth brushing frequency ($p < 0.001$). No statistically significant association existed between parents dental practices and frequency of in between meal snacks taken by their children. Irrespective of parents dental practices majority of them thought that there should be regular dental visits after chief complaints are treated.

Conclusion: The basis of results of this study it was concluded that parents visiting AKUH lack sufficient knowledge about timings of first dental visit of children and importance of reducing the frequency of in between meals snacks taken by their children for maintenance of good oral hygiene.

Keywords: Timinings Of First Dental Visit, Child Dental Health, Tooth Brushing Frequency

3.12

MICRO ESTHETICS IN ORTHODONTICALLY TREATED CASES

Sanam Tauheed, Attiya Shaikh
Department of Surgery, Aga Khan University, Karachi

Objective: The primary goal of treatment of the field of orthodontics is attaining harmony and balance of the oral and facial soft tissues. Micro esthetics focuses on the micro features that constitute the smile and describes intra oral tooth-tooth relations and gingival architecture. *Objectives:* To compare the elements of micro esthetics in pre orthodontic and post orthodontic cases, treated with non-extraction and extraction fixed mechanotherapy and to compare post orthodontic values to the standard theoretical norms.

Method: The study was a cross-sectional study conducted at the Orthodontic Clinic, AKHU from June to July 2009. A total of 34 subjects were selected, out of which 18 had been treated with non-extraction mechanics and 15 with extraction mechanics. Each group was divided into pre and post treatment sub-groups. Intraoral frontal pictures and study casts of the patients were used to measure the parameters of micro esthetics, namely, gingival zenith position of the lateral incisor, maxillary central incisor height-width ratio, connector heights between the anterior teeth and the golden percentage.

Results: An overall improvement in the micro esthetic parameters was observed for both extraction and non-extraction subjects, after orthodontic treatment. However, values closer to the proposed standard norms were achieved more readily in the non-extraction group.

Conclusion: The results of our study show that the majority of the micro esthetic parameters in the extraction group did not meet the proposed norms. Hence, it is of paramount importance to focus on these micro esthetic parameters during the finishing stages especially during extraction orthodontic treatment mechanics.

Keywords: Micro Esthetics, Extraction, Non-extraction

3.13

CHANGE IN THE POSITION OF HYOID BONE FOLLOWING FUNCTIONAL APPLIANCE TREATMENT

Farhana Ghaffar, Mubassar Fida
Department of Surgery, Aga Khan University, Karachi

Objective: Relationships between the craniomandibular, cervical and hyoid regions can be modified by removable jaw orthopedic appliances therefore this study was done to determine change in the position hyoid bone following functional appliance treatment **Methods:** Pre and post treatment lateral cephalographs of orthodontic patients treated with functional appliance were taken and following parameters such as, HYS, (distance from sella to hyoidale the most anterior and superior point of the hyoid body); HYMP, (distance from hyoidale Hy perpendicular to the mandibular plane formed by a line connecting gonion the most posterior, inferior, and outer point of the mandible angle and menton (most inferior point on the mandibular symphysis); HYRGN,(distance from Hy to retrognathion the most posterior point of the mandible symphysis); GOHYME,(angle measured between Go to Hy to Me); C3- rgn, (distance between the most inferior, anterior point on the third cervical vertebrae and the most inferior, posterior point on the mandibular symphysis); C3-H (distance between the most inferior, anterior point on the third cervical vertebrae and hyoidale,); H- rgn (distance between hyoidale and retrognathion) were assessed. Paired sample t test will be used to assess the change in the position of the hyoid bone P-value < 0.05 will be considered significant. **Results:** Study under process **Conclusions:** Study under process

Keywords: Hyoid bone, Functional appliance, Orthodontic treatment

3.14

WHITE SPOT LESIONS IN THE ORTHODONTIC POPULATION

Munizeh Khan, Mubassar Fida
Department of Surgery, Aga Khan University, Karachi

Introduction: As oral hygiene maintenance is more difficult with fixed appliances, the decalcification of enamel is more common in the orthodontic population. Decalcification is usually manifested as a white spot lesion, which if left untreated may progress to develop into carious cavitations. It is important for clinicians to be aware of the prevalence of such enamel decalcifications in their patients along with knowledge of the tooth types and tooth sites which are most commonly affected, as the accurate evaluation of such lesions is important to implement early prevention and/or treatment. **Objectives:** The objectives of this study are to determine the prevalence and distribution of white spot lesions after orthodontic treatment.

Materials and Methods: This cross-sectional study was designed to compare pre-treatment and post-treatment digital photographs of patients having undergone orthodontic therapy to determine the presence or absence of enamel decalcification in the form of white spot lesions. The distribution of the white spot lesions was also recorded with reference to the tooth type, as well as its location on a particular tooth. **Results & Conclusions:** Study under progress

Keywords: Enamel Decalcification, White Spot Lesion, Orthodontic Treatment

3.15

GINGIVITIS AND CARIES STATUS AMONG ANTENATAL WOMEN AT COMMUNITY PRIVATE HOSPITALS FOR WOMEN, KARACHI

Asmina Pethani
Department of Community Health Sciences, Aga Khan University, Karachi

Objective: In literature it is evident that woman's preconception and pregnancy experience is prevalent with the two most diseases of the mouth that is periodontal disease and dental caries which not only adversely influences antenatal women's own oral health status but also may increase risk of adverse pregnancy outcome and risk to her offspring for early and severe dental caries. Gingivitis and caries both are largely preventable through evidence based interventions. But In Pakistani's population nothing is known about the prevalence of pregnancy gingivitis, caries status, and dental attendance, level of oral care knowledge regarding pregnancy, oral hygiene practices and its significant implication during pregnancy among antenatal women in Karachi.

Objectives: The objectives of the study are, firstly to estimate the mean gingival levels/scores and mean caries scores [DMFT; Decayed, Missing, and Filled teeth] among antenatal women visiting at community based private maternity centers Karachi. Secondly, to determine proportion of them affected with gingivitis and caries. Finally, to identify risk factors associated

with gingivitis during pregnancy among antenatal women at maternity centers at Karachi.

Method: we conducted cross sectional study of antenatal women at two Aga Khan Hospital for women, Karimabad and Kharadar in Karachi. Complete information from 464 antenatal women selected by simple random sampling from those registered antenatal women who pre-registered their delivery at study centers during August – November 2008. We determined pregnancy gingival and caries scores and computed arithmetic means. We performed multiple linear regression analysis to identify determinants of pregnancy gingivitis.

Results: The arithmetic mean DMFT (antenatal dental caries experience) for this study estimated as 3.99 mean DMFT (SD=3.78, Range=0-20, DMFT summation=1853). It was estimated that 105 antenatal women that is 22.6 % had zero DMFT scores while the prevalence of caries experience by antenatal women (DMFT=0) was 77.3 %. By using Significant Caries (SiC) Index the prevalence of caries experience by one-third antenatal women (151 antenatal women) with highest score DMFT [DMFT =5] estimated as mean 8.67 (SD 2.76, Range=5-20, DMFT summation= 1310). Gingivitis experience by participated antenatal women in study, the arithmetic mean gingival index scores found to be 0.97 mean gingival scores (S.D=0.41, Range=0-2.2, median=1). It was estimated that 74 antenatal women that is only 16% of antenatal women were free of gingivitis whereas gingivitis experience by antenatal women found to be estimated as 84% (390 antenatal women). Of 390(84 %) antenatal women with gingivitis, 209 antenatal women and 162 antenatal women have experience mild and moderate gingivitis respectively whereas only 19 antenatal women experienced with severe gingivitis respectively. In multivariable linear regression model oral hygiene index, life time exposure of areca nuts, regularity schedule of dental and oral cleansing, trimester, dental visit for gums treatment, prim-gravid history were significantly associated with pregnancy gingivitis while controlling for confounders like maternal education, socio-economic status and ethnicity.

Conclusion: Low proportion of good oral hygiene with underutilized dental visit, low level of awareness level along with higher prevalence gingivitis and high unmet caries restoration needs place a call for policy implication that attention toward the oral health needs of pregnant women is warranted and justifiable. A coordinated effort from the dental and obstetric communities to establish guidelines could benefit maternal and child oral health

Keywords: Gingivitis, Dental Caries, Antenatal Women

3.16

ESTHETIC PREFERENCES FOR FACIAL SOFT TISSUE PROFILES

Rashna Firoze Aga, Munizeh Khan, Mubassar Fida, Syed Iqbal Azam
Department of Surgery, Aga Khan University, Karachi

Objective: A major treatment goal of orthodontics, undoubtedly is attractive facial esthetics. Beauty is subjective, and this

makes it difficult to establish clear-cut esthetic goals for diagnosis and treatment planning. It is possible to formulate certain parameters to optimize dentofacial esthetics while satisfying other treatment goals. These parameters must consider both subjective and objective methods of evaluation. The aim of this study was to determine any significant difference in esthetic preferences for facial soft tissue profiles by orthodontists, orthodontic patients and their parents. **Method:** 18 male and 18 female profile silhouettes were prepared by changing their nasolabial angle, chin prominence and lip prominence using Adobe Photoshop 7. Rating of these male and female profile silhouettes was done by the three groups of raters (orthodontists, orthodontic patients and their parents – 36 in each group) on a scale of five with 1 being most attractive and 5 being least attractive. Two Factors analysis of variance (ANOVA) with equal replications was used to determine specific preferences for profiles in the three individual groups of evaluators. P-value = 0.05 was considered to be significant.

Results: Statistically significant differences were seen amongst the orthodontists and orthodontic patients and amongst orthodontists and parents of orthodontic patients while rating male profiles. While rating the female profiles statistically significant differences were seen amongst all the three groups.

Conclusion: As orthodontic treatment influences facial soft tissue profiles therefore the patients' and their parents' preference for their profile should be sought before treatment instead of assuming what the orthodontist feels is ideal.

Keywords: Esthetic Preferences, Facial Soft Tissue, Profiles

3.17

DENTAL AGE TABLE FOR ORTHODONTIC PATIENTS AT THE AGA KHAN UNIVERSITY AND HOSPITAL KARACHI

Rashna Firoze Aga¹, Mubassar Fida¹, Syed Iqbal Azam²
Departments of ¹Surgery, and ²Community Health Sciences,
Aga Khan University, Karachi

Objective: Demirjian's dental age assessment method is used worldwide to assess a patient's dental age. However this method was developed using French Canadian population standards and has shown significant differences (over-predicted in age groups 11 to 15 in boys and 10 to 14 in girls while it was under-predicted in age groups 16 and 17 in girls) in a previous study. The aim of this study was to formulate a dental age table for our orthodontic patients.

Method: The pre treatment orthopantomographs of 438 patients (180 males and 258 females), aged between 7– 17 years, attending the orthodontic clinic the Aga Khan University Hospital Karachi, Pakistan were evaluated. Dental age was assessed using Demirjian's dental age assessment method. **Results:** Dental age assessed using Demirjian's dental age assessment method and chronological age were not linearly related, so the transformation of $\ln \{100/\text{dental age} - 1\}$ was made. This transformation was linearly related with chronological age. Simple linear regression was then used between transformed dental age and chronological age

separately for males and females to generate prediction tables of dental age for Pakistani population. $p < 0.05$ was considered to be significant.

Conclusion: Dental age assessment table for our orthodontic patients was formulated.

Keywords: Dental Age Table, Orthodontic Patients, AKUH Karachi

3.18

A RANDOMIZED CLINICAL TRIAL OF FISSURE SEALANT RETENTION: SELF ETCH ADHESIVE VERSUS TOTAL ETCH ADHESIVE

Nadia Aman¹, Ali Khuwaja², Farhan Raza Khan³, Khabir Ahmad³

¹Alumni, Departments of ²Family Medicine, and ³Surgery, Aga Khan University, Karachi

Objective: Pit and fissures are naturally occurring surface defects of teeth of varying depth and morphology. About 90 percent of carious lesions are found in the pits and fissures of the permanent posterior teeth (molars and premolars). Pit and fissure sealant has been considered as a highly effective caries preventive dental treatment. The principal feature required for achieving success in caries prevention is adequate retention. Pit and fissure sealants have conventionally been placed with and without use of bonding agent or adhesive. There are limited studies on comparison of Total etch (TE) and Self etch (SE) adhesive for placement of sealants. Our study was based on comparison of effect of seventh generation Self etch bonding agent versus fifth generation Total etch adhesives in fissure sealant retention. The objective of our study was to compare the retention of fissure sealants applied using fifth generation bonding agent versus seventh generation bonding agent in molar teeth at three months follow up in patients visiting Dental section of the Aga Khan University Hospital

Method: This study was a randomized clinical trial; split mouth design was used for treatment allocation. Subjects were enrolled from patients visiting the dental section at Aga Khan University Hospital. Subjects were eligible if they were in the age range of 6-25 years with indication for sealant placement and had at least one pair of permanent first or second molar. The total sample size required was 84 pairs for this study. The sample size was inflated by 20% to compensate for attrition. The treatment allocation was done by simple randomization, where treatment was allocated to tooth on right side and alternate was allotted to left side tooth. The SE arm was treated with SE adhesive (Adper Easy One 3M ESPE) before sealant placement according to manufacturer's guidelines. The TE adhesive arm (Adper Single Bond 2 3M ESPE) was treated by acid etching and drying followed by adhesive application and subsequent application of TE adhesive and cured, this was followed by sealant application. The patients were followed up after 3 months and were clinically examined for assessment of sealant retention. The sealant retention was assessed by independent assessor blinded to treatment allocation

Results: 37 subjects with 101 pair of teeth were recruited in the study, 33 subjects (89.2%) and 91 pairs of molar (90%) were reevaluated clinically for sealant retention. Mean age

of the study participants was 15.73(S.D 6.18) years of age. The average number of intervention pair included per subject was 3 pairs of teeth. The most common indication for sealant placement in the subjects was presence of deep occlusal fissure (59.5%). There was no significant difference in the distribution of caries in right and left of teeth included in study. There was significant difference between proportion of teeth with partial or complete absence of sealants in SE compared to TE (p -value<0.001). Sealant retention in TE was 56% compared to 28% in SE based sealants.

Conclusion: Higher proportions of Total etch adhesive based sealants were found to be retained in the occlusal fissures than the SE based sealants. Therefore, the use of TE based sealants is recommended.

Keywords: Fissure Sealant, Adhesive, Bonding Agent

3.19

GINGIVITIS AND CARIES STATUS AMONG ANTENATAL WOMEN AT MATERNITY CENTERS, KARACHI: A CROSS-SECTIONAL STUDY

Asmina S. Pethani

Alumni, Aga Khan University, Karachi

Objective: Literature is evident that woman's preconception and pregnancy experience is prevalent with the two diseases of the mouth that is periodontal disease and dental caries which not only adversely influences antenatal women's own oral health status but also may increase risk of adverse pregnancy outcome and risk to her offspring for early and severe dental caries. Gingivitis and caries both are largely preventable through evidence based interventions. In Pakistani's population especially Karachi nothing is known about the status of gingivitis and caries status among antenatal women. The objectives of the study are to estimate the mean gingival and caries scores and proportion among antenatal women visiting at community based private maternity centers Karachi. Finally, to identify risk factors associated with gingivitis during pregnancy among antenatal women at maternity centers at Karachi.

Method: Cross sectional study of antenatal women at two community based private maternity centers Karachi conducted. 464 antenatal women selected by simple random sampling from registered antenatal women at study centers during August – November 2008

Results: 77.3 % antenatal women had DMFT>0 dental caries experience [mean=3.99, SD=3.78, Range=0-20]. DT, MT & FT estimated as 85.2%, 7.5% and 7.2% respectively. It was estimated that 84% antenatal women with gingivitis (mean=0.97, S.D=0.41, Range=0-2.2) In multivariable regression oral hygiene, areca nuts, dental cleansing, trimester, emesis gravidum, dental visit, primi-gravidum were significantly associated with pregnancy gingivitis while controlling for confounders.

Conclusion: Study results unquestionably place a call for coordinated effort from the dental and obstetric communities to establish guidelines to benefit maternal and child oral health.

Keywords: Gingivitis, Caries, Antenatal Women

3.20 THE PATTERN OF PEDIATRIC DENTISTRY PRACTICE OFFERED BY TEACHING AND NON-TEACHING GROUPS OF DENTIST IN KARACHI

Farhan Raza Khan¹, Sadia Mahmud²
Departments of ¹Surgery and ²Community Health Sciences,
Aga Khan University, Karachi

Objective: In the last decade, a rapid growth has been observed in the number of dentists due to establishment of number of dental schools in Karachi, Pakistan. None of these institutions have a Pediatric Dentistry department. Similarly, no graduate Pediatric Dentistry training program exists in the country. The objectives of this study are to map the pattern of pediatric dentistry services provided by the clinicians in teaching institutions and private practices of Karachi and to compare the preferences of dental material and technique selection by the two groups of dentists.

Method: It was a cross sectional, analytical study conducted at dental departments of academic institutions and selected dental practices in different parts of Karachi. The sample comprised of 71 subjects in the teaching while 97 subjects in the non-teaching group. Stratified random sampling was carried out. Data were obtained using a structured, self administered questionnaire comprising of 10 questions. Chi square test of independence was used to assess, if pattern of services are different between the two groups. *Results:* The response rate in teaching group was 94.67% (71 out of 75) while in the practitioners group it was 44.1% (97 out of 220). The groups were different regarding the use of topical fluoride, fissure sealants, and planning for primary teeth root canal treatment. The two groups were not different in their practice of placing stainless steel crowns and space maintainers. The reliability of the information obtained in this study is considered as excellent (Kappa value 0.78 to 0.89).

Conclusion: There are statistically significant differences in the preferences, selection of dental materials and pattern of pediatric dentistry services provided by the teaching dentists as compared to the private practitioners. Both the groups need to update themselves in provision of services such as fluoride and fissure sealant application

Keywords: Pediatric Dentist, Practice, Pattern

3.21 IS THERE A DIFFERENCE IN SERVICES OFFERED BY TEACHING VERSUS NON-TEACHING DENTISTS?

Farhan Raza Khan, Sadia Mahmud, Munawar Rahman,
Mubbasar Fida
Department of Surgery, Aga Khan University, Karachi

Objective: The objectives of this study are to map the pattern of operative dentistry services provided by the clinicians in teaching institutions and private practices of Karachi and to compare the preferences of dental material and technique selection by the two groups.

Method: The study was a cross sectional, analytical study conducted at dental departments of academic institutions and selected dental practices in different parts of Karachi. The sample comprised of 71 subjects in the teaching while 97 subjects in the non-teaching group. Stratified random sampling

was carried out. Data were obtained using a structured, self administered questionnaire comprising of 10 questions. Chi square test of independence was used to assess, if pattern of services are different between the two groups. Kappa statistic was applied to assess the reliability of the information. *Results:* The response rate in teaching group was 94.67% (71 out of 75) while in the practitioners group it was 44.1% (97 out of 220). The reliability of the information obtained in this study is considered as acceptable to good (Kappa value 0.53 to 0.72). There are significant differences between the groups regarding choice of restorations for cavities. The preferences regarding the use of Rubber Dam, Inlay-Onlay preparations, Gold crowns, Dentine pins, Amalgam Bonding, use of Retraction Cords, use of Bleaching Agents for teeth whitening and Porcelain Veneers were significantly different between the groups. All of these services are provided by a greater number of teaching dentists than the private practitioners. *Conclusion:* There are statistically significant difference in the preferences, selection of dental materials and pattern of dental services provided by the teaching dentists as compared to the private practitioners.

Keywords: Dental Services, Teaching Dentist, Non-Teaching Dentist

3.22 MAPPING THE ENDODONTIC PRACTICE: DENTAL SCHOOLS VERSUS PRIVATE PRACTICES

Farhan Raza Khan, Sadia Mahmud
Department of Surgery, Aga Khan University, Karachi

Objective: The objectives of this study are to map the pattern of Endodontic services (root canal treatment) provided by the clinicians in teaching institutions and private practices of Karachi and to compare the preferences of technique and material selection by the two groups

Method: The study was a cross sectional, analytical study conducted at dental departments of academic institutions and selected dental practices in different parts of Karachi. The sample comprised of 71 subjects in the teaching while 97 subjects in the non-teaching group. Stratified random sampling was carried out. Data were obtained using a structured, self administered questionnaire comprising of 11 questions. Chi square test of independence was used to assess, if pattern of services are different between the two groups. Kappa statistic was applied to assess the reliability of the information. *Results:* The response rate in teaching group was 94.67% (71 out of 75) while in the practitioners group it was 44.1% (97 out of 220). The reliability of the information obtained in this study is considered as excellent (Kappa value 0.81 to 0.88). The decision making in routine Endodontics was significantly different for the two groups. These include use of rotary endodontic equipments, use of Gates-Glidden burs, use of intra canal medicaments and use of endodontic sealer. Similarly, they had differences in core build up material selection, decisions about failed root canals and method of gaining retention on root treated teeth.

Conclusion: There are statistically significant difference in the preferences, selection of dental materials and pattern of Endodontic services provided by the teaching dentists as compared to the private practitioners

Keywords: Endodontics, Teaching, Practice

4.1**ORAL VERSUS PARENTERAL VASOPRESSOR IN PATIENT WITH AUTONOMIC DYSFUNCTION AFTER SPINAL CORD INJURY**

*Mohammad Yasir, Faisal Khan, Khalid Samad, Hameedullah
Department of Anaesthesia, Aga Khan University, Karachi*

Objective: Spinal cord injury (SCI) is a devastating event that may affect every aspect of an individual's life. Complete spinal cord injuries can involve the autonomic system, with disruption of the sympathetic outflow (T1–L2). This entity leads to unopposed vagal tone and hypotension with bradycardia and is called neurogenic shock. Loss of spinal sympathetic pathways can cause hypotension. Low doses of ionotropes may be used to maintain adequate blood pressure. We are presenting a case of a 41yr old male who had gun shot injury on the neck leading to cord transection causing spinal shock and autonomic instability requiring ventilation and high intravenous ionotropes for hypotension. Initially patient was treated with intravenous fluids and dopamine. Dopamine was tried to wean multiple times but not succeeded. Oral ephedrine 30 mg was added and titrated up to 60 mg p.o. tid. After one week dopamine was stopped and only oral ephedrine was continued. Oral ephedrine was continued for one month than

tapered subsequently. The patient was transferred in a stable normotensive condition to an inpatient rehabilitation unit.

Keywords: Ephedrine, Autonomic Dysfunction, Spinal Shock

4.2**TAMSULOSIN INDUCED SEVERE HYPOTENSION DURING GENERAL ANESTHESIA: A CASE REPORT**

*Dileep Kumar, Fauzia Anis Khan
Department of Anaesthesia, Aga Khan University, Karachi*

Objective: There is scant literature on any interaction between tamsulosin and anesthetic agents. We report a case of a 54 year old male undergoing elective left thyroid lobectomy. The only medication patient was taking was tamsulosin 0.4 mg since the last one year for benign prostatic hypertrophy. He developed persistent hypotension during the maintenance phase of anesthesia with oxygen, nitrous oxide and 1% isoflurane. This could be due to a possible interaction between inhalational anesthetics and tamsulosin. Vigilance for unexpected hypotension is important in patients who are treated with selective α_1 adrenergic receptor blockers. If hypotension occurs, vasopressors that act directly on adrenergic receptors should be used.

Method: Case presentation A 54-yr-old, 80 kg male was scheduled for left thyroid lobectomy. The patient's medical history was insignificant except benign prostatic hypertrophy. He was functional class one New York Heart Association classification. And was being treated for BPH with tamsulosin 0.4mg at night for the last one year. He was a smoker and had been smoking approximately 20 cigarettes a day for the last 24 years. He had no known history of allergy to any drug.

He consented to general anesthesia for thyroid lobectomy. Before induction of anesthesia, the patient's recorded blood pressure was 137/88 mm Hg, heart rate 72 bpm, and temperature 36.5°C. Cefazolin 1g was administered IV in the operating room, without any adverse effects. After placement of routine monitors and preoxygenation general anesthesia was induced with sodium thiopentone 5 mg kg⁻¹, pethidine 1 mg kg⁻¹ and atracurium 0.5 mg kg⁻¹ and patient's trachea was intubated with reinforced endotracheal tube without any difficulty. Lungs were ventilated with controlled mode of ventilation with O₂/N₂O and 1% isoflurane. Within 10 minutes, his blood pressure decreased to 75/45 mm Hg despite rapid infusion of one liter lactated Ringer's solution. His heart rate remained at 70 bpm, oxygen saturation between 98% to 99%. End-tidal carbon dioxide remained between 33 and 36 mm Hg, with a respiratory rate of 10 breaths/min. Ephedrine 30 mg in divided IV doses only transiently improved the hypotension (blood pressure to 85/40 mm Hg), and frequent phenylephrine boluses (100 μ g /bolus) were required to maintain systolic blood pressure more than 90 mm Hg. His skin was warm but not diaphoretic. Skin erythema, urticaria, bronchospasm, facial edema, and other features of potential anaphylaxis/anaphylactoid reaction were absent. No ischemic changes were observed on a 3-lead electrocardiogram (ECG). General anesthesia was maintained with O₂/N₂O and isoflurane MAC of 0.8%. At this point, the differential diagnosis of hypotension was primarily directed to deep anesthesia or hypovolemia. While these were being addressed, the surgeon was allowed to proceed. There was continuing hypotension requiring phenylephrine. At the time of surgical incision, patient moved slightly in response to surgical stimulation. The total duration of surgery was three hours and total estimated blood loss was 70 ml. More than 1 mg of phenylephrine was required to maintain the systolic blood pressure above 90 mm Hg. At the end of surgery after turning the isoflurane off, the patient's blood pressure increased to 110/70 mmHg and heart rate was 75 bpm at that time. The patient completely recovered from neuromuscular blockade following pyrolate-N, his trachea was extubated and he was shifted to postanesthesia care unit. He remained in the recovery room for 2 hours and remained hemodynamically stable with blood pressure in the range of 120/75 mmHg to 140/80 mmHg and heart rate between 70 to 76 bpm.

Conclusion: This case reports hypotension in a patient on tamsulosin under general anesthesia with N₂O/O₂, atracurium and isoflurane anesthesia. Other factors may have contributed to the decreased blood pressure, and tamsulosin cannot be implicated definitively. This case nevertheless demonstrates the importance of vigilance for unexpected hypotension in patients taking tamsulosin.

If hypotension does develop in these patients, a direct-acting vasopressor such as phenylephrine should be used.

Keywords: Tamsulosin, Hypotension, Bph

4.4 INHIBITION OF HEPATITIS C VIRUS (HCV) BY FLUOROQUINOLONES

Irfan Ali Khan¹, Shahana U Kazmi², Syed Ali¹
Department of¹Biological & Biomedical Sciences, Aga Khan
University and²Department of Microbiology, University of
Karachi, Karachi

Background: Hepatitis C virus (HCV) has infected an estimated over 170 million individuals worldwide. Effective therapy against HCV is still lacking. There is a desperate need therefore to develop new treatment strategies against this virus. Current evolution in the field of HCV has come from two major discoveries: a) construction of JFH-1, a genotype 2a subgenomic replicon that is able to independently replicate in the cell line Huh 8, and b) the development of a cell culture model, using Huh 7 cells transfected with synthetic HCV RNA, to produce virions that are also infectious. Fluoroquinolones inhibit bacterial DNA replication by targeting the enzymes gyrase and topoisomerase IV. These drugs have also been shown to have inhibitory activity against some viral helicases. In the present study, we have used the above-mentioned HCV culture models to test the activity of Fluoroquinolones against HCV.

Methodology: Huh 7 cells producing the HCV virion as well as actively dividing Huh 8 cells were grown in the presence or absence of over 10 different Fluoroquinolone antibiotics for either 72 or 96 hours. Afterwards, Both Huh 7 and Huh 8 cells were lysed, and viral RNA was extracted. The extracted RNA was reverse transcribed and quantified by real-time qPCR using primers against HCV gene NS3.

Results: To varying degrees, all of the tested fluoroquinolones effectively inhibited HCV replication in Both Huh 7 and Huh 8 models.

Conclusion/Significance: The two HCV culture models can be effectively used for the development of novel therapeutics and vaccines against HCV. Fluoroquinolones hold a great deal of promise for treatment against HCV infection.

Keywords: Hepatitis C Virus, Fluoroquinolones, Viral Helicases

4.5 EFFICACY OF DEFERASIROX IN PATIENTS WITH TRANSFUSION DEPENDENT ANEMIAS

Muhammad Shariq Shaikh, Raihan Sajid, Adnan Qureshi,
Salman Naseem Adil
Department of Pathology & Microbiology, Aga Khan
University, Karachi

Background: Repeated blood transfusions in patients with chronic anemias prolong life but leads to toxic accumulation of iron in vital body organs. Deferoxamine and deferiprone are most widely used iron chelators. Deferoxamine has the disadvantage that it requires parenteral administration while deferiprone, although orally administered, is reported to be associated with idiosyncratic reactions. Deferasirox is a new orally active iron chelator with bioavailability and half life

suitable for once daily dosing and has shown to be effective in reducing iron overload in various clinical trials.

Objectives: The objective of this study was to evaluate the efficacy of deferasirox in patients with various transfusion dependent anemias including thalassaemia major, aplastic anemia, and myelodysplastic syndromes.

Patients and Methods: The study was conducted at Aga Khan University Hospital Karachi for 6 months duration. Patients < 2 years were excluded from the study. Baseline serum ferritin levels, SGPT and creatinine were measured before starting deferasirox. Deferasirox was started at dose of 20mg/kg/daily. S. Ferritin was serially monitored to assess the efficacy of deferasirox and SGPT and creatinine were measured periodically to assess the hepatic and renal functions. **Results:** Out of 43 patients (22 males; 21 females) 37 had thalassaemia major, 4 had myelodysplastic syndrome and 2 had aplastic anemia. Mean serum ferritin levels remained unchanged during the study period (Baseline: 4663ng/ml, 6 months: 4668ng/ml). Serum creatinine levels remained within the normal range while SGPT levels showed only mild elevation from the baseline.

Conclusion: The study showed equivocal results of deferasirox in patients with transfusion dependent anemias. Large prospective studies are needed to clarify the efficacy of this agent in our settings.

Keywords: Deferasirox, Efficacy, Anemia

5.6**DEPRESSION IN PATIENTS WITH DIABETES MELLITUS AND ITS RELATIONSHIP WITH DIABETES SELF-CARE, MEDICATION ADHERENCE AND GLYCEMIC CONTROL**

Firdous Jahan¹, Abdul Jabbar¹, Haider Naqvi², Safia Awan³
Departments of¹Family Medicine, ²Psychiatry, and³Medicine,
Aga Khan University, Karachi

Background: The prevalence of diabetes is growing significantly. The World Health Organization estimates that at least 170 million individuals suffer from diabetes globally, this figure is likely to double by 2030. Depression is an independent risk factor for the onset of type 2 diabetes. It negatively affects the course of diabetes and is associated with increased risk of complications (especially heart disease), hyperglycemia, and mortality. **Method:** Cross sectional study done in ambulatory care. Three hundred forty diabetic patients were screened for depression and clinical characteristics of complication. All analyses was done by using the Statistical package for social science SPSS. **Result:** A total of 320 patients with Diabetes were identified during the study period. The mean age was 55 ±12 years and 138 (43%) were females. Hypertension 197(61.6%) and IHD 68(21.3%) were the most common co-morbid. Overall, 283(88.4%) received oral agents, and 134(41.9%) received insulin alone. Depression was present among 17% of patients with diabetes and was more common in 158(86.8%) male than females 106(76.8%) with diabetes ($p=0.02$), more prevalent among hypertensive 152(77.2%) patients ($p=0.001$), duration of diabetes >10years ($p=0.06$), family history of depression ($p=0.008$). Depression was more prevalent in patients with Neuropathy 126(74.6%) complication ($p<0.001$). Depression was associated with infrequent fruit and vegetable intake (76% vs. 87%). **Conclusion:** Depressed diabetics had more complications and sub optimal self care. Coexistence of Depression had poor glycemic control.

Keywords: Diabetes, Depression, Self Care

5.8**FREQUENCY OF MICROALBUMINURIA AMONG NEWLY DIAGNOSED ADULT TYPE 2 DIABETIC PATIENTS IN A TERTIARY CARE HOSPITAL**

Muhammad Nauman Zahir, Jaweed Akhter
Department of Medicine, Aga Khan University, Karachi

Introduction: The incidence of diabetes mellitus in North America is reaching epidemic proportions and is expected to double by 2025. Pakistan will have an increase in the diabetic population from 4.3 million in 1995 to 14.5 million in 2025. One of the most common end-organ involvements is diabetic nephropathy (DN) leading to chronic kidney disease (CKD) which is now the single most common cause of ESRD in the Western world. Microalbuminuria is a marker for the increased risk of diabetic nephropathy and has been used as a screening test for the presence of diabetes related kidney disease in patients. Delay or prevention of the onset of ESRD in patients

with DN is of paramount importance. Although a large amount of research is being conducted on microalbuminuria throughout the world, there is very little data addressing this issue for our population.

Objective: To study the frequency of microalbuminuria among newly diagnosed adult patients of Type 2 diabetes mellitus at a tertiary care center (AKUH).

Method: Type 2 diabetic patients seen and diagnosed exclusively in the medicine clinics of Aga Khan University Hospital during the study period were enrolled. All the information regarding demographics and the two fasting blood sugars at diagnosis were recorded on a predesigned proforma. A mean of the two fasting blood sugars at diagnosis was calculated (FBSm) and used for further analysis. A spot urine sample was obtained from each subject and checked for microalbumin from the AKUH lab by nephelometry technique using the Beckman kit. The minimum detectable level of urinary microalbumin with this method is 19 mg/l. Level of more than 19 mg/l indicated significant microalbuminuria. The finding of whether microalbuminuria was present or absent was also recorded on the proforma. All analyses was conducted by using a statistical package (SPSS 16.0). A descriptive analysis was done and is presented as mean ± standard deviation for quantitative variables and as number (Percentage) for qualitative variables. Stratification was undertaken on age, gender and severity of Type 2 diabetes mellitus at presentation and results presented accordingly. **Results:** There were 45 males (54.2 %) and 38 females (45.8 %) in the study population. The mean age of the inducted patients was 52.50 ± 9.84 years (range from 28 – 76 years). The mean age of males was 54.92 ± 10.44 years (range 31 – 76 years), and that of females was 49.63 ± 8.33 years (range 28 – 69 years). The mean of the FBSm in the study population was 171.31 ± 48.43 mg/dl (range 127.50 – 342.50). The mean of the FBSm in males was 164.20 ± 36.58 mg/dl (range 127.50 – 271.50 mg/dl), whereas it was 179.73 ± 58.93 mg/dl (range 127.50 – 342.50 mg/dl) in females of the study population. The frequency of microalbuminuria was found to be 30.1 % (25 out of 83 subjects) in newly diagnosed type 2 diabetics in Aga Khan University Hospital, Karachi. No significant difference in frequency of microalbuminuria was found between the two genders. However it was found that the frequency of microalbuminuria in the study population was higher in older people. It was also found that the frequency of microalbuminuria in patients was higher with worsening glycemic control.

Conclusion: The results show that the frequency of microalbuminuria in our study population was quite high. It was found that there was no significant difference in the frequency of microalbuminuria between the two genders. Increasing age and poor glycemic control were found to be important determinants for the presence of microalbuminuria in the study population.

Keywords: Microalbuminuria, Type 2 Diabetes Mellitus, Diabetic Nephropathy

5.9

BARRIERS IN INITIATING INSULIN THERAPY IN A SOUTH ASIAN COMMUNITY

*Jaweed Akhter, Umair Syed Ahmed, Babar Junaidi, Ailia Welayat Ali, Omar Akhter, Moiz Salahuddin
Department of Medicine, Aga Khan University, Karachi*

Objective: Early initiation of insulin therapy is recommended for optimal control of diabetes. Our patients often display a reluctance to agree to insulin initiation. We set out to assess the reasons for this reluctance and evaluate the need to create more awareness regarding the benefits of insulin use
Method: Patients coming to the Diabetes clinics at Aga Khan University Hospital were administered a questionnaire regarding their opinions on insulin use. A separate set of questions were asked from patients already on insulin therapy and those who had never been on insulin.

Results: A total of 161 patients were interviewed, of whom 56.2% were males. The mean age of respondents was 54 years. 114 patients had never been on insulin therapy while 47 were using or had used insulin. Among patients not using insulin, 72.8% patients thought that insulin was to be used only as a last resort in the treatment of diabetes mellitus, while 41.2% thought that tolerance developed to insulin. Only 25% respondents thought that insulin use would reduce complications, while 40% felt that insulin use would not interfere with religious obligations. Fifty seven percent of the respondents thought that it would be difficult to get off insulin once initiated, while 44.2% thought that it would difficult to learn insulin administration and 34.2% felt that they could not self inject even if absolutely needed. Twenty three percent said that they would never use insulin while 8.8% of respondents were unsure. Among the respondents using insulin, 57.4% were very hesitant or hesitant before starting insulin. However 61.7% thought that their glycemic control had improved since starting insulin and 74.5 % said they would recommend insulin to other diabetics. Insulin use was not thought to interfere with religious activities by 85.1% respondents, while 76.6% and 93.5% thought that it did not interfere with social life and work respectively.
Conclusion: High frequency of reluctance to use insulin prior to initiation of therapy is seen in our population but views regarding insulin use improve considerably after initiation of therapy. Further awareness of benefits of insulin use need to be highlighted and concerns need to be addressed in our population.

Keywords: Insulin Use, Barriers, South Asians

5.10

COMPARISON OF METABOLIC SYNDROME PREVALENCE IN TYPE 2 DIABETICS USING NCEP ATP III, IDF AND WHO CRITERIA'S

*Najmul Islam, T Yasmeen, T E Khan
Department of Medicine, Aga Khan University, Karachi*

Objective: Metabolic Syndrome has emerged as a significant burden on health all over the world. Many Definitions have been put forward since the inception of this Syndrome. Studies have looked into these differences in definitions of metabolic syndrome generally, but only few studies have compared these definitions in the diabetic population. We decided to determine the prevalence of metabolic syndrome in Type 2 diabetics according to NCEP ATP III, IDF and WHO definitions and then to compare and contrast these traits within Pakistani population

Method: This study was done at the Aga Khan University Hospital Karachi. Data was collected prospectively by using a questionnaire which included demographic characteristics and individual components of metabolic syndrome i.e. waist circumference, serum triglyceride, HDL etc. This data was analyzed separately according to NCEP ATP III, IDF and WHO definitions and the results were then compared. The data were presented as the mean \pm SD or percentage; continuous variables were compared using the chi-square test. All analyses were conducted by using the statistical package for social sciences SPSS 14. All p values were two sided and considered as statistically significant if 0.05.

Results: Two hundred and ten Type 2 diabetic patients were enrolled in the study among which 112 were males and 98 females. The frequency of Central Obesity by WHO were 96%, by NCEP ATP III (europoid) 61.4%, by NCEP ATP III (southasian) and IDF definitions was 90.5%. Hypertension by WHO criteria was present in 55.2% in comparison to prevalence of around 70% by both ATP III and IDF definitions. Hypertriglyceridaemia was present in 41.4% by all definitions. However prevalence of low HDL differed being 36.7% for WHO and 67.6% for ATP III and IDF definitions. The prevalence of Metabolic Syndrome was 81.4% by WHO definitions, 75.7 and 91.9% by NCEP ATP III (europoid) and NCEP ATP III (southasian) and 86.7% by IDF criteria. The degree of agreement (kappa statistic) between WHO definition and NCEP ATP III (europoid), NCEP ATP III (southasian), IDF definitions were 0.465, 0.436 and 0.417 respectively. The degree of agreement between IDF and NCEP ATP III (europoid), (southasian) definitions was found to be 0.373 and 0.728 respectively.

Conclusion: Prevalence of Metabolic Syndrome in Type 2 Diabetics was highest according to NCEP ATP III southasian criteria followed by IDF and WHO definitions. NCEP ATP III europoid had the lowest prevalence. Maximum degree of agreement was seen between IDF and NCEP ATP III southasian definitions of metabolic syndrome.

Keywords: Metabolic Syndrome, Type 2 Diabetics, Obesity

5.11**DIABETIC KETOACIDOSIS ASSOCIATED WITH TACROLIMUS IN SOLID ORGAN TRANSPLANT RECIPIENTS**

Muhammad Qamar Masood¹, Madiha Rabbani², Wasim Jafri¹, Taimur Saleem³, Manal Habib²

¹Department of Medicine and ²Medical College, Aga Khan University, Karachi

Objective: To describe 2 cases of new onset diabetes mellitus with diabetic ketoacidosis (DKA) as initial presentation, receiving tacrolimus for solid organ transplantation

Method: We describe the clinical presentation and subsequent clinical course of 2 patients who developed DKA while receiving tacrolimus for kidney and liver transplantation. We also briefly reviewed the literature regarding similar cases.

Results: Our first patient was a 17-year-old male who presented with severe diabetic ketoacidosis and managed with intravenous fluids, insulin infusion and potassium replacement. He was a known case of Laurence-Moon-Bardet-Biedl syndrome and had received a renal transplant 2 years ago and was receiving tacrolimus since then. He was out of DKA in next 24 hours; however, large doses of subcutaneous insulin (up to 130 units per day) were needed to keep serum glucose within normal range. Substitution of tacrolimus with cyclosporine obviated the need for insulin or any oral hypoglycemic therapy. Our second patient was a 55-year-old woman presented with sudden onset of polyuria for 3 days. She received hepatic transplantation 2 years ago and tacrolimus was used for post-transplant immunosuppression. Mild diabetic ketoacidosis was managed with fluid resuscitation and subcutaneous insulin. Her insulin requirement after an uneventful recovery has been 54 – 70 units per day.

Conclusion: Clinicians should be cognizant of the possibility of hyperglycemic crisis presenting as sudden onset of diabetic ketocidosis in patients receiving tacrolimus. Substituting these patients to alternative calcineurin inhibitor may provide a safer solution to minimize future morbidity.

Keywords: Post Transplantation Diabetes Mellitus, Tacrolimus, Diabetic ketocidosis

5.12**DIABETES RELATED KNOWLEDGE AMONG RESIDENTS AND NURSES: A MULTICENTER STUDY IN KARACHI, PAKISTAN**

Asma Ahmed, Abdul Jabbar, Lubna Zuberi, Khusro Shamim
Department of Medicine, Aga Khan University, Karachi

Objective: Since the prevalence of diabetes has been rapidly rising, it has become one of the major public health problems. Pakistan is also one of those countries estimated to have the highest number of people with diabetes. To be able to face this enormous number of diabetes cases, health care providers need to have adequate knowledge to deliver optimal care to these patients. There are several studies that have examined the diabetes knowledge of nurses, but the data assessing the knowledge of diabetes among trainee residents' especially surgical residents is lacking.

Method: A validated questionnaire consisting of 20 questions related to diabetes awareness was acquired through a study done at Thomas Jefferson University Hospital, Philadelphia with the permission of primary author. The questionnaire was administered at 5 tertiary care academic hospitals including The Aga Khan University Hospital to residents and nurses. **Results:** 169 internal medicine residents (IMR), 27 family medicine residents (FMR), 86 surgery residents (SR) and 99 nurses (RN) participated. The survey had a good reliability coefficient (Cronbach α of 0.81). The overall mean correct percentage was 50% \pm 21. There was no difference in total scores of IM & FPM residents (64% \pm 14 vs. 60% \pm 16, p value=0.47). The total scores of SR and RN were quite low (40% \pm 16 and 31% \pm 15 respectively). Although FMR scored higher than IMR on items regarding outpatient management of diabetes but that difference was not statistically significant (p value=0.128). For inpatient diabetes care the scores of IMR were higher than FMR but not statistically significant either (p-value 0.175). SR and RN had profound deficit in both inpatient and outpatient management. Surprisingly, despite of the fact that RN are actively involved in in-patient management of diabetes, they didn't answer correctly on most of the items regarding in-patient management of diabetes (Mean score 40%).

Conclusion: As there are no prior studies in our setting evaluating knowledge related to diabetes management among residents and nurses, this study is quite significant. Based on these results, there are significant gaps in diabetes knowledge among residents and nurses. Due to high burden of disease and considering the fact that our residents and nurses are actively involved in diabetes management this raises important concerns and needs to be addressed.

Keywords: Diabetes, Residents, Knowledge

5.13**PULMONARY METASTASIS IN WELL DIFFERENTIATED THYROID CARCINOMA OF UNKNOWN MALIGNANT POTENTIAL: A CASE PRESENTATION AND REVIEW OF LITERATURE**

Asma Ahmed, Najmul Islam
Department of Medicine, Aga Khan University, Karachi

Objective: To report a case of a metastatic well differentiated thyroid carcinoma of unknown malignant potential. **Case Presentation:** We describe the case of a 40 yr old female with history of MNG. Ultrasound (US) revealed two large nodules in left lobe of thyroid, largest one 4 x 1.3 x 1.2 cm with three nodules on the right lobe. Technetium scan showed cold nodule in the left lobe. C-X ray revealed large soft tissue mass in neck displacing trachea. FNAC was consistent with benign pathology. US repeated after one year revealed complete replacement of left lobe with large solid cum cystic nodule and increment in the size of left nodule. Repeated FNAC subsequently didn't show any evidence of malignancy. In view of the fact that the size of her thyroid nodule was progressively increasing & displacement of trachea it was decided on clinical grounds to perform total thyroidectomy. Histopathology showed WDT-UP. After involving multidisciplinary teams it was decided to manage her with

RAI. Her post ablation 131I WBS showed uptake in thyroid bed with pulmonary metastasis. Subsequently, CT scan with contrast showed no evidence of pulmonary metastasis. Discussion due to the vagueness of the clinical behavior of these tumors, clinicians and surgeons are often puzzled regarding the treatment of these tumors. Moreover, there are no guidelines for the management of these tumors. *Conclusion:* On the basis of the reported findings, it is tempting to speculate that these new entities should be treated with total thyroidectomy followed by RAI until more long term data is available documenting the outcome of these lesions.

Keywords: Thyroid, Metastasis, Malignancy

5.14

FOLLICULAR VARIANT OF PAPILLARY THYROID CARCINOMA PRESENTING AS BONE METASTASIS

Asma Ahmed, Najmul Islam

Department of Medicine, Aga Khan University, Karachi

Objective: To report a case of follicular variant of papillary thyroid carcinoma (FVPTC) initially presenting as spinal metastasis. Clinical Presentation A 45 year old male presented history of pain and numbness over lateral aspect of right thigh. MRI demonstrated lesion at level of L2 approximately 3.5 × 2 cm. Bone scan showed increased tracer uptake at L2 vertebrae & right shoulder joint. FNA of the bone lesion was suggestive of metastasis with suspicion of prostate vs. thyroid malignancy. Transrectal ultrasound (US) of the prostate and PSA were normal which further ruled out prostate being the primary focus. Focusing on primary etiology, US of thyroid was done which was normal. CT Scan revealed small nodules in the left lobe of thyroid gland and both lungs. Furthermore, thyroglobulin level was found to be extremely high 2858ng/ml. FNAC of left thyroid nodule revealed scanty benign tissue. The patient received radiation therapy for his bone metastasis. In view of extremely raised thyroglobulin levels and FNAC of bone lesion suggesting primary lesion in thyroid, it was decided to proceed for total thyroidectomy. Histopathology appearances were in keeping with the FVPTC. Two weeks after thyroidectomy, thyroglobulin levels were 5056ng/ml indicating high tumor load. Patient received 200 mci of RAI followed by WBS showing multiple increased areas of uptake in lumbar and right shoulder region. *Conclusion:* This case highlights the fact that although FVPTC are very much similar to classic PTC but a subset of it may behave as follicular carcinoma and can also present initially with bone and lung metastasis.

Keywords: Thyroid, Carcinoma, Metastasis

5.15

BEST METHOD FOR ESTABLISHING CONTACT WITH POTENTIAL STUDY PARTICIPANTS IDENTIFIED FROM MEDICAL RECORDS AT AKUH

Gulshan Bano¹, Naveed Janjua, Abdul Jabbar², Rahat Qureshi³, Romaina Iqbal¹

Departments of¹Community Health Sciences, ²Medicine, and ³Obstetrics & Gynaecology, Aga Khan University, Karachi

Introduction: We assessed various methods of establishing contact with potential study participants (PP) identified through electronic medical records in a type 2 diabetes mellitus research project in Pakistan.

Methods: Women who were diagnosed with gestational diabetes (GDM) during 1999-2005 were identified from medical records at Aga Khan University. An introductory invitation letter with pre-paid, self-addressed mail back envelopes was mailed. One week after the mail outs PP were contacted through phone calls. Three phone attempts were made, first on weekday afternoon, second weekday morning, and third on weekend.

Results: Of 1,335 PP, we were able to mail letters to 1,247 PP; 336(27%) letters returned due to wrong addresses, 824(66%) did not respond, and 85(7%) responded (76 consented and 5 refused/migrated). Out of 1335 PP, 1146 PP were contacted through phone calls. Average number of calls made to each PP was 2.18. We were able to contact 342/1146(30%), 144/1146(13%), 93/1146(8%) and 8/1146(0.6%) in first, second, third and > three calls, respectively (overall: 594/1146(52%)). Individuals with recent diagnosis of a GDM were more likely to be contacted (63% for 2005 vs. 50% for 1999) compared to PP who had an older diagnosis. Of the individuals contacted during these calls, 183/342(53.5%), 115/144(79.9%), 76/93(81.7%) consented to participate at 1st, 2nd, 3rd calls, respectively.

Conclusion: Response to phones calls was better than mail in establishing contact. The rate of contact decreased with the subsequent calls. PP with recent diagnosis of GDM were more likely to be contacted than PP without.

Keywords: Medical Records, Contact Rate, Recruitment

5.16

SHISHA SMOKING

Shehla Batoool Jaffri

Department of Family Medicine, Aga Khan University, Karachi

Background: Water pipe smoking (WPS) has been practiced extensively for about 400 years. In recent years there has been a revival of WPS, notably among youth this presents a new challenge for adolescent's health care providers. Water pipe smoking is perceived by many adolescents, the general public and even health professionals as being less dangerous than cigarette smoking water pipe smoking is perceived by many adolescents, the general public and even health professionals as being less dangerous than cigarette smoking

Objectives: 1. To determine the prevalence of water pipe smoking among students in college/ universities of Karachi.

2. To assess the knowledge, attitude and practices towards water pipe smoking among students.

Method/Study Design: Cross-sectional study
Settings: Study was conducted in the Private College/Universities of Karachi (College of Business & Management, Karachi University and Preston University) Duration of Study: The study was done from April 2009 to October 2009.
Subjects and Methods: A total of 422 students participated from specified college and universities. Equal numbers of students were taken from each institute. All students were approached in their classrooms, cafeterias, courtyards by the principal investigator. These institutes were visited with prior consent from their directors or chairpersons. Students were given self administered questionnaire and after the informed consent were recruited in the study.

Results: About 39% (160/407) of the students found to have inadequate knowledge about water pipe smoking. About 50% of the students think that water pipe smoking is less harmful than cigarette smoking. Sixty four percent of students showed positive attitudes towards water pipe non use and its unacceptability. Current shisha smokers were 21.6% of the group. Ever smokers were almost 40% of the students. Mean age of initiation of shisha smoking came out to be <20 years of age.

Conclusion: High prevalence (21.6%) of water pipe smoking is observed in students of Karachi Pakistan. Almost 40% of the students were found to have inadequate knowledge about shisha smoking. One of the alarming signs is age of initiation of water pipe smoking which was reported as less than 20 years in 80% of the patients. Ten years was the lowest reported age to initiate water pipe smoking. This mode of smoking is rapidly increasing in Pakistan as a fashion and as a status symbol.

Keywords: Shisha Smoking, Water Pipe Smoking, Students

5.17 FREQUENCY OF VITAMIN D DEFICIENCY IN TYPE-II DIABETIC OUTPATIENTS AT AKUH

Saba Aijaz
Department of Medicine, Aga Khan University, Karachi

Objective: The vitamin D has been shown to have new implications in addition to its effect on bone health. Vitamin D deficiency is quite common in patients with diabetes and early detection and screening may have a positive impact on overall health of patients with Diabetes. Objectives To determine the frequency of vitamin D deficiency in Type-II Diabetic patients (controlled or uncontrolled) presenting at medicine and diabetes clinics a tertiary care hospital (Aga Khan University Hospital) in Karachi

Method: Study was done in Outpatient clinics of Department of Medicine, AKUH on 100 patients during 2009. All patients fulfilling inclusion criteria were enrolled. Data were collected on pre designed Performa, and analyzed using SPSS Version 14. Results were given for continuous variables as means± Standard deviation. For categorical variables, results were reported as frequencies with percentages.

Results: Total of 100 patients were enrolled. 40 (40%) of the enrolled patients had vitamin D deficiency (<20 ng/ml) while

33 (33%) study participants had vitamin D insufficiency (20-30 ng/ml). Only 27 (27%) had normal vitamin D levels (>30 ng/ml). In those having Vitamin D deficiency mean levels was 14.21ng/ml (±4.01). More than half (55%) of these patients did not have any symptoms. The frequency of vitamin D deficiency was not significantly difference in males as compared to females.

Conclusion: The frequency of Vitamin D deficiency and insufficiency are quite high in patients with type II diabetes

Keywords: Vitamin D, Type 2 Diabetes, Hypovitaminosis D

5.18 BETTER BLOOD GLUCOSE CONTROL THROUGH SELF-MANAGEMENT INSTRUCTIONS IN TYPE II DIABETES: A RANDOMIZED CLINICAL TRIAL

Saba Aijaz¹, Abdul Jabbar¹, Ghazala Rafique²
Departments of¹ Medicine, and² Community Health Sciences,
Aga Khan University, Karachi

Introduction: Diabetes management encompasses a comprehensive plan for control of blood glucose, dietary adjustments, exercise and medical treatment as well as treatment of complications Diabetes self management programs in USA are recommended as a supplement to routine clinical care in patients with diabetes. There are no definitive studies on outcomes of self management in Type II Diabetic populations in Pakistan.

Objectives: 1. To compare the mean difference in %HbA1c at 06 months interval among adults having diagnosed type II diabetes of at least one year duration, receiving self-management instructions for Diabetes as compared to those type II diabetic patients who depend on standard care in diabetic clinics of 02 tertiary care hospitals from September 2009 to July 2010. 2. To determine sustained effect of intervention on mean HbA1c reduction rechecked at 09 months in intervention group. Open label randomized controlled trial in diabetic clinics of AKUH, Sample size is 120. Total 04 sessions of one hour duration to the intervention group through a diabetes educator. Delivered in groups at: (1) Time of enrollment, (2) Next clinical visit, (3) At 06 weeks and (4) At 12 weeks. Self management instructions (DSME protocol): 1. Healthy eating 2. Being active 3. Monitoring 4. Taking medications 5. Problem solving 6. Healthy coping 7. Reducing risks. Outcome assessment by HbA1c performed at 06 months in both study groups %HbA1c at 09 months in intervention group only. HbA1c will be done free of cost in all patients.

Keywords: Diabetes, Self Management Education, Chronic Disease Self Management

5.19

PROPORTION OF MICRO-ALBUMINURIA AND ITS ASSOCIATED FACTORS AMONG PEOPLE WITH TYPE 2 DIABETES: A MULTI-CENTRE STUDY FROM KARACHI, PAKISTAN

Ali Khan Khurwaja¹, Saima Lalani², Iqbal Azam³, Abdul Jabbar⁴
Departments of ¹Family Medicine, ²Medical College,
³Community Health Sciences, and ⁴Medicine, Aga Khan
University, Karachi

Objective: Micro-albuminuria is an early predictor and marker of complications among people with diabetes. This study aimed to determine the proportion of micro-albuminuria and the factors associated among people with type 2 diabetes in Karachi, Pakistan.

Method: Interviews were taken of 672 people with type-2 diabetes who were attending three different types of diabetes clinic (private: clinic A; non-governmental organization: clinic B; and public: clinic C) in Karachi, Pakistan. A structured and pre-tested questionnaire was used to collect socio-demographic and clinical information from patients; some variables of interest were also confirmed by reference to patient's medical records. Adjusted odds ratios along with 95% confidence intervals were calculated to identify the independent factors associated with micro-albuminuria.
Results: The overall proportion of micro-albuminuria was 33%. Univariate analysis showed association of micro-albuminuria with increasing age, male gender, increased disease duration, being an ever smoker, having hypertension, having ischemic heart disease, having diabetic foot and having uncontrolled glycemic levels. When adjusted for the effects of other variables in the model increasing age (AOR=6.7; 95% CI: 3.7 - 10.9), being ever smoker (AOR=4.2; 95% CI: 2.3 - 7.7), having hypertension (AOR=2.2; 95% CI: 1.4 - 3.5), having ischemic heart disease (AOR=8.9; 95% CI: 5.76 - 14.1), and having uncontrolled glycemic levels (AOR=3.3; 95% CI: 1.6 - 6.9) were found to be independently associated with micro-albuminuria.

Conclusion: One-third of the study participants were found to have micro-albuminuria and the independent factors identified with micro-albuminuria are preventable and modifiable to great extent. Interventions and further research is suggested in this regards.

Keywords: Micro-Albuminuria, Type 2 Diabetes, Karachi

5.20

CHARACTERISTICS AND METABOLIC PROFILE OF PATIENTS WITH TYPE 2 DIABETES MELLITUS AT A TERTIARY CARE CENTER IN PAKISTAN

Azra Rizwan, Kulsoom Hasnain, Qamar Masood, Najmul Islam, Abdul Jabbar, Lubna Zuberi, Jaweed Akhter
Department of Medicine, Aga Khan University, Karachi

Objective: Type 2 Diabetes Mellitus has evolved into an epidemic with a predicted increase in prevalence of over 150% over the next 20 years in South Asian countries. Little data is available on the control and metabolic profile in our

country. Information on this will help to direct quality control measures appropriately. **Objectives:** To assess the proportion of individuals reaching the recommended American Diabetes Association [ADA] goals for glycemic, lipid and blood pressure control.

Method: Data on patients presenting to the diabetes clinic, Aga Khan University and Hospital, between 2007 and 2008 were recorded. These included sociodemographic variables, physical measurements and presence of micro and macrovascular complications. Levels of HbA1C, blood sugars, lipid profile, urine microalbumin [UMA] and medications were noted.

Results: 1814 diabetic patients were reviewed, mean age \pm SD was 53 ± 13 years; mean duration of diabetes was 8 ± 7 years. There were 52.1% males & 47.9% females. 12.5% were overweight, while 72.2% were obese: 76.4% females versus 68.4% males ($p < 0.05$). Systolic blood pressure < 130 mmHg was achieved in 57.7%; diastolic blood pressure < 80 mmHg in 43.2%; HbA1C of $< 7.0\%$ in 44.8%; LDL < 100 mg/dl in 55%; 48.6% had a triglyceride level exceeding 150 mg/dl: 54.2% females versus 44.4% males (p value=0.018). 35.8% males had HDL > 40 mg/dl; 20.5% females had HDL > 50 mg/dl. 63.4% had normal urinary micro albumin levels. Microvascular complications were documented in 18%; 38% had history of hypertension; 45.5% dyslipidemia; 9.7% heart disease; 1% diabetic foot. Statins were used by 39.2% patients; 24.3% were on insulin; 44% on sulphonylureas, 57.1% on metformin, 20.7% on glitazones, 2.6% on acarbose; 19.9% on ACE inhibitors, while 12% were on ARBs; 51.3% were on anti platelet agents.

Conclusion: The majority of diabetics were overweight /obese, with worse lipid profiles as compared to the non obese. Females had worse profiles as compared to males. The glycemic and lipid control were not at the ADA targets. Efforts are required to institute rigorous lifestyle measures and pharmacotherapy to clinch these targets.

Keywords: Lipid, Blood Pressure, Targets

5.21

PERCEPTIONS OF A DIABETIC DIET AMONGST PATIENTS PRESENTING TO THE DIABETES CLINIC AT A TERTIARY CARE CENTRE IN PAKISTAN

Azra Rizwan, Farheen Kassim Dojki, Qamar Massod,
Jaweed Akhter
Department of Medicine, Aga Khan University, Karachi

Objective: Type 2 diabetes has evolved into an epidemic in developing countries. Statistics reveal that Pakistan ranks high in the countries with diabetes. A key element to the management of diabetes is through applying the diabetic diet in everyday life. The aim of this study was to determine diabetic diet perceptions of Pakistani patients and to identify areas requiring emphasis during diet teaching.

Method: We used questionnaire based interviews to collect perspectives from 200 subjects from the Diabetes Clinic at Aga Khan Hospital, Karachi, Pakistan. All interviews were carried out by our diabetes educator. Frequencies and

percentages were reported for categorical data and mean \pm SD for continuous variables.

Results: Participants had variable perceptions about the diet to follow, a few examples being the following. Of the 50% of patients who knew that a diabetic could have rice, 84% misstated white rice as being more preferable over brown. Only 47% of the patients correctly knew that brown bread was best for a diabetic. When asked whether whole fruit or fruit juice is preferable, 64% were well informed that whole fruit is favored. However, of those only 15% answered correctly that fruit is better because of its fiber content. A number of subjects were of the opinion that juice provides more strength. Pertaining to the question on use of sweeteners, 40% said that one should not, due to such fears as memory loss and cancer. A mere 15% knew that diabetics should have boiled egg versus fried and of those only 50% knew that it is the egg white which is preferable, not the yolk. A good 63% believed such root vegetables as potato to be prohibited; some felt bitter melon could cure diabetes.

Conclusion: This study identified the need for health care professionals to inquire about diabetic diet knowledge and to dispel myths surrounding it. The results provide directions for the development of culturally specific diabetes education and could create awareness amongst patients to progress from knowledge to implementation. This study could serve as a basis for carrying out a comparative study between this high-income population with one from the public sector.

Keywords: Diabetic, Diet, Misconceptions

5.23

OUTCOME OF PITUITARY SURGERY IN PATIENTS PRESENTING WITH PITUITARY ADENOMA AT A TERTIARY CARE CENTRE IN PAKISTAN

*Azra Rizwan, Osama Ishtiaq, Sadia Jameel, Jaweed Akhter
Department of Medicine, Aga Khan University, Karachi*

Objective: To describe the outcome of pituitary surgery in patients admitted for pituitary adenoma at the Aga Khan University, Karachi.

Method: Files of patients diagnosed with pituitary adenoma, having undergone surgical resection as treatment at the Aga Khan University and Hospital between 2002 and 2007, were retrieved. Reviewed were: patient biodata, tumour characteristics; hormonal implications; pituitary dysfunction pre and/or post surgery; perimetry findings; duration of hospital stay; post operative complications; presence of a residual tumour; status at discharge, replacement therapy given and radiotherapy referral.

Results: The average age at presentation was 43(\pm 16) yrs; 63% of patients were male; 37% female. 88% of the masses were macroadenomas, 12% microadenomas; 60% of the tumours were non functioning tumours; 22% growth hormone secreting; 11% prolactinomas and 7% were cortisol secreting; 10% presented with apoplexy, all male. Preoperative hypopituitarism was present in 49% of cases; postoperative hypopituitarism in 64%. Of the 65% patients who had been subjected to perimetry pre surgery, 45% had impaired fields. Of those who had a post surgery perimetry, 45% showed

improved vision. Two patients had expired at discharge; 67% had no immediate post surgery complication. Diabetes insipidus was present in 19% of cases; 60% underwent complete resection of the tumour. The mean duration of hospital stay was 7 days. At discharge, 70% received steroids; 31% thyroxine and 9% desmopressin. The mean duration of treatment with steroids, thyroxine, desmopressin, parlodol and testosterone was 11, 13, 14, 22 and 19 months respectively; 10% of patients had been subjected to radiotherapy post surgery; Redo surgery within 3 years was required in 5% cases.

Conclusion: Majority of patients were male presenting with large tumours and visual defects. A residual tumour was present on MRI in less than half the patients and a good number required long term hormonal support. The mortality rate at discharge was low.

Keywords: Outcome, Pituitary, Surgery

5.24

MIDDLE AGED MALE WITH PULMONARY TUBERCULOSIS AND REFRACTORY HYPERCALCEMIA AT A TERTIARY CARE CENTRE IN SOUTH ASIA: A CASE REPORT

*Azra Rizwan, Najmul Islam
Department of Medicine, Aga Khan University, Karachi*

Objective: To describe a case of refractory hypercalcemia associated with tuberculosis

Method: 55-year male, smoker, presented with weight loss, lethargy, drowsiness and low grade fever without cough. Examination revealed crackles in the chest but no focal neurological deficit. Chest X ray revealed an infiltrate consistent with tuberculosis. Biopsy of infiltrate was negative for malignancy. Corrected calcium level revealed parathyroid independent hypercalcemia. Further diagnostic work up for drowsiness and hypercalcemia, including an electrolyte panel, thyroid function tests, serum protein electrophoresis, angiotensin converting enzyme levels and a morning cortisol were normal. MRI brain was negative for tuberculomas. Routine and AFB cultures for CSF were negative. The patient was hydrated aggressively followed by diuresis. Intravenous pamidronate was administered twice over a period of two months as well as daily calcitonin injections. Nephrology consultation revealed that dialysis was not feasible because of non availability of a calcium free dialysate. Subsequently, steroids were started.

Results: Despite receiving hydration and conventional pharmacotherapy for his hypercalcemia, his condition failed to improve. When steroids were started the patient's calcium levels and symptomatology resolved.

Conclusion: Knowledge of the association between tuberculosis and hypercalcemia, plus its mechanism of action is important, in order to correct the calcium levels promptly. Care with vitamin D supplementation should be taken in cases of this common communicable disease that may require nutritional supplementation. Steroids are useful agents particularly in refractory cases.

Keywords: Tuberculosis, Hypercalcemia, Refractory

5.25

PERCEPTION, KNOWLEDGE, SELF EFFICACY AND INFLUENCES ON DIET AND PHYSICAL ACTIVITY BEHAVIOUR AMONG WOMEN WITH HISTORY OF GESTATIONAL DIABETES IN PAKISTAN

Farhana Shahid¹, Rohan Jayasuriya, Husna Raze, Romaina Iqbal¹, Abdul Jabbar², Rahat Qureshi³

Departments of ¹Community Health Sciences, ²Medicine, and ³Obstetrics & Gynaecology, Aga Khan University, Karachi

Introduction: Diabetes is a disease of lifestyle. Psycho-social factors play an important role in adopting healthy lifestyle and help us to understand, how individual's behaviour affect health and illness. Therefore preventive interventions needs to be focused on aiming towards influence from health knowledge, attitude and practice and to provide support so that people could adopt health behaviours and avoid unhealthy practices. Women who have had gestational diabetes (GDM) are at high risk of type 2 diabetes in futures. Evidence suggests that lifestyle modifications in diet and physical activity aiming to achieve a healthy body weight can help prevent the risk of disease development. A qualitative study is underway to explore perception, knowledge and attitude about gestational diabetes, influences on food choices, current and future dietary habits and physical activity behaviour, influences on physical activities and self efficacy for change in behaviour among women with history of gestational diabetes. We are conducting in depth Interviews with women with history of GDM and key stakeholders, those who have more influence on their behaviour i.e. husbands, mother in law and health care providers. The empirical finding of the research would be utilized to develop a culturally sensitive behaviour change interventions for the prevention of diabetes among this high risk group of women in Pakistan.

Keywords: Gestational Diabetes, Self Efficacy, Lifestyle Factors

5.26

DIAGNOSTIC EFFICACY & UTILITY OF 0, 30, 45, 60, 90 AND 120 MIN. GROWTH HORMONE SAMPLES IN INSULIN TOLERANCE TEST: A COST EFFECTIVE ANALYSIS

Jawaid Jabbar¹, Farooq Ghani², Imran Siddiqui², Amir Omair³

¹Alumni, Departments of ²Pathology & Microbiology,

³Community Health Sciences, Aga Khan University and Ziauddin University Karachi

Objective: To determine the utility of growth hormone (GH) measurement with the insulin tolerance test (ITT), and to carry out a cost-effective analysis of the diagnosis of GH deficiency

Method: Ninety-nine patients clinically suspected of GH deficiency were evaluated over a period of 14 months (January 2005 to April 2006). Post-insulin samples of GH and blood glucose (BG) samples were drawn at six different time-points. Serum GH levels of <10 mg/L (prepubertal) and <6.1 mg/L (adolescents) were taken as cut-off for the normal response.

Results: Ninety-nine ITTs were carried out during the study

period, and GH levels were found to be deficient in 47 subjects. Specificities at different time-points were 0 %, 54 %, 77 %, 62 %, 39 % and 23 % for 0, 30, 45, 60, 90 and 120 min, respectively, in the prepubertal group, and 5 %, 41 %, 80 %, 87 %, 77 % and 46 % at the same time-points for the adolescent group. Accuracy was highest at 45 and 60 min in both the prepubertal and adolescent groups. The receiver operating characteristic curve showed that the highest area under the curve was found in samples drawn at 45, 60 and 90 min in both the prepubertal and adolescent groups

Conclusion: Data suggest that 0, 45, 60 and 90 min samples are sufficient for diagnosing GH deficiency, which could lead to potential cost reductions of up to 29.8 %.

Keywords: Cost Effectiveness, Growth Hormone, Insulin Tolerance Test

5.27

STUDY OF INSULIN ADMINISTRATION TECHNIQUE AMONG REGISTERED NURSES TO DEVELOP AND IMPLEMENT BASE LINE DIABETES TRAINING MODULE

Zubeda Amin, Salima Hussain

Department of Family Medicine, Aga Khan University, Karachi

Objective: To assess the base line knowledge and technique of insulin administration amongst the registered nurses and develop Diabetes training modules for staff nurses according to the identified need.

Methods: 50 registered nurses working in tertiary care hospital were assessed regarding knowledge about different type of insulin and correct administration technique through questionnaire and practice observation.

Results: Out of 50 nurses n= 17(33.3%) nurses had knowledge regarding type of insulin, its peak hours and action. Practice assessment showed that n=10 (20%) nurses were aware of various insulin types and their peak hours and n=24 (46%) nurses administered the insulin as per standard time of ½ hour before meal. In addition to knowledge, technique observation concluded that 3(6.7%) nurses removed the vial from refrigerator 30min before administration and n=23(46.7%) nurses were cleaning insulin site with sprit swab. Hundred percent nurses were complying with sub cutaneous injection technique but only n=18 (37%) nurses were aware of all Sub cutaneous administration sites. Keeping these results as base line data 7 educational sessions with model demonstration were done in different medical surgical units and over 200 nurses were trained for insulin types, peak hours and standard administration guide lines. Data gaps in 3 related policies were reviewed through nursing practice office and insulin protocol was initiated.

Conclusion: Updated clinical knowledge is necessary for better out comes and safe patient care. Keeping in mind the identified practice gap, post assessment after the complete training of targeted population will predict the outcomes of teaching sessions and will highlight the further requirement of forth coming diabetic nursing work shop

Keywords: Nurses, Knowledge /Skill, Insulin

5.28**THYROID TUBERCULOSIS: A CASE SERIES AND A REVIEW OF THE LITERATURE***Uzma Majid¹, Najmul Islam²**¹Memon Medical Institute and ²Department of Medicine, Aga Khan University, Karachi*

Background: Tuberculosis of the thyroid gland is a very rare disease. The incidence of extra pulmonary tuberculosis has been showing a progressive increase, in the recent years.

Objectives: To present three cases of primary thyroid tuberculosis which is very rare.

Method: Two cases were diagnosed on the basis of fine needle aspiration cytology as they presented with thyroid nodule. The third case was diagnosed on histopathology as the patient underwent total thyroidectomy for the left side nodule which was a Follicular lesion on fine needle aspiration cytology. Tuberculosis was diagnosed on the other lobe of thyroid which was not involved. All three patients were given anti thyroid treatment for nine months.

Results: The two who presented with nodule their nodular lesions completely resolved after treatment while, the third patient is completing her nine months of anti tuberculous treatment.

Conclusion: Although rare the thyroid tuberculosis should be kept in mind in the differential diagnosis of thyroid masses, even in patient with no history and symptom of tuberculosis disease elsewhere. Diagnosis of thyroid tuberculosis is made by histological examination and rarely by demonstration of the tubercle bacilli from biopsy or aspiration specimen. Administration of antituberculous drugs is considered as the treatment of choice. Rarely surgery is necessary along with antituberculous drugs.

Keywords: Thyroid Tuberculosis, Thyroid Nodule, Fine Needle Aspiration Cytology

5.29**ASSESSMENT OF QUALITY OF CARE FOR THE MANAGEMENT OF TYPE 2 DIABETES: A MULTI-CENTRE STUDY FROM A DEVELOPING COUNTRY***Syed Iqbal Azam¹, Ali Khan Khuwaja¹, Ghazala Rafique¹, Franklin White²**Department of ¹Community Health Sciences, Aga Khan University, Karachi and ²Pacific Health and Development Sciences Inc., Victoria BC, Canada*

Objective: Complications of diabetes can be prevented/ delayed by providing good quality of care to patients with diabetes. This study aimed to document the quality of care provided to people with type 2 diabetes and to identify the difference of care offered in various clinics.

Method: It was a cross sectional multicentre study. Interviews were taken of 672 people with type-2 diabetes who were attending three different types of diabetes clinic (private: clinic A; non-governmental organization: clinic B; and public: clinic C) in Karachi, Pakistan. A structured questionnaire was used to collect sociodemographic and clinical information

from patients; quality of care indicators were also confirmed by reference to patient's medical records.

Results: Overall, 68% (A: 92%, B: 58% and C: 52%, $p < 0.001$) of study subjects were informed about diabetes complications. Blood pressure (BP) monitoring at every visit was done for 80% of study respondents (A: 100%, B: 79% and C: 57%, $p < 0.001$) Foot examination overall was infrequent (56%): A: 98%, B: 52% and C: 8% ($p < 0.001$). Lipid profiles of 48% of patients were done in last 12 months: A: 77%, B: 16% and C: 50% ($p < 0.001$). Micro-albumin test was performed in 32% patients in last one year (A: 77%, B: 09% and C: 05%; $p < 0.001$). A large proportion of study participants had elevated glycemic (58.2%) and BP levels (84.7%) with higher prevalence among people who attended clinics B and C ($P < 0.001$). Overall, 82.6% of study subjects had an elevated body mass index, almost equally prevalent across clinics.

Conclusion: Persons with type-2 diabetes do not receive optimal diabetes care in Karachi. Among different settings, care provided in private health sector clinics is of better standard. However, our results reveal a need for overall improvement in the quality of diabetes care. Further research is also needed to evaluate the reasons for poor diabetes care, and to identify the most cost-effective means to address these.

Keywords: Quality of Care, Disease Management, Type 2 Diabetes

5.30**CLINICAL PROFILE AND OUTCOMES OF PEDIATRIC PATIENTS WITH DIABETIC KETOACIDOSIS FROM KARACHI***Khadija Nuzhat Humayun¹, Madiha Syed², Fariha Batool Khawaja¹, Taimur Saleem¹, Umair Khalid¹, Abdul Rashid¹
Departments of ¹Paediatrics & Child Health, and ²Medical College, Aga Khan University, Karachi*

Objective: Diabetic Ketoacidosis (DKA) is a life-threatening metabolic emergency in children but limited literature is available about this condition from Pakistan. This study presents an experience of clinical features and the management of children presenting with Diabetic Ketoacidosis at a tertiary care hospital in Karachi.

Method: A retrospective file review of all patients, under 15 years of age, who presented to the Aga Khan University Hospital, Karachi (AKUH) in the last ten years with a diagnosis of diabetic ketoacidosis was carried out. Data was analyzed using SPSS version 16. Odd's ratio, chi-square test and fisher's exact test were computed as appropriate.

Results: The medical charts of 88 children admitted to our hospital with DKA were reviewed retrospectively. They were all diagnosed cases of IDDM and were supposed to be on insulin injections. The mean age was 7.5 ± 3.6 years. Fifty eight of the patients in our sample were male (66%). Twenty six patients had grade 1 DKA, 44 had grade 2 DKA while 18 had grade 3 DKA at the time of presentation to the emergency department. The severity of Diabetic Ketoacidosis was significantly associated with the presence of infection, history of omission of insulin, poor compliance, presence of shock at time of presentation, length of stay in the hospital, final

outcome ($p < 0.01$ for each association) and GCS score ($p=0.02$). The mortality in this retrospective case series from diabetic ketoacidosis was 3.4%.

Conclusion: Presence of infection, development of shock and length of hospital stay were found to be positively associated with the severity of DKA at presentation and presence of cerebral edema, need for PICU stay and for mechanical ventilation were found to be associated with worse outcome. Further studies are needed to improve and add on the local data about DKA in the pediatric population.

Keywords: Diabetic Ketoacidosis, Cerebral Edema, Diabetes Mellitus

5.31

EFFICACY OF BEHAVIOURAL INTERVENTION FOR LIFESTYLE CHANGE IN WOMEN WITH HISTORY OF GESTATIONAL DIABETES IN PAKISTAN

Farhana Shahid¹, Abdul Jabbar², Rahat Qureshi³, Romaina Iqbal¹, Husna Razeq, Rohan Jayasuriya
Departments of¹Community Health Sciences, ²Medicine, and ³Obstetrics & Gynaecology, Aga Khan University, Karachi

Introduction: Women with history of gestational diabetes (GDM) are at high risk of developing type 2 diabetes in future. The prevalence of GDM has notably increased especially among Asians over the last two decades. Prevention of type 2 diabetes by a combination of reduction in dietary fat, energy and increased physical activity has been proven in major trials in developed countries and a few Asian studies on a high risk group i.e. people with impaired glucose tolerance (IGT). However, research to adapt and use these preventive interventions among women with history of GDM in period following index pregnancy based on theory driven approaches have not yet been developed and tested for its effectiveness in developing countries. We are proposing to develop, implement and test the efficacy of a behavioural intervention for lifestyle change for nutrient intake and physical activity among women with history of gestational diabetes for the prevention of type 2 diabetes in Karachi, Pakistan. The UK Medical Research Council (MRC) framework will be used to develop and test the intervention in several distinct phases compared to drug development. The proposed study will be carried out by a multidisciplinary team of researchers and as an international collaboration with School of Public Health and Community Medicine, The University of New South Wales (UNSW), Sydney, Australia and interdepartmental collaboration between Department of Obstetrics and Gynaecology, Department of Medicine.

Keywords: Gestational Diabetes, Type 2 Diabetes, Intervention

5.32

LABORATORY SCALE, INTERMEDIATE GENOTYPING: THROUGHPUT SOLUTIONS, VISUALIZATION AND ANALYSIS

Bushra Chaudhry¹, Marcela K Tello-Routz², Lincoln Stein²
¹Department of Biological & Biomedical Sciences, Aga Khan University, Karachi and ²Cold Spring Harbor Laboratory, USA

Background/Objective: Technological advances have been allowing previously inconceivable experiments to be carried out in an increasingly routine fashion, which enable many thousands of single nucleotide polymorphisms (SNPs) to be genotyped simultaneously using ultra high – throughput genotyping platforms. Our objective is to select an appropriate SNPs for large scale genotype study in Pakistani population which can be confirmed in small number of samples for quality checks in cost effective manner. **Method:** We have used the database genome browsers for designing of genetic association studies through Hapmap, Haploview and tagger to aid in the selection on the order of a few thousand to a few hundred thousand genotypes. **Results:** Allele frequency data in genetic Association studies of a transcription factor like protein (TCF7L2) associated with diabetes from eleven different populations indicated variable but higher frequency of risk allele “T” in Asian population. It provided r^2 values of 1 and higher in Hploview in correlation with some of the 51 other SNPs in the vicinity of 100kbp region visualized through LD, SNP rs7903146 C>T can be used as a tagged SNPs for a large scale genotyping of a population for study of genetic association with diabetes or with metabolic syndrome. **Conclusion:** Hapmap data can be used to select the SNPs that best report on common variation with in a gene or region. We found the tagged SNP approach is more appropriate and can be confirmed in small samples size and cost effective for studying the genotyping with magnitude of 25 times more samples.

Keywords: SNP, TCF7L2, Hapmap

5.33

DILUTION OF ANTIBIOTICS OF DIABETIC PATIENTS- A PILOT TRIAL

Syed Yasir Aki Hashmi¹, Hamna Khan¹, Zehra Habib², Syed Shamim Raza¹
Departments of¹Pharmacy, and ²Nursing Education Services, Aga Khan University, Karachi

Objective: Diabetic patient are being administered with dilution of antibiotic in dextrose (D5W). This increases the blood sugar level of patient as well as it increases the insulin dosing. **Objective:** To monitor the continuous dilution of antibiotic of diabetic patients in suitable diluents to improve the drug dilution system.

Method: A pilot intervention trial was designed. Initially 89 diabetic patients’ pharmacy records of Aga Khan University Hospital were randomly identified through physician order entry (POE) system by pharmacist over a period of 15 days. It was observed that only 21 (24%) patients’ medication orders

were intervened for switching to suitable diluents like normal saline. Drug orders of patients with chronic liver diseases were not included. A 30 days aggressive intervention was provided to physicians, nurses and pharmacists. Physicians were contacted and encouraged to avoid D5W dilutions order in POE system. Nurses and pharmacists were also educated about the importance of right dilution to diabetic patients. Later, 89 diabetic's patient's pharmacy records were again randomly selected to analyze the impact of intervention. *Results:* Pre intervention only 24% diabetic patients were intervened and their drugs were diluted in suitable diluents. However, post intervention the rate of dilution in normal saline increases to 85%.

Conclusion: Continuous monitoring of diabetic's patients antibiotic dilutions should be carried out to improve the therapy. Studies with larger sample size from throughout the hospital will be performed to monitor the glycemic control of the patients.

Keywords: Diabetes, Antibiotics, Dilution

5.91

PREVALENCE OF ENDOCRINE COMPLICATIONS IN PATIENTS OF BETA THALASSEMIA MAJOR IN A TERTIARY CARE HOSPITAL IN PAKISTAN

Amina Adil¹, Zain A. Sobani¹, Abdul Jabbar², Safia Awan², Salman N. Adil³

¹Medical College, ²Departments of ²Medicine, ³Pathology and Microbiology, Aga Khan University, Karachi

Introduction: 70,000 people are estimated to be suffering from thalassemia in Pakistan, and that 6000 new cases of thalassemia presented for treatment each year in the country. The advent of safe transfusions has drastically prolonged the life of these patients. But this hope brought with it various complications of repeated transfusions and iron overload. Studies conducted have shown that these individuals experience various endocrine complications. Our study aims to determine the major endocrine complications of Thalassemia major in occurring in a tertiary care center in Karachi, Pakistan. *Methods:* Records of all thalassemia major patients under our care were retrospectively reviewed with specific focus on endocrinological data and investigations. The patients data was recorded in a questionnaire. The data was analyzed using SPSS v.16, frequencies and percentages along with corresponding 95% confidence interval were computed. *Results:* Primary analysis of our data revealed that a significantly small percentage of those under care received regular endocrinological follow-up. Male hypo-gonadal abnormalities had the highest probability as 100% of the tested patients had decreased levels of testosterone, while 95.2% had raised serum creatinine levels. Parathyroid dysfunction was also noted in 40% of the patients. 29.4% of those screened had blood glucose levels in the diabetic range and 11.8% of the tested patients had reduced levels of FT4. The patients also showed elevated liver function tests.

Conclusion: The authors recommend that keeping the high incidence of multiple endocrine complications in thalassemic individuals, it is important to carry out endocrine evaluation regularly, especially in patients with iron overload and poor compliance with chelation therapy.

Limitations: Our limited sample size and the fact that it is a single center study restrict the generalization of our results as a representative of the entire population.

Key words: Thalassemia, Chelation Therapy, FT4

6.1

EVALUATION OF PATTERN OF PANCREATICOBILIARY SYSTEM PATHOLOGIES ON MAGNETIC RESONANCE CHOLANGIOPANCREATOGRAPHY (MRCP) EXAMINATION AT A TERTIARY CARE CENTRE IN PAKISTAN

*Rohana Naqi, Muhammad Azeemuddin, Humera Ahsan
Department of Radiology, Aga Khan University, Karachi*

Objective: The aim of this study is to demonstrate the pattern of pathologies in pancreaticobiliary system on MRCP examination in a tertiary care hospital.

Method: This is a retrospective study from 1st January 2002 to 15th March 2009. Four hundred and sixty eight patients underwent cholangiopancreatography during this period at our centre. Out of these 468 patients, 203 were indoor patients, 148 were outside referrals and 117 were referred from clinics in our centre. It included 447 adult patients, age range 16-90 years and 21 pediatric patients, age range 4-15 years. Out of these 447 adults 201 were male and 246 female. Inclusion criteria were all patients referred to the radiology department with relevant clinical symptoms and / or deranged LFTs and patients with ultrasound suspicion of pancreaticobiliary disease. Patients who were claustrophobic or had a pacemaker or aneurysm clip were excluded from the study.

Results: Total number of cases was 468 patients. It included 447 adult patients and 21 pediatric patients. In adult patients normal MRCP examination was noted in 78 (17.4%) patients while different pathologies noted in 369 (82.5%) patients. In children normal MRCP examination noted in 4 (19.0%) patients while different pathologies in 17 (80.9%).
Conclusion: MRCP is well tolerated by patients and can be combined with conventional MRI for a comprehensive evaluation of the pancreaticobiliary system. The lack of invasiveness and ionizing radiation, with excellent accuracy in the diagnosis has brought this technique to the forefront of pancreaticobiliary imaging as a first line investigation.

Keywords: Magnetic Resonance Cholangiopancreatography, Pancreaticobiliary System, Calculus Disease

6.2

ABDOMINAL COMPARTMENT SYNDROME DUE TO DISTENSION OF URINARY BLADDER: A CASE REPORT

*Mohammad Yasir, Tauseef Ahmed, Qamar-ul-Hoda
Department of Anaesthesia, Aga Khan University, Karachi*

Objective: Abdominal compartment syndrome (ACS) is increasingly recognized in critically ill patient and its deleterious effects are well documented. ACS exists when elevated intra abdominal pressure (IAP) or IAH is associated with organ dysfunction. Mechanistically this occurs when there is a pressure-volume disparity between the abdominal cavity and its contents. The exact incidence of ACS is yet to be established, but it is clearly increased in certain population groups. These include patients with severe blunt and penetrating abdominal trauma, ruptured abdominal aortic aneurysms,

retroperitoneal hemorrhage, pneumoperitoneum, neoplasm, pancreatitis, massive ascites, and liver transplantation penetrating trauma, intraperitoneal hemorrhage, pancreatitis, pelvic fracture. We are presenting a case of 40 yr old female underwent emergency cesarean section for type IV Placenta Praevia who developed postoperatively. Abdominal compartment syndrome due to bladder overdistension which is an unusual cause of Abdominal compartment syndrome.

Keywords: Abdominal compartment syndrome, placenta praevia, cesarean section

6.5

DO HOME MADE REMEDIES HELP IN RELIEVING ACIDITY?

*Munira Mehdi, Amber Babajan, Fatima Kubra, Shehla Khan
Nursing Education Services, Aga Khan University, Karachi*

Introduction: Majority of people at-least once in their lifetime experience acidity which is treated by commercial antacids. During health teaching in community nursing it was shared by community individuals that they use various home remedies to get relieve from acidity. Thus to explore the types of remedies being used and their effect a survey and experimental study was conducted.

Methodology: The study was done in two phases .First a survey was conducted in the community which revealed that 68 % of the people used chilled diluted milk ,15%used 7up , 2%used ice cream , 4% used cucumber juice, and 2% used isphagol. The second phase of the study was experimental. Overall 20 food samples were taken that included chili sauce, vinegar, pickles, and soya sauce. The initial step was to note the mean pH of all the samples. Then homemade antacids were added to it after every fifteen minutes and the mean pH was noted. The procedure was repeated with different home made antacids which were used by community individuals.
Results: Our results showed that Ice cream had greatest antacid, which was followed by chilled diluted milk, cucumber juice, Esophagol solution and 7 up in decreasing order.
Conclusion: Ice cream is the most effective home remedy used as an antacid than others. However, further studies with larger sample size are required to concur these findings.

Keywords: Acidity, Homemade Remedies, Perception

6.6

ACCURACY OF COMPUTED TOMOGRAPHIC COLONOGRAPHY IN DETECTION OF COLORECTAL POLYPS: SYSTEMATIC REVIEW AND METAANALYSIS

*Khurram Siddique¹, Shirin Mirza²
¹William Harvey Hospital, Kent, United Kingdom and
²Department of Community Health Sciences, Aga Khan University, Karachi*

Objective: Studies for the diagnostic accuracy of CT colonography for detection of colorectal polyps have shown

varying results. This systematic review aims to determine the quality of these studies as well as effectiveness of CT colonography in detection of colorectal polyps in symptomatic patients and screening population combined

Method: An extensive online search was for the terms in medical literature published in English from 2000-2009. Those studies in which participants underwent both CT colonography and colonoscopy were included. Quality of the studies was assessed using tool called "quality assessment of diagnostic accuracy studies (QUADAS)". Per patient sensitivity and specificity of CT colonography for polyps of any size was computed for each study and pooled sensitivity and specificity was also calculated. Summary receiver operability characteristic curve (s ROC) was computed. Pooled sensitivity was measured for polyps of various sizes: <5 mm, 6-9 mm, =10 mm.

Results: 11 studies comprised of 3688 participants with 62.5% males and 37.5% females in an age range of 25 to 90 yrs. Patient spectrum was representative in all with eligibility criteria clearly described in 10/11 studies. 6 studies using conventional colonoscopy (CC) as reference standard were unable to explain its proper procedure in detail. Index test formed a part of the reference standard in 5 studies using segmental unblinding of the colonoscopy as the reference standard. Information bias in interpreting CT colonography results was found in none of them. Verification by CC was done in 6. Per patient pooled sensitivity and specificity for polyp of any size with 95% CI was 69 % (66-72%) and 75 % (73-78%) respectively with area under curve found to be 0.787 with standard error of 0.066. Pooled sensitivities for polyps <5mm, 6-9mm and =10mm was found to be 32 % (30-34%), 65 % (62-68%) and 74 % (70-78%) respectively. **Conclusion:** Per patient sensitivity for detecting polyp of any size is less as compared to its specificity and per polyp sensitivity increased with polyp size indicating that CT colonography may not detect smaller lesions accurately

Keywords: CT Colonography, Accuracy, Meta Analysis

6.7

EFFECT OF ERADICATION OF HELICOBACTER PYLORI AND PROTON PUMP INHIBITOR TREATMENT ON MAXIMUM TOLERATED VOLUME AND DYSPEPTIC SYMPTOMS IN FUNCTIONAL DYSPEPSIA PATIENTS

Shahab Abid¹, Zahid Azam¹, Soobia Siddiqui¹, Zahaib Quadri¹, Safia Awan¹, Wasim Jafri¹, Greger Lindberg²

¹Department of Medicine, Aga Khan University, Karachi and ²Karolinska Institute, Sweden

Objective: To study the effect of H.pylori eradication and Proton pump inhibitor (PPI) therapy on maximum tolerated volume (MTV) and dyspeptic symptoms in functional dyspepsia (FD) patients.

Method: After symptom assessment and determination of MTV by satiety drinking test FD patients were divided into H.pylori positive and negative groups. H.pylori positive patients received one week eradication therapy and PPI for another three weeks. H.pylori negative group received PPI

for 4 weeks. MTV, symptoms and H.pylori status were reassessed.

Results: MTV of H.pylori negative and positive patients was 393±202 ml vs. 381±237 ml (p=NS). Increased in MTV after treatment was 56±77 ml and 188±102 ml (p <0.001) in H.pylori negative and successfully eradicated patients respectively. Baseline MTV was high in patients who had marked improvement in symptoms compared to those whose symptoms did not improve; 411 ± 220 ml vs. 211 ± 92ml (p < 0.001). Multiple regression analysis showed that age, weight and successful H.pylori eradication had a significant impact on MTV. Dyspeptic symptoms improved in both H.pylori negative and H. pylori eradicated patients. However bothersome symptoms improvement was greater in H. pylori successfully eradicated patients. No improvement in MTV and symptoms was observed in patients with unsuccessful H.pylori eradication.

Conclusion: A high MTV at baseline is useful in predicting chances of improvement in dyspeptic symptoms following treatment. Patients who were H.pylori positive had a better outcome of symptoms after successful eradication compared to patients who had no H.pylori infection or unsuccessful H.pylori eradication.

Keywords: Satiety Drinking Test, Proton Pump Inhibitor, Helicobacter Pylori

6.8

PANCREATIC PSEUDOCYST: CLINICAL SPECTRUM AND MANAGEMENT OUTCOME

A. Rehman Alvi, Hahida Bibi, Samiullah Khan

Department of Surgery, Aga Khan University, Karachi

Objective: To analyze the clinical spectrum of pancreatic pseudocyst (PPC), to assess the factors affecting the outcome and to determine the optimal management of this disease **Method:** We retrospectively reviewed the case record of 77 patients with pancreatic pseudocyst confirmed on ultra sonogram or CT imaging over 18 year period. Patients were divided into three groups according to treatment modality: group 1 conservatively managed (CM), group 2 percutaneous drainage (PD) and group 3 received surgical drainage (SD).

Results: During the study period 1400 patients with the diagnosis of acute pancreatitis were treated and 47 patients had necrotizing pancreatitis on CT imaging. Hundred patients were admitted with the diagnosis of symptomatic pancreatic pseudo cyst and 77 patients qualified for the review. The mean age was 54.15 year, with male and female ratio of 3:1. In all patients' diagnosis were confirmed on CT imaging (77%) or ultrasonogram (23%). Twenty seven (35%) presented between 4-6 weeks and fifty (65%) of more than 6 weeks of pancreatitis. There were 25 patients in group 1, 22 in group II and 30 in group III. Complete resolution of PPC were achieved in 18(72%) patients in group I, 11(50%) in group II and 30(100%) in group III respectively (p-value 0.000, Chi-square test). The recurrence rate in group I was 28% , 50% in group II and no recurrence was noted in group III over mean follow up of 1.8 years (p-value 0.005, chi-square

test). Complication rate was 8% in group I, 18% in group II and 6.7% in group III respectively (p-value 0.363, chi-square test). Statistically significant difference among the treatment groups were size of PPC > 10cm and < 10cm (p-value 0.001, chi-square test) and symptoms of > and < 6 weeks (p-value 0.001, chi-square test). There were no significant difference in mortality rate among the three treatment group. **Conclusion:** Patients with PPC of rapid onset (<6 weeks duration) and small size (10cm) complete resolution were achieved with conservative management but this was also successful in 78% PPC of >6 weeks duration. Open surgical drainage of PPC resulted in optimal outcome with no recurrence; acceptable morbidity and mortality rate. Percutaneous drainage of PPC was associated with high recurrence and complication rate.

Keywords: Pancreatic Pseudocyst, Acute Pancreatitis, Necrotizing Pancreatitis

6.9

WHAT MATTERS IN A LIVER BIOPSY CORE SPECIMEN IN CHRONIC HEPATITIS C: THE SIZE OR THE NUMBER OF PORTAL TRACT

*Khalid Mumtaz¹, Om Parakash¹, Zubair Ahmed², Saeed Hamid¹
Departments of ¹Medicine, and ²Pathology & Microbiology,
Aga Khan University, Karachi*

Objective: Liver biopsy has an integral role in management of chronic hepatitis C (CHC) virus infection particularly in assessing the stage of fibrosis (SoF) and grade of inflammation (GoF). We evaluated the effect of size and number of portal tracts (NoP) on the grading and staging of biopsy. **Method:** A cross sectional study was conducted at Aga Khan University Hospital Karachi. We compared the size of liver biopsy core (LBC) and NoP with GoI and SoF on a liver biopsy sample. All the biopsies were performed under ultrasound guidance. The Batts and Ludwig scoring system was used to grade and stage the CHC.

Results: We examined 150 consecutive patients with CHC undergoing liver biopsy; there were 98 (65.3%) males. The mean length of LBC was 1.45 ± 0.48 cm. The mean number of portal tracts (NoP) was 11 ± 4.6. Mean length of LBC was greater (1.60 ± 0.45) in stage 4 (n=41; 27.3%) and lesser (1.28 ± 0.39) in stage 1 (n=23; 15%); (p-value= 0.04). The mean NoP were 8.5, 10.6 and 13.1 in GoI 1, 2 and 3 respectively (p < 0.0001). The mean NoP were 7.6, 11.1, 11.3 and 14.5 in SoF 1, 2, 3 and 4 respectively (p < 0.0001). There was a good correlation between number of portal tracts and length of biopsy core (r² 0.56).

Conclusion: We concluded that the number of portal tracts is better predictor than size of liver biopsy core in accurately establishing both GoI and SoF in a liver biopsy. The number of portal tracts must be part of liver biopsy report.

Keywords: Biopsy, Liver Core, Portal Tracts

6.10

PEGYLATED INTERFERON FOR CHRONIC HEPATITIS B IN ADULTS: A COCHRANE REVIEW

*Khalid Mumtaz, Saeed Hamid, Wasim Jafri
Department of Medicine, Aga Khan University, Karachi*

Introduction: Pegylated interferon is one of the many treatment options available for chronic hepatitis B virus infection in the recent years.

Objectives: To systematically evaluate the benefits and harms of pegylated interferon versus other intervention for patients with chronic hepatitis B.

Search methods: We searched The Cochrane Hepato-Biliary Group Controlled Trials Register, The Cochrane Central Register of Controlled Trials, MEDLINE, EMBASE and LILACS until January 2009.

Data collection and analysis: A standardised template of data collection form was used to extract data. Dichotomous data was expressed as risk ratio (RR) with 95% confidence intervals (CI). Furthermore, the number needed to treat (NNT) was derived from the risk difference (RD).

Results: Seven trials reported in 15 publications, were included, with a total of 2179 patients. There is evidence that peg-IFN is better than lamivudine in achieving outcomes such as HBV DNA clearance (RR 0.94; CI 0.89 to 0.99) and suppression (RR 0.85; CI 0.78 to 0.93), HBeAg sero-conversion (RR 0.84; CI 0.76 to 0.93) and HBsAg loss (RR 0.97; CI 0.95 to 0.99) at maximum follow up. Adding lamivudine to pegylated interferon does not decrease number needed to treat. The adverse events were more with peg-IFN as compared to lamivudine. None of the trials were designed to report on mortality.

Authors' conclusions: Current evidence suggests that pegylated interferon is better than lamivudine when used alone or with lamivudine. Altogether pegylated interferon is sub optimal in regard to failure of HBV DNA clearance (83.7%), HBeAg (67.9%) and HBsAg (97.1%) sero-conversion, against lamivudine.

Keywords: Hepatitis B, Cochrane Review, Pegylated Interferon

6.11

PREVALENCE OF GENOTYPES AND MUTANTS OF HEPATITIS B VIRUS IN PAKISTAN

*Khalid Mumtaz¹, Saeed Hamid¹, Wasim Jafri¹, Shahid Ahmed¹,
Tariq Moatter², Anis Khan³, Masashi Mizokami³
Departments of ¹Medicine, ²Pathology & Microbiology, Aga
Khan University, Karachi and ³Department of Clinical
Molecular Informative Medicine, Nagoya City University,
Nagoya, Japan*

Objective: To determine the prevalence of HBV genotypes and mutants in HBV patients in Pakistan, and to compare nucleotide sequences of HBV isolates from Pakistan to isolates from other parts of world.

Method: HBV genotype was determined in 257 HBV DNA positive chronic hepatitis B (CHB) patients from various parts of country. We divided patients into two groups—HBeAg

positive and HBeAg negative infection. Mutations in pre-core and core promoter regions of HBV were determined in HBeAg negative patients by line probe INNOLIPA assay. Furthermore, full genome of three HBV isolates was sequenced and compared to isolates from other parts of world. *Results:* Mean age of study subjects was 28±5 years, 201(78%) were males and 219(85%) were HBeAg positive. HBeAg positive patients were younger than HBeAg negative patients (95% vs.21% =30 yrs, p<0.001). HBV genotype D was found in 247(96.2 %) patients followed by a combined infection with HBV genotype B+D in 9(3.3%) and one(0.5%) case of genotype A. The various mutations identified in 38 HBeAg negative patients were BCP A1762/A1764 in 21(55.2%), PC codon 28 in 7(18.4%), BCP A1762/A1764/PC codon 28 in 2(5%) and BCP T1762/A1764/ wild type in 1(2%); no mutation was identified in 7(18.4%). Sequencing did not show significant differences between HBV type D isolates from Pakistan and other parts of world.

Conclusion: HBV Genotype D is predominant in Pakistan; PC and BCP mutations are significantly found in patients with genotype D, with mutations at multiple sites. The HBV type D isolates from Pakistan are similar to those from other parts of world

Keywords: HBV Genotype, HBV Mutants, Hepatitis B

6.12

ANTERIOR ABDOMINAL WALL DEFECT (OMPHALOCELE)

Anila Haroon

Department of Paediatrics & Child Health, Aga Khan University, Karachi

Objective: Exomphalos is the midline defect, with a viable sac composed of amnion and peritoneum containing herniated abdominal contents with an incidence of about 1 in 4,000 live births. Associated major abnormalities can be syndromic, structural or due to chromosomal abnormalities in up to 70% of cases. The aim of this study is to find out the postoperative outcome of babies with omphalocele.

Method: It is a retrospective study carried out in a tertiary care hospital, all the data of the last ten years, from June 1999-June 2009, with omphalocele has been reviewed. These were included age at presentation, antenatal diagnosis, place of delivery, other associated findings, and age at which surgery has been done, is reviewed.

Results: Twelve cases of omphalocele have been found in ten years including omphalocele major and minor both. Termination of pregnancy due to omphalocele, were not included in the above cases. Out of these twelve patients only one was delivered at home, while the rest were delivered in hospital. Most of them were referred from other private hospitals in Karachi for surgical intervention. Out of twelve, cases only three were diagnosed antenatally. Six were omphalocele minor. Associated problems were present in two cases. Karyotype was done in only one patient and it was normal 46XX. All of them were discharged postoperatively, except one who died at around two hours of life without surgical intervention.

Conclusion: The number of case were very small to assess the true incidence of omphalocele in Pakistan, in Western literature the incidence is high as compared to our part. Only 30% cases were diagnosed antenatally according to our result, so the true number is difficult to diagnose as we do not know the number of case in which pregnancy has been terminated because of omphalocele. The immediate postoperative outcome was very good in eleven cases who undergone surgical intervention, unfortunately one baby died before surgery. Three months follow up of growth and other parameters were also very good. Only one patient has prolonged NICU course and remained there for two months but successfully discharged at the age of two months and she is now two and a half year of age.

Keywords: Outcome, Omphalocele, Postoperative

6.15

HEPATOCELLULAR CARCINOMA IN HDV: DOES IT DIFFER FROM HBV MONOINFECTION

*Zaigham Abbas, Mustafa Qureshi, Saeed Hamid, Wasim Jafri
Department of Medicine, Aga Khan University, Karachi*

Objective: Hepatitis D superinfection in patients with chronic hepatitis B leads to accelerated liver injury, early cirrhosis and decompensation. It may be speculated that hepatocellular carcinoma (HCC) may differ in these patients from HBV mono-infection. This study aimed to compare clinical aspects of hepatocellular carcinoma in patients of hepatitis D with hepatitis B alone.

Method: A total of 92 consecutive HCC cases seropositive for antibody against hepatitis D virus antigen (HDV group) were compared with 92 HBsAg positive but anti-HDV negative cases (HBV group). The clinical manifestations, Child Class, tumor characteristic, and staging were compared. *Results:* The mean age was not different in both groups of patients (55.4 years in HDV group and 53.7 in HBV group). Other features including sex, presence of ascites, serum biochemistry, gross tumor appearance, Child Class and Okuda stage were not significantly different between the two groups. Decreased liver size was noticed in more cases of HDV group as compared to HBV group where the liver size was normal or increased (p=0.000). HDV group had lower platelets (p=0.063) and larger varices on screening endoscopy (p=0.005). Multifocal tumors were more common in HBV group (p=0.057). TNM classification showed more stage III-IV disease in HBV group (p=0.000)

Conclusion: Hepatitis D virus superinfection does not accelerate the development of hepatocellular carcinoma. However, decreased liver size and indirect evidence of more severe portal hypertension and earlier TNM stage compared to HBV mono-infection might indicate that HDV infection causes HCC indirectly by inducing inflammation and cirrhosis.

Keywords: Hepatocellular Carcinoma, Hepatitis D, Hepatitis B

6.16

INTERFERON FOR THE TREATMENT OF HEPATITIS D: A COCHRANE REVIEW

Zaigham Abbas¹, Muhammad Arsalan Khan², Mohammad Salih¹, Wasim Jafri¹

¹Department of Medicine, Aga Khan University and ²Sindh Institute of Urology & Transplantation, Karachi

Objective: There is no published systematic review or meta-analyses available evaluating the efficacy of interferon-alpha for Hepatitis D. The objective of this review was to determine the beneficial effects of interferon-alpha for the treatment of hepatitis D.

Method: Relevant randomized clinical trials identified by electronic searches in The Cochrane Hepato-Biliary Group Controlled Trials Register, the Cochrane Central Register of Controlled Trials (CENTRAL) in The Cochrane Library, MEDLINE, EMBASE, and Science Citation Index Expanded. Randomized trials evaluated were Interferon-alpha versus placebo or no intervention, and combination versus interferon monotherapy. Outcome measures recorded were failure of virological, biochemical and histological responses at end of treatment and at six months or more after stopping treatment.

Results: We identified 36 studies for consideration out of which six fulfilled the criteria for inclusion. A total of 216 participants (male 185) were analyzed with 118 in the intervention groups and 98 in the control groups. Interferon alpha was associated with increase in clearance of HDV DNA by 23% (95% CI 0.68 to 0.87, $P < 0.0001$) at the end of treatment. However, this increase was sustained by 14% (95% CI 0.78 to 0.95, $P = 0.004$). Heterogeneity was noted in the virological response. The reduction in serum ALT levels was 34% (95% CI 0.57 to 0.77, $P < 0.00001$) more in treated patients at the end of treatment and 56% (95% CI 0.17 to 1.15, $P = 0.09$) at six months follow-up. Five studies reporting histological outcome an increase in response by 62% (95% CI 0.18 to 0.80, $P = 0.01$). Combining results of three studies where interferon monotherapy was compared with lamivudine or ribavirin combination with interferon, the later arm showed 59% increase in end of treatment virological response over interferon monotherapy (95% CI 0.16 to 1.07, $P = 0.06$). End of treatment histology improved by 49% (95% CI 0.16 to 1.65%, $P = 0.26$). There was no significant improvement in the biochemical response.

Conclusion: Interferon is not an ideal agent for hepatitis D. However, in the absence of any other effective agent, treatment with interferon therapy is recommended for HDV patients. Addition of an oral anti-viral agent needs further evaluation.

Keywords: Interferon, Hepatitis D, treatment

6.17

A RANDOMIZED TRIAL OF INTERFERON ALPHA, RIBAVIRIN PLUS INTERFERON GAMMA OR AMANTADINE FOR HCV GENOTYPE 3 NON-RESPONDERS AND RELAPSEES

Zaigham Abbas¹, Sajjad Raza², Saeed Hamid¹, Wasim Jafri¹

¹Department of Medicine, Aga Khan University and ²Dow University of Health Sciences, Karachi

Objective: The aim of the present study was to evaluate the efficacy and safety of triple combination regimens comprising of interferon alfa-2b and ribavirin plus either interferon gamma or amantadine in HCV genotype 3 infected patients who have not previously responded to interferon alpha (standard or pegylated) in combination of ribavirin.

Method: Patients was randomized to receive interferon alpha 2b 3MU t.i.w, ribavirin 800-1200 mg per day with either interferon gamma 2MU t.i.w or amantadine 100 mg twice daily. Treatment was continued for 48 weeks in patients showing complete or partial (2 log reduction) early virological response (EVR) at 12 weeks and negative PCR at 24 weeks.

Results: Total enrollments were 44. Mean age 44.1 years (28-60); 25 were previously non-responders out of them 12 were in the gamma arm. Nineteen were relapsers, out of them 10 received Gamma interferon. F3 or F4 fibrosis was seen in 14 (34%) and 9 (23%) were diabetic. By intention-to-treat analysis, the EVR for interferon gamma arm was 50% (11 out of 22) and for amantadine arm 36.36% (8 out of 22) ($p = 0.272$). The end of treatment responses were 45% (10/22) & 27% (6/22) for interferon gamma and amantadine arms respectively ($p = 0.174$). Overall sustained virological response (SVR) with triple regimens was seen in 34% (15/44), SVR was 45% (10/22) in the gamma arm and 23% (5/22) in the amantadine arm. In the subgroup analysis, this figure was 60% (6/10) and 44% (4/9) for relapsers, and 33% (4/12) and 8% (1/13) for non-responders in both arms respectively. Treatment was well tolerated in both arms.

Conclusion: About one third of genotype 3 patients who had not previously responded well to the interferon and ribavirin responded to the triple regimens. However addition of interferon gamma was a better option with an acceptable safety profile. Its combination with pegylated interferon and ribavirin needs further evaluation in a larger clinical trial.

Keywords: Interfero Gamma, Non-Responders, Hepatitis C

6.18

IRRITABLE BOWEL SYNDROME: IS IT ASSOCIATED WITH GENOTYPES OF BLASTOCYSTIS HOMINIS

Javed Yakoob¹, Wasim Jafri¹, M Asim Beg², Shahgufta Naz¹, Zaigham Abbas¹, Rustam Khan¹, Muhammad Islam³

Departments of ¹Medicine, ²Pathology & Microbiology, and ³Community Health Sciences, Aga Khan University, Karachi

Introduction: Blastocystis hominis (*B. hominis*) is described as the most common intestinal parasite in humans. An extensive genetic variability has been described in *B. hominis* isolates

from humans with subtype 1 having a pathogenic potential in some populations. The aim of this study was to analyze genotypes of *B. hominis* isolates obtained from the healthy asymptomatic infected individuals and symptomatic patients with irritable bowel syndrome-diarrhea.

Methods: The patients attending the gastroenterology department at the Aga Khan University Hospital was enrolled. Patients included those with symptoms consistent with IBS diarrhea and healthy control. History and physical examination was done. Stool examination was done by microscopy, culture for *B. hominis* and polymerase chain reaction (PCR) for *B. hominis* and its typing was done. DNA extraction from stool culture was done with stool DNA extraction kit (Qiagen). Primers used for PCR were previously described. Two sided Fischer-exact test was used to determine the statistical significance.

Results: There were thirty-three patients mean age 43±17.2, age range 16-75 years and male: female ratio of 24:9. Patients with IBS-diarrhea were 27(82%) and healthy control 6(18%). Twenty-one (64%) had infection with a single type of *B. hominis*, 6(18%) had mixed type while 6(18%) were not typeable. Infection with *B. hominis* type 1 was seen in 13(39%), type 3 in 8(24%) and mixed type in 6(18%). Of 23 patients with IBS-diarrhea 17(74%) had infection with single type of *B. hominis* while 6(26%) with mixed types as compared with control 4(100%) having single type of *B. hominis* p value= 0.54.

Conclusion: Patients with IBS-diarrhea had infection with single genotype of *B. hominis*, predominantly type 1. However, these are preliminary results of an ongoing study.

Keywords: Irritable Bowel Syndrome, Diarrhea, Blastocystis Hominis Genotypes

6.19

MOLECULAR GENOTYPING OF POTENTIALLY PROBIOTIC ENTEROCOCCI SPP. BY RANDOM AMPLIFIED POLYMORPHIC DNA AND PULSED FIELD GEL ELECTROPHORESIS

Nusrat Jabeen¹, Mushtaq Hussain¹, Syeda Qamarunnissa², Saboohi Raza², Javed Yakooob⁴, Muhammad Rafiq Khanani¹, Sheikh Ajaz Rasool³

¹Dow University of Health Sciences, ²Karachi Institute of Biotechnology & Genetic Engineering, ³Department of Microbiology, University of Karachi and Department of ⁴Medicine, Aga Khan University, Karachi

Background: Probiotics are the live microbes which provide health beneficial effects to the host by maintaining the normal flora of the intestine. To date several genera of the microorganisms have been included among the probiotics. For instance, *Lactobacillus*, *Bifidobacterium*, *Saccharmyces* and *Enterococcus*. The present study is a sequel of our earlier work relating the screening of probiotic bacteria. **Objectives:** The work is conducted to develop to unravel the genomic discrepancies of indigenously isolated potentially probiotic strains. **Materials and Methods:** The selected enterococci species were identified using Mn dependent superoxide dismutase gene amplification. The potentially

probiotic strains of species *E. faecalis* and *E. faecium* were genotyped using decametre arbitrary primers and SmaI restriction digest by Pulsed Field Gel Electrophoresis. All attributes were analyzed using Bionumerics V5.1. **Results:** Out of the 19 selected probiotic strains, 5 are *E. faecalis* strains and 14 are *E. faecium* strains as found by PCR amplification of SodA specific primers. RAPD genotyping was unable to cluster both species separately at 30% similarity. However, at the similar percentage both species were clustered separately when banding pattern of PFGE was taken into account.

Conclusion: In addition to the reproducibility, PFGE exhibit more resolving power at the species level while RAPD could be employed for the strain level delineation of the Enterococcal species. The substantially low percentage of inter species and intra species genomic similarities indicates the prevalence of horizontal gene transfer among the indigenous enterococcal strains.

Keywords: Molecular Genotyping, Probiotic Enterococci spp., PFGE, PCR-RAPD

6.20

IN SILICO COMPARATIVE GENOMICS OF EPSILON PROTEOBACTERIA: HORIZONTAL GENE TRANSFER AMONG HELICOBACTER PYLORI AND CAMPYLOBACTER JEJUNI

Nusrat Jabeen¹, Mushtaq Hussain¹, Muhammad Rafiq Khanani¹, Javed Yakooob²

¹Dow University of Health Sciences and ²Department of Medicine, Aga Khan University, Karachi

Background: *Helicobacter pylori* and *Campylobacter jejuni* are the members of epsilon proteobacteria. In addition to belonging to same taxonomic group, both organisms share broadly common niche, gastrointestinal tract, to entail their pathogenesis. Previously it has been shown that organisms from same niche and/or taxonomic groups shares common genomic attributes and vice versa.

Objective: The present study is designed to unravel the similarities among the genomes of *C. jejuni* and *H. pylori*, the two taxonomically and ecologically related organisms in terms of horizontal gene transfer (HGT).

Methods: The genomic attributes like repeat atlas, amino acid and codon usage data were retrieved from CBS (Center for Biological Sequence Analysis) Genome Atlas-3.0. Genome flexibility was deduced using parameters of protein deformability, stacking energy and intrinsic curvature and statistically analyzed using Z-score. Guanine Cytosine (GC) distribution curve, pseudo 2D gels and their congruencies were developed using JCVI-CMR (J. Craig Venter Institute-Comprehensive microbial resource).

Results: GC distribution graphs indicated both positive and negative skewness toward the oriR and ter sites, respectively in *C. jejuni* while *H. pylori* shows only negative skewness in ter site. Proteome of *C. jejuni* was more concentrated in comparison to *H. pylori* suggesting least host dependability. Amino acid and codon usage was considerably similar among both the organisms. However, in terms of protein deformability,

stacking energy and intrinsic curvature the genome of *C. jejuni* appears more flexible compared to *H. pylori* implicating that former is more prone to the process of HGT.

Conclusion: There is less similarities among the genomic attributes related to HGT of both organisms. Both GC content and genome flexibility parameters indicate that genome of *C. jejuni* is more flexible and consequently has undergone more HGT events than *H. pylori*.

Keywords: Horizontal Gene Transfer, *Helicobacter Pylori*, *Campylobacter Jejuni*

6.21 FREQUENCY OF ESOPHAGEAL VARICES AND ITS NON-INVASIVE PREDICTORS IN PATIENTS WITH VIRAL CIRRHOSIS

Shahid Ahmed, Khalid Mumtaz, Hasnain Ali Shah, Shahab Abid, Saeed Hamid, Wasim Jafri
Department of Medicine, Aga Khan University, Karachi

Introduction: Screening Esophago-gastro-duodenoscopy (EGD) is recommended for detection of esophageal varices (EV) in patients with cirrhosis due to its high prevalence. Non-invasive markers can be used for prediction of EV presence.

Aims and Objectives: To study the frequency of EV in patients with cirrhosis due to viral etiology and its correlation with different non-invasive markers.

Method: Medical records of all patients with cirrhosis due to hepatitis B and C who underwent screening EGD for EV in last 2 years were reviewed. EV was divided in two grades (small and large) as proposed in Baveno Consensus workshop. Noninvasive markers such as spleen/platelets ratio, MELD and Child Turcotte Pugh (CTP) scores of all patients were recorded.

Results: Out of 360 patients, 226 (62.8%) were males; of these 269 (74.7%) had EV. 177 (65.8%) had small and 92 (34.2%) had large EV. 222 (82.5%) patients with EV have CTP score of =7 while 103 (38.2%) had a MELD score >15. Platelet/spleen ratio was 867.5 ± 495 in patients with EV as compared to 1325.3 ± 865 in patients without it (p value <0.001). On multivariate analysis CTP score of =7 (OR 2.06, p value <0.01), MELD score >15 (OR 1.63, p value <0.05) and platelet/spleen ratio = 900 (OR 2.35, p value = 0.005) were found as significant predictors of large EV.

Conclusion: The frequency of EV is high in viral cirrhosis patients on screening EGD. MELD score >15, CTP score =7 and spleen/ platelets ratio =900 can be used as non-invasive predictors of EV and large EV.

Keywords: Varices, Cirrhosis, Bleed

6.22 FREQUENCY OF PORTAL HYPERTENSIVE GASTROPATHY AND ITS NON-INVASIVE PREDICTORS IN VIRAL CIRRHOSIS

Khalid Mumtaz, Shahid Ahmed, Umair Syed Ahmed, Hasnain Ali Shah, Shahab Abid, Saeed Hamid, Wasim Jafri
Department of Medicine, Aga Khan University, Karachi

Introduction/ Objective: Frequency of portal hypertensive gastropathy (PHG) in patients with cirrhosis is very variable in different reports. We aim to study the frequency and non-invasive predictors of severity of PHG in cirrhosis due to viral etiology.

Methods: We analyzed patients with hepatitis B and C who underwent screening EGD for varices between June 2006 and 2008. PHG was defined endoscopically using McCormack classification. Noninvasive markers such as platelet/spleen ratio, MELD score and Child Turcotte Pugh (CTP) score of all patients who underwent EGD were recorded.
Results: Out of 360 patients who underwent screening EGD, 226 (62.77%) were males. 281 (78%) patients had hepatitis C while 79 (22%) suffered from Hepatitis B; out of 300 patients (83.3%) with PHG 71 (23.7%) had severe PHG. Higher proportion of esophageal varices (89.7%) was present among those who had PHG (p value <0.001). Lower platelet counts (117 ± 55.4 vs. 166.7 ± 90.4 ; p value <0.001), increased spleen size (14.1 ± 2.9 cm vs. 12 ± 2.4 cm; p value <0.001) were noted with PHG as compared to without PHG. Similarly, lower platelet/spleen ratio was noted in patients with PHG (916 ± 400 vs. 1476.8 ± 898.7 ; p value <0.001). On multivariate analysis CTP score of = 7 (OR: 7.16, p value <0.001), MELD score >15 (OR: 13.61, p value <0.001), presence of EV (OR: 9.78, p value <0.001) and platelet/spleen ratio = 900 (OR: 2.65, p value 0.001) were identified as predictors of severe PHG.

Conclusion: Frequency of PHG is high in viral cirrhosis patients. MELD score >15, CTP score >7 and spleen/platelets ratio < 900 are non-invasive predictors of severe PHG. Word count: 250

Keywords: Cirrhosis, Portal, Hypertension

6.23 PEGYLATED INTERFERON FOR CHRONIC HEPATITIS B IN ADULTS: A COCHRANE REVIEW

Khalid Mumtaz, Saeed Hamid, Wasim Jafri
Department of Medicine, Aga Khan University, Karachi

Introduction: Pegylated interferon is one of the many treatment options available for chronic hepatitis B virus infection in the recent years.

Objectives: To systematically evaluate the benefits and harms of pegylated interferon versus other intervention for patients with chronic hepatitis B.

Methods: We searched The Cochrane Hepato-Biliary Group Controlled Trials Register, The Cochrane Central Register of Controlled Trials, MEDLINE, EMBASE and LILACS until January 2009. Data collection and analysis: A standardised template of data collection form was used to extract data.

Dichotomous data was expressed as risk ratio (RR) with 95% confidence intervals (CI). Furthermore, the number needed to treat (NNT) was derived from the risk difference (RD). *Results:* Seven trials reported in 15 publications, were included, with a total of 2179 patients. There is evidence that peg-IFN is better than lamivudine in achieving outcomes such as HBV DNA clearance (RR 0.94; CI 0.89 to 0.99) and suppression (RR 0.85; CI 0.78 to 0.93), HBeAg sero-conversion (RR 0.84; CI 0.76 to 0.93) and HBsAg loss (RR 0.97; CI 0.95 to 0.99) at maximum follow up. Adding lamivudine to pegylated interferon does not decrease number needed to treat. The adverse events were more with peg-IFN as compared to lamivudine. None of the trials were designed to report on mortality.

Conclusions: Current evidence suggests that pegylated interferon is better than lamivudine when used alone or with lamivudine. Altogether pegylated interferon is sub optimal in regard to failure of HBV DNA clearance (83.7%), HBeAg (67.9%) and HBsAg (97.1%) sero-conversion, against lamivudine.

Keywords: Pegylated Interferon, Hepatitis B, Review

6.24

IRRITABLE BOWEL SYNDROME: IS IT ASSOCIATED WITH GENOTYPES OF BLASTOCYSTIS HOMINIS

Javed Yakoob, Wasim Jafri, Mohammad Asim Beg, Shugufta Naz, Zaigham Abbas, Rustam Khan, Muhammad Islam
Department of Medicine, Aga Khan University, Karachi

Background and Aim: Blastocystis hominis (B. hominis) is described as the most common intestinal parasite in humans. An extensive genetic variability has been described in B. hominis isolates from humans with subtype 1 having a pathogenic potential in some populations. The aim of this study was to analyze genotypes of B. hominis isolates obtained from the healthy asymptomatic infected individuals and symptomatic patients with irritable bowel syndrome-diarrhea.

Methods: The patients attending the gastroenterology department at the Aga Khan University Hospital was enrolled. Patients included those with symptoms consistent with IBS diarrhea and healthy control. History and physical examination was done. Stool examination was done by microscopy, culture for B hominis and polymerase chain reaction (PCR) for B. hominis and its typing was done. DNA extraction from stool culture was done with stool DNA extraction kit (Qiagen). Primers used for PCR were previously described. Two sided Fischer-exact test was used to determine the statistical significance.

Results: There were thirty –three patents mean age 43±17.2, age range 16-75 years and male: female ratio of 24:9. Patients with IBS-diarrhea were 27(82%) and healthy control 6(18%). Twenty-one (64%) had infection with a single type of B hominis, 6(18%) had mixed type while 6(18%) were not typeable. Infection with B hominis type 1 was seen in 13(39%), type 3 in 8(24%) and mixed type in 6(18%). Of twenty-three patients with IBS-diarrhea 17(74%) had infection with single type of B hominis while 6(26%) with mixed types as compared

with control 4(100%) having single type of B hominis p value= 0.54.

Conclusion: Patients with IBS-diarrhea had infection with single genotype of B hominis, predominantly type 1. However, these are preliminary results of an ongoing study.

Keywords: Irritable, Bowel, Diarrhea

6.25

AN UNUSUAL PRESENTATION OF EOSINOPHILIC GASTROENTERITIS! A CASE REPORT

Abdul Sattar, Khalid Mumtaz, Zubair Ahmad, Muhammad Rizwan Khan
Department of Medicine, Aga Khan University, Karachi

Introduction: We reported a case of a patient with a very rare diagnosis and unusual presentation of Eosinophilic Serositis/Omentitis who responded very well to the steroid treatment.

Method: Case history: A 42 year's gentleman, from Afghanistan was admitted with sudden onset, severe abdominal pain with vomiting; he has ascites and bilateral pleural effusion. Laboratory data revealed hemoglobin of 13.3 g/dl and white blood cell count of 15300/mm³ with 16.9 % eosinophils. Serum IgE was raised to 390 IU/ml. CT scan revealed moderate ascites and mild bilateral pleural effusion; there was thickening and increased density of mesenteric and retroperitoneal fat with omental thickening. Ascites has high protein with lymphocyte predominance and 8 % eosinophils with serum ascitic albumin gradient (SAAG) of <1.1 suggesting non-portal hypertension related ascites. The ascitic and pleural fluid cytology, AFB smear and culture were negative. An ultrasound guided omental biopsy showed diffuse eosinophilic infiltration with >100 eosinophils / HPF. An EGD and colonoscopy and biopsies were taken which were found to be normal.

Conclusion: A diagnosis of Eosinophilic Gastroenteritis (Serosal type) was made and patient responded to prednisone with disappearance of ascites and pleural effusion over next two weeks. Later on a repeat biopsy of omentum revealed marked reduction of eosinophilic infiltrate. We were unable to find any literature related to Eosinophilic Gastroenteritis involving only serosa/omentum.

Keywords: Eosinophilic, gastroenteritis, GIT

6.26

PATIENT PERCEPTION AND KNOWLEDGE OF DIET IN LIVER CIRRHOSIS; ARE THEY DIFFERENT WITH THE LEVEL OF EDUCATION

Rustam Khan, Ashfaq Ahmed, Faisal Wasim Ismail, Wasim Jafri
Department of Medicine, Aga Khan University, Karachi

Background: Choices and believes in diet during illnesses plays an important role in the nutrition status of the patients.

Majority of our patients with cirrhosis improper knowledge about diet.

Aims: of this study were to determine the patient's perceptions and knowledge regarding diet in cirrhosis and its relationship with the level of education.

Methods: Consecutive adult patients with compensated cirrhosis presented to clinic between January to December 2008 were enrolled. After taking consent, Demographic data was recorded. Formal education and level was also noted. Type of food patients was restricting and reason for doing so was asked. Finally the source of dietary information to the patient was asked. Blood samples were taken for laboratory test. Nutritional status of the patient was calculated by using body mass index normogram (BMI) and Subjective Global Assessment (SGA) scale.

Results: A total of 90 cirrhotic patients were enrolled forty five in each educated and uneducated class. Fifty two 57% were male. Mean age of the patient was 55±15 years. Mean height of the patient was 159 ± 9 mean weight was 60 ± 11 and mean BMI was 23 ± 3. Regarding education level 45 Patient had education level less than primary and rest of the 45 patients had education level more than Metric. On comparing dietary restriction in educated versus uneducated class it was found that 32(36%) of educated and 35(39%) of uneducated patients were restricting oil, ghee, beef, fish, milk and egg in their diet and 90% of them believe that these are hot food and are harmful for the liver and 10% restrict these foods just on the advise of the doctors. When asked which food in their opinion if taken during liver disease will be beneficial, 28 (31%) of educated and 32(36%) of uneducated class of the patient believe that vegetables, fruits and sugar cane has beneficial effect on the liver. On asking the source of dietary information response was doctors and medical professionals in 78% of cases. On the basis of subjective global assessment (SGA) scale, 58(64%) patients were well nourished, 22(24%) were mild to moderate malnourished and 10 (11%) were severely malnourished.

Conclusion: About 35% of Patients with compensated cirrhosis had mild to severe malnourished. Both educated and uneducated class of the society has improper knowledge of diet and nutrition in cirrhosis of liver. Major source of improper dietary information are physicians and health care personals.

Keywords: Diet, Cirrhosis, Knowledge

6.28

IS PATHOLOGICAL EVALUATION OF LIVER BIOPSY AFFECTED BY THE LENGTH OF SPECIMEN? THE SMALLER THE SAMPLE, THE Milder THE DISEASE: A CROSS SECTION STUDY AT TERTIARY CARE HOSPITAL

Om Parkash, Khalid Mumtaz, Zubair Ahmed, S.M. Wasim Jafri, Saeed Hamid, Syed Hasnain Ali Shah
Department of Medicine, Aga Khan University, Karachi

Introduction: Liver biopsy is accepted as gold standard for the evaluation of disease activity caused by infectious as well as noninfectious cause. Liver biopsy in the management chronic hepatitis C virus (CHV) is very important in assessing

the fibrosis (stage) and inflammation (grade), because these are the important predictors of treatment response, and have got therapeutic and prognostic implications.

Methods: A cross-sectional study done at Aga Khan University Hospital Karachi. We compared the size of core and the number of portal tracts with the grades of inflammation and stage of fibrosis on a liver biopsy sample. The Batts and Ludwig scoring system was used to grade and stage the CHC. All the biopsy specimens were evaluated by one senior pathologist.

Results: We enrolled the consecutive 150 patients (male 98 i-e 65.3%) with CHC who underwent liver biopsy. The mean length of core tissue was 1.34 + 0.57 cm. The mean number of portal tracts were 11 (SD ± 4 .65). We have seen that mean length of biopsy was 1.08 in grade 1, 1.38 in grade 2 and 1.35 in grade 3 (p value 0.159). Mean length of specimen was 1.15,1.39,1.10 and 1.49 in stage 1,2 ,3 and 4 respectively. Mean length of specimen was greater in stage 4 (size of core) diseases and lower in stage 1 disease (p-value= 0.014). The mean number of portal tracts were 8.53, 10.61 and 13.16 in grade 1, 2 and 3 respectively with statistical significant difference (p value <0.000). The mean number of portal tracts were 7.61, 11.12, 11.31 and 14.54 in stage 1, 2, 3 and 4 respectively with statistical significant difference (p value <0.001). Significant correlation was found between the length of specimen and number of portal tracts.

Conclusion: We concluded that size matters less than the number portal tracts in a core of liver biopsy in accurately establishing the inflammatory grade and fibrosis stage.

Keywords: Liver Biopsy, Grade, Stage

6.29

HEPATITIS E INFECTION: PREDICTORS OF MORTALITY IN PREGNANT FEMALES

Luban Kamani, Khalid Mumtaz, Saeed Hamid
Department of Medicine, Aga Khan University, Karachi

Background/Aims: In males and non pregnant females Hepatitis E virus (HEV) infection is often self limited and has low mortality rate, but in pregnancy mortality increases significantly. The aim of this study is to identify predictors of mortality in pregnant females with HEV infection. *Methods:* Medical records of all acute HEV patients were reviewed from January 2000-June 2007. Diagnosis were based on clinical presentation, liver function tests and positive HEV IgM results. Outcome and predictors of mortality in pregnant females with HEV were analyzed.

Results: Overall 347 patients were admitted with HEV infection. Out of 173 (49.8%) females, 66 (38.1%) were pregnant. Mortality in pregnant females was 21.2% (14/66). Predictors of mortality on admission in pregnant females found to be statistically significant on univariate analysis were age, Total bilirubin, SGPT (ALT), PT, fulminant hepatic failure and number of readmissions. Mean age, T.bilirubin and PT in alive vs. mortality group was 25 ± 4.7 vs. 27 ± 6.5 years, 6.36 ± 4.3 vs. 9 ± 4.4 mg/dl and 23.5 ± 18.7 vs. 38.1 ± 32.9 secs, respectively. However on multivariate logistic regression analysis, predictors of mortality were age p

value=0.03, aOR: 1.21; 95%CI [1.02-1.44], T.bilirubin p value=0.009, aOR: 1.46; 95%CI [1.10-1.95] and PT p value=0.04, AOR: 1.03; 95%CI [1.00-1.06]. For each 5 years rise in age, 5secs rise in PT and 3mg/dl rise in T.bilirubin the mortality would be increased to 2.6,1.2,3.1 times respectively. Parity and trimester of pregnancy was not associated with poor outcome.

Conclusion: Independent predictors of mortality were age of the patient, higher values of total Bilirubin and PT on admission

Keywords: Hepatitis, Pregnancy, Predictors

6.30

EFFECT OF H.PYLORI ON MAXIMUM TOLERATED VOLUME AND DYSPEPTIC SYMPTOMS IN PATIENTS WITH FUNCTIONAL DYSPEPSIA

Shahab Abid¹, Zahid Azam¹, Soobia Siddiqui¹, Zahaib Quadri¹, Safia Awan¹, Wasim Jafri¹, Greger Lindberg²

¹Department of Medicine, Aga Khan University, Karachi and

²Karolinska Institutet, Stockholm, Sweden

Background: The role of Helicobacter pylori-induced gastric mucosal inflammation in the pathogenesis of FD is controversial. H.Pylori infection may alter motor and sensory physiology of the stomach and has been associated with abnormalities in stomach function. Moreover benefits of H.pylori eradication on symptom improvement remain controversial.

Objectives: To compare maximum tolerated volume (MTV) in FD patients with or without Helicobacter pylori infection and to study the effect of eradication of helicobacter pylori on MTV and dyspeptic symptoms.

Methods: Patients were enrolled in which ultrasound, blood biochemistry and gastroscopy was normal. Patients were divided into two groups on the basis of their Helicobacter pylori status. Patient's symptoms and basic demographics were recorded. MTV was determined by satiety drink test, asking the patients to drink nutrient liquid at 30 ml/min rate until maximum satiety. HP positive patients received one week eradication therapy followed by proton pump inhibitors (PPI) for four weeks. HP negative group received PPI for 5 weeks. MTV was determined again in both groups (at least one month after completion of HP treatment). Patient's symptoms were again evaluated and the status of the H.pylori was also checked by 14C Urea Breath Test.

Results: Total of 118 patients, mean age 38 ± 11years (18-65) were enrolled.60 (51%) were male. HP was present in 55(47%).MTV of HP negative group was 398 ± 210 ml that improved to 456 ± 219 ml (p value <0.001), one month after PPI therapy. In HP Positive patients MTV was 391 + 243 ml. Eradication of HP was successful in 47/55 (85%) patients. There was a mean increase in MTV of 191 ± 102ml (p <0.001). In patients who remained HP positive after therapy, had shown a mean decrease of MTV of 19 ± 24 ml(p insignificant). Presenting symptoms have shown improvement both in HP negative group and HP positive group when evaluated one month after PPI therapy alone or triple regimen in first week and PPI for next four week respectively. However symptom of bloating was not improved in HP negative patients and

symptom of belching in HP positive patients. Patients who remained HP positive after eradication therapy did not show improvement in symptoms of epigastric burning, bloating and belching.

Conclusion: The maximum tolerated volume (MTV) was relatively less in HP positive compared to HP negative FD patients. Eradication of HP was associated with significant improvement in MTV and dyspeptic symptoms. The difference in improvement of MTV was significantly more in HP positive compared to HP negative.

Keywords: H.pylori, Maximum, Dyspeptic

6.31

IS FULL COLONOSCOPIC EXAMINATION NECESSARY IN YOUNG PATIENTS WITH FRESH BLEEDING PER RECTUM?

Abdullah Bin Khalid, Shahid Majid, Muhammad Salih, Syed Hasnain Ali Shah, Saeed Hamid, Wasim Jafri

Department of Medicine, Aga Khan University, Karachi

Introduction/Objective: Fresh bleeding per rectum (FBPR) is not uncommon in general population. FBPR is one of the alarm features that warrant colonoscopy especially in middle aged and elderly people. Guidelines however differ as to whether young patients with FBPR should be investigated by flexible sigmoidoscopy or by full colonoscopy. Aim: The aim of this study is to find out the frequency of Endoscopic lesions in young patients with FBPR and whether full colonoscopic examination is necessary in these patients.

Methods: Case records of 173 patients with FBPR with age between 15-50 years who underwent full colonoscopic examination between January2006- Decembers 2008 were reviewed. Detailed history with complete examination including digital rectal examination with baseline investigations were done in all patients. Colonoscopy upto terminal ileum was performed in every patient.

Results: Mean age was 35.5± 9.2 years. Out of 177 patients 109 were male (61.6%). Weight loss and abdominal pain were the most commonly associated symptom with FBPR. Mean hemoglobin was 11.7 ± 2.1 gm/dl. Family history of colorectal cancer was found in 2.2%. Endoscopic lesions were found in 99 (55.9%) patients. Out of 99 patients 93 patients had lesion in distal colon. Hemorrhoids were the most common lesion that was found in 68 patients. On histopathology 7 had adenocarcinoma, 3 each had adenomatous polyp, hyperplastic polyp, and retention polyp, solitary rectal ulcer, and ulcerative colitis. Only 1 patient had serious pathology (adenocarcinoma) in the proximal colon.

Conclusion: In young patients with bleeding per rectum endoscopic lesions were mostly found in distal colon with Hemorrhoids being the commonest etiology. Flexible sigmoidoscopy can be a substitute for full colonoscopic examination in young Asian patients with FBPR.

Keywords: Colonoscopic, Examination, Young Patients

6.33

EFFECT OF ITOPRIDE ON GASTRIC EMPTYING AND ACCOMMODATION IN PATIENTS WITH FUNCTIONAL DYSPEPSIA

Shahab Abid¹, Wasim Jafri¹, Maseeh Uzzaman², Rakshanda Bilal³, Soobia Siddiqui¹, Greger Lindberg⁴
Departments of ¹Medicine, ²Radiology, Aga Khan University, Karachi and ³Atomic Energy Institute, Islamabad, and ⁴Karolinska Institute, Stockholm, Sweden

Background: Dyspepsia is a very common syndrome that drains a substantial proportion of healthcare resources and warrants appropriate management strategy. Pathogenesis of functional dyspepsia is poorly understood. Gastrointestinal motor abnormalities, Helicobacter pylori infection, impaired gastric accommodation to a meal, hypersensitivity of the afferent nerves of the gut, psychological disturbances and central nervous system dysfunction have been proposed. Pharmacological treatments for patients with functional dyspepsia remain unsatisfactory. Only small benefits relative to placebo have been found with histamine H2 receptor antagonists, proton pump inhibitor and Helicobacter pylori eradication. Itopride is a dopamine antagonist with acetylcholinesterase inhibitory actions. This agent is currently indicated for patients with various upper GI symptoms. **Objective:** This study is aimed to evaluate the effect of Itopride on gastric emptying, accommodation and symptoms in FD patients.

Methods: A double blind randomized placebo-controlled study. All adult male or non-pregnant female patients who are diagnosed as FD were enrolled. Patients under age 18 or pregnant or taking antibiotics were excluded. Patients were subjected to gastric emptying, accommodation, satiety drink test and symptoms questionnaire before and four weeks after taking Itopride or placebo. Improvements in parameters were assessed.

Progress: We have established 13C Octanoic acid breath test for solid meal gastric emptying estimation in collaboration with Atomic Energy Commission Islamabad. In collaboration with Radiology Department of AKUH we established the estimation of gastric volume and accommodation by using software that converts 2D images of stomach to 3D images. So far we have enrolled three patients. It is estimated that the study will be completed in next six months.

Keywords: Itopride, Gastric Emptying, Accommodation In

6.34

RANDOMIZED DOUBLE BLIND DUMMY CONTROLLED TRIAL OF 24 VERSUS 72 HOURS OF TERLIPRESSIN AS AN ADJUVANT THERAPY FOR THE CONTROL OF ESOPHAGEAL VARICEAL BLEED

Zahid Azam, Saeed Hamid, Shahab Abid, Syed Hasnain Ali Shah, Zaigham Abbas, Khalid Mumtaz, Mohammad Salih, Wasim Jafri
Department of Medicine, Aga Khan University, Karachi

Objective/Background: Terlipressin is used in esophageal variceal bleed (EVB) along with Endoscopic Variceal Band Ligation (EVBL) for five days. But in our clinical practice, Terlipressin was most of the times stopped < 72 hours in stable low-moderate risk EVB patients due to its high cost. We planned a non-inferiority trial to evaluate the efficacy of 24 versus 72 hours of Terlipressin in this group of patients. **Methods:** Total of 130 adult patients (65 in each group) with EVB received EVBL along with initial 24 hours of open label Terlipressin and was then randomized to receive for the next 48 hours of either active or a dummy of Terlipressin from August 2006-July 2008 in a double blind fashion. Patients with hepatoma, portal vein thrombosis and advanced cirrhosis with Child's score = 12, active angina or requiring inotropic support were excluded as these were considered to be high risk for re-bleed. The primary outcome was the efficacy of Terlipressin in the control of EVB based on Baveno IV criteria. All cause 30-day mortality and 30-day re-bleed were secondary outcome.

Results: The two groups were comparable at baseline characteristics. In both the groups, subjects were predominantly male and etiology of cirrhosis was HCV in majority of patients. For the primary outcome, only one failure to control EVB (1.5%) in 72 hours Terlipressin group was observed and none in 24 hours group; p value= 0.50 (Fisher Exact test; 1-sided).

Conclusions: Twenty-four hours of Terlipressin is non-inferior to 72 hours of Terlipressin along with EVBL and may be considered in low to moderate risk EVB. (NTC: 00369694)

Keywords: Randomized, Double Blind, Terlipressin

6.35**COMPARISON OF CLINICAL, LABORATORY CHARACTERISTICS AND INITIAL TREATMENT RESPONSE AMONG PATIENTS WITH VIRAL MARKER NEGATIVE AND VIRAL MARKER POSITIVE HEPATOCELLULAR CARCINOMA**

Amna Subhan, Ashfaq Ahmed, Saeed Hamid, Hasnain Ali Shah, Wasim Jafri
Department of Medicine, Aga Khan University, Karachi

Introduction: Beside Chronic hepatitis B and C as the most common etiological factor, increasing number of viral marker negative HCC reported from Pakistan that may differ in characteristics and prognosis from HCC due to chronic HBV and HCV.

Objectives: To estimate the frequency and to compare the clinical, biochemical, histological, radiological characteristics and initial treatment response among patients with viral marker negative and viral marker positive HCC visiting The Aga Khan University Hospital, Karachi, Pakistan.

Methods: Medical records of patients diagnosed to have HCC visiting The Aga Khan University Hospital, Karachi, Pakistan during January 1998 to December 2007 were reviewed. Patients were divided in to NBNC-HCC (those who have negative HBsAg and Anti-HCV antibody) and viral HCC (those who have positive HbsAg and Anti-HCV antibody) group. Patient's demographic features, clinical, biochemical, histological, radiological characteristics and initial treatment responses were compared between both groups.

Results: Out of 433 patients 68 (15.7%) had NBNC-HCC. Over all mean age was 57.48 ± 10.9 years and 69.5% were males. The proportion of HCC detected under surveillance was significantly smaller in NBNC-HCC group (p value=0.02). There was no difference in distribution of age, gender, BMI, child score, total bilirubin, serum albumin, prothrombin time and serum Alfa Feto protein in both groups. However, patients with viral-HCC were found to be more thrombocytopenic (52.67 ± 86.7 vs. 226.15 ± 153.9 , p value <0.001) as compared to NBNC- HCC. Except hepatopulmonary syndrome that was found more common in viral HCC group, no difference was observed in complications related to cirrhosis. Liver biopsy was done in 61(16.7%) and 30(44.1%) cases of viral and NBNC-HCC respectively and greater proportion of moderate to poorly differentiated HCC was observed NBNC group (19.2% vs. 7.9%, p value<0.001). HCC measuring ≥ 5 cm in diameter (60.3% vs. 41.9%, p value=0.01), non-solitary HCC (p value=0.038) and portal thrombosis (p value=0.01) were strongly demonstrated in NBNC-HCC group. Involvement of right hepatic lobe and extra hepatic tumor spread greater in NBNC-HCC group but that difference was not statistically different. Out of 178 patients who underwent for liver transplantation (0.5%), TACE (36.7%), Resection (1%), ethanol ablation (2%) and chemotherapy (2%), poorer responses were observed in NBNC-HCC group (p value=0.04).

Conclusion: Patients with NBNC-HCC tended not to be under surveillance that leads to diagnoses at more advanced stage and poor prognosis.

Keywords: Clinical, Viral Marker, Hepatocellular Carcinoma

6.36**EXTRANODAL MARGINAL ZONE B-CELL MUCOSA-ASSOCIATED LYMPHOID TISSUE (MALT) LYMPHOMA OF TERMINAL ILEUM; AN UNUSUAL DISEASE ENTITY**

Amna Subhan¹, Mohammad Salih¹, Tabish Chawala², Najeeb Nematullah¹, Ahsan Ahmed¹
Departments of ¹Medicine, and ²Surgery, Aga Khan University, Karachi

Objective: Extranodal marginal zone B-cell lymphoma or low grade B-cell lymphoma of mucosa associated lymphoid tissue (MALT) of small intestine is uncommon. Herein is reported a case of MALT involving terminal ileum. 51 years old lady admitted with one day history of abdominal pain and vomiting. Abdominal pain was sudden in onset, generalized but more marked in lower abdomen, moderate to severe, aggravated by taking food. Pain was associated with recurrent vomiting containing food particles. She was also constipated for last one day. In 1999 she underwent total abdominal hysterectomy with bilateral salpingo-oophorectomy due to dysfunctional uterine bleeding secondary to fibroid. On examination her blood pressure was 130/70 mmHg with heart rate 71 beats /min. She was afebrile but looking pale and dehydrated. Abdominal examination revealed moderate tenderness all over the abdomen with exaggerated gut sounds. However, her respiratory, cardiovascular and neurological exam was unremarkable. Her labs showed Hemoglobin 11.2 gm/dl, TLC $15.8 \times 10^9/L$ with 85 % neutrophils, platelet $423 \times 10^9/L$, serum creatinine 1.0 mg/dl, sodium 139 meq/dl, potassium 3.9 meq/dl, chloride 107 meq/dl and HCO₃ 25.7 meq/dl. Her amylase and liver functions were normal. Furthermore, small bowel loops appeared dilated with edematous, thick walls and multiple air-fluid levels on abdominal X-ray. CT abdomen showed dilated, edematous proximal small bowel loops with areas of thickening and narrowing. However, terminal ileum, ileocecal valve and cecum were normal. Hence, she was diagnosed and treated conservatively for small bowel obstruction. After 72 hours of her admission she improved and underwent for colonoscopy that was essentially normal except prominent mucosal nodularity in terminal ileum. Upper gastrointestinal endoscopy was also normal till jejunum except mild antral gastritis. Biopsy of terminal ileum revealed dense lymphoid infiltrates in lamina propria with active lymphoid formation in some areas with positive Pan B (CD 20), BCL-2 p and negative Pan T (CD3), CD43 and Cyclin-D1 on immunohistochemical staining, consistent with Extra-nodal Marginal Zone B- cell lymphoma (MALT). Furthermore, mild helicobacter pylori associated chronic gastritis found in antral biopsy while biopsies from gastric body, duodenum and

jejunum were normal. Ileal tissue culture for mycobacterium tuberculosis was negative and bone marrow examination, CT chest were essentially normal. Consequently, she was prescribed chlorambucil 4 mg QD along with allopurinol and treated with anti- Helicobacter pylori therapy. Hence, beside gastric extranodal marginal zone B-cell lymphoma, MALT involving terminal ileum is uncommon and rarely seen in Asia. Despite its slow growing nature it can produce an acute mechanical ileus without prodromal symptoms.

Keywords: Extranodal, Marginal Zone, (MALT) Lymphoma

6.38

IS IT REALLY VERY RARE OR WE DON'T KNOW? CASE REPORT OF CAECAL SPIROCHETOSIS

Om Parkash, Mohammed Saleh, S.M Wasim Jafri, Saeed Hamid, Kanwal Aftab
Department of Medicine, Aga Khan University, Karachi

Introduction: Intestinal spirochetosis (IS) was reported in 1719 by Van Leeuwenhoek in his own stool. Exact localization of spirochet colonies in intestine, was reported by Harland et al 1967. Since the recognition of this organism there is controversy over the pathogenicity of this organism, however symptomatology of this organism is also controversial over the decades. Some authors have reported diarrhea, abdominal pain, bleeding per rectum, flatulence and weight loss and some authors have reported asymptomatic entity. No such case report has been reported till date from Pakistan
Method/Case report: A 18 years old student from Quetta Pakistan visited the gastroenterology clinic with the history of discomfort along with abdomen pain and recurrent diarrhea associated with occasionally bleeding per rectum for the past 9 months. The patient was neither homosexual nor addictive of drugs. The physical examination was essentially normal. Stool detailed report was normal and did not grow any conventional organism. His laboratory workup including, complete blood count (CBC), prothrombin time (PT), liver function tests, biochemistry and ESR; was normal. Serology for HIV, entameba histolytica and syphilis. A week latter his colonoscopy was performed revealed small diminutive polyp in the rectum and rest of the colon was endoscopically normal. Multiple biopsies were taken from the terminal ileum, caecum and rectum. His esophago-gastroduodenoscopy was performed and biopsies were taken from duodenum which revealed non specific deudentitis. His workup for celiac disease was also normal. Histopathological examination of the colonic biopsy revealed siprochetes on caecal tissue specimen biopsy and rest of the biopsy specimen were reported as normal. The patient was treated for flagyl 400mg TID for 7 days and his symptoms subsided.

Conclusion: Caecal spirochetosis is a common entity and should have high suspicion for the patients with weight loss who don't have other entity.

Keywords: Caecal, colon, spirochetosis

6.39

VARIATIONS IN PRESENTATION OF CELIAC DISEASE IN PAKISTANI ADULTS

Zaigham Abbas, Sajjad Raza, Javed Yakoob, Wasim Jafri, Saeed Hamid
Department of Medicine, Aga Khan University, Karachi

Background: Celiac disease (CD) is an autoimmune enteropathy triggered by ingestion of gluten in genetically susceptible individuals. It has extremely varied clinical presentations. Though the disease is well described in children, it is often missed in adults by treating physicians due to lack of awareness. **Objective:** To evaluate the variations in presentation of celiac disease in Pakistani adults and its association with various conditions.

Methods: This retrospective study was conducted by reviewing the file records of the adult patients greater than 15 years of age evaluated at the Aga Khan University Hospital. Diagnosis was established by detecting raised tissue transglutaminase antibodies in serological tests and supportive biopsy findings.

Results: A total of 41 patients were included in the study consisting of 61.3% males and 38.7% females ranging from 15 to 51 years of age (mean 27.2 ±9.88). Of the total patients 36.5% of the patients were found to be underweight (BMI<18.5). Typical presentation with gastrointestinal (GI) symptoms was seen in 73.2% of the patients, atypical presentation with extra intestinal manifestations in 9.8% and silent presentation with no symptoms was seen in 17.1%. Predominant GI symptoms included diarrhea (68.3%), vomiting (36.6%), anorexia (19.5%) and abdominal pain (26.8%). Predominant extra intestinal manifestations include iron deficiency in 26.8% of the individuals, vitamin B12 deficiency in 14.4%, folic acid deficiency in 9.8%, vitamin D deficiency in 14.2%, osteoporosis and osteomalacia in 2.4% each, renal calculi in 4.8%, arthritis in 2.4%, myopathy in 4.8%. 14.4% had raised ALT levels. Endoscopies revealed duodenal ulcer in 12 % patients and gastritis in 29%. Biopsy findings revealed partial villous atrophy in 44% of the patients, complete villous atrophy in 29.3%, intraepithelial lymphocytosis in 12.2% and cryptal hyperplasia in 7.2%. H.pylori infection was seen in 41.5% of the patients with CD, irritable bowel syndrome (IBS) in 4.8% and giardiasis in 2.4%.

Conclusion: Celiac disease is not common in Pakistani adults. It may present at any age. It should be looked for in patients who are underweight, present with symptoms of IBS, have anemia due to iron, B12 or folic acid deficiency, have vitamin D deficiency and other related conditions.

Keywords: Variations, Celiac Disease, Pakistani

6.40**FACTORS PREDICTING THE RECURRENCE OF SPONTANEOUS BACTERIAL PERITONITIS IN PATIENTS WITH CIRRHOSIS**

Sajjad Jamil¹, Shahid Ahmed¹, Adil Memon², Sara Masood²
¹Department of Medicine, Aga Khan University, Karachi and
²Dow University of Health Sciences, Karachi

Objective: Spontaneous bacterial peritonitis (SBP) can occur in 10-30% of cirrhotic patients with mortality rate of 30-50% and about 70% of these have recurrence of SBP per year. Aim of the study was to evaluate the frequency of recurrence of SBP in our community and the factors associated with it.
Method: We analyzed patients with cirrhosis who were admitted at AKUH with diagnosis of SBP from November 2008-December 2009. Any episode of SBP after resolution of the first index case of SBP within one year was considered as recurrence.

Results: Out of 238 cirrhotic patients, 157(66%) had single while 81(34%) had recurrent episodes of SBP. Porto systemic encephalopathy (PSE) was the most common associated presentation in patient with recurrent SBP i.e. in 97(40.3%) with $p=0.03$. Use of Proton Pump Inhibitors (PPI) was found to be 113(47.5%) and 139(58.4%) respectively. Only 58(24.4%) patients were on prophylactic antibiotic therapy. Univariate analysis revealed that female gender ($p=0.03$), complain of fever ($p=0.03$) and PSE at time of admission ($p=0.03$) were significant factors for recurrence of SBP. Similarly raised serum Bilirubin with $p=0.01$ and deranged serum creatinine with $p=0.03$ were found to be significantly associated with recurrence of SBP. Furthermore, on multivariate analysis Bilirubin level of >1.0 mg [(aOR 7.03; 95%CI=1.55-32), HBV and (aOR 0.31; 95%CI=0.13-0.70)] and presence of UTI(aOR=2.24; 95%CI=0.99-5.09) were significant factors in patients with recurrent SBP.

Conclusion: Serum Bilirubin level of >1.0 mg, HBV as etiology of cirrhosis and presence of UTI were significant factors in patients with recurrent SBP.

Keywords: Recurrent Sbp, Chronic Liver Disease, Cirrhosis

6.41**IMPACT OF HELICOBACTER PYLORI INFECTION ON SERUM B12, FOLIC ACID AND HOMOCYSTEINE IN PATIENTS WITH DYSPEPSIA**

Shahid Rasool¹, Wasim Jafri¹, Mohammad Perwaiz Iqbal²,
Shahab Abid¹, Zaigham Abbas¹
Departments of ¹Medicine, ²Biological & Biomedical Sciences,
Aga Khan University, Karachi

Objective: Helicobacter pylori infection has been associated with many micronutrient deficiencies. There is lack of data from the communities where nutritional deficiencies are common and high prevalence of helicobacter pylori infection.

Aim: To determine the impact of H. pylori infection on serum B12, folic acid, and homocysteine in patients with dyspepsia.

Method: Patients with dyspepsia undergoing gastroscopy were enrolled. Serum was taken for the analysis of serum B12, folic acid and homocysteine before gastroscopy from each patient. H. pylori infection was diagnosed by histopathological examination of gastric biopsies and urea breath test.

Results: 129 patients of both genders with dyspepsia were enrolled. Mean age of the study group was 39.7+12.6 years and 82(63.5%) were males. Helicobacter pylori was positive (group A) in 78(60%) while it was negative in 51(40%), group B. Folic acid deficiency was seen in 43(33%), B12 deficiency in 30(23%), and hyperhomocysteinemia in 60(46%) patients. B 12 deficiency (<200 pg/ml) was 24.4% in group A vs 21.6% in group B ($p=0.71$). Folate deficiency (<3.5 ng/ml) was 32.1% in group A vs 35.5% in group B ($p=0.70$). Hyperhomocysteinemia (>15 μ mol/L) was 48.1% in group A vs 46.0% in group B ($p=0.82$)

Conclusion: Our dyspeptic patients have very high prevalence of B12 and folic acid deficiencies with hyperhomocysteinemia. Helicobacter pylori infection does not have a statistically significant effect on these levels in patients with dyspepsia.

Keywords: H. pylori, B12, Dyspepsia

6.42**EFFECT OF HELICOBACTER PYLORI INFECTION ON GASTRIC JUICE INTRINSIC FACTOR AND R BINDER LEVELS IN PATIENTS WITH DYSPEPSIA**

Shahid Rasool¹, Mohammad Perwaiz Iqbal², Shahab Abid¹,
Wasim Jafri¹, Zaigham Abbas¹
Departments of ¹Medicine, ²Biological & Biomedical Sciences,
Aga Khan University, Karachi

Objective: Helicobacter pylori infection is associated with dyspepsia, micronutrient deficiencies and gastric cancer. Pathogenesis of micronutrient deficiencies and metabolic derangements in the gastric juice caused by helicobacter pylori infection is not clear. Intrinsic factor is associated with B12 absorption whole R-binder has been reported to be elevated in gastric cancer.

Aim: To determine the impact of H. pylori infection on gastric juice intrinsic factor and R-binder levels in patients with dyspepsia.

Method: Dyspeptic patients undergoing endoscopic evaluation were enrolled in this study. During gastroscopy, 10 ml of gastric juice was aspirated from body of stomach by a Teflon catheter passed through the biopsy channel. Gastric juice was collected in a sterile tube containing EDTA and gastric juice intrinsic factor and R-binder levels were measured in this sample within next seven days. H. pylori infection was diagnosed by histopathological examination of gastric biopsies and urea breath test.

Results: 125 patients with dyspepsia were enrolled with mean age 40.2±11.5 years including 56% males. H. pylori was positive in 80(64%) while 45 (36%) were helicobacter pylori negative. Median level with quartile of intrinsic factor in the gastric juice of helicobacter pylori +ve patients is 13.2(4.8,20.6) as compared to 6.0(2.6,14.1) in helicobacter pylori -ve group (p=0.003). Median level with quartile of R-binder in the gastric juice of helicobacter pylori +ve patients is 9.0(4.4,15.6) as compared to 7.1(2.4,14.2) in helicobacter pylori -ve group (p=0.269). The correlation between gastric juice intrinsic factor and R-binder levels in patients with dyspepsia is shown in fig 1.

Conclusion: Intrinsic factor and R-binder levels are high among helicobacter pylori infected patients with dyspepsia. This may be used for further studies to reviel the pathophysiology of helicobacter pylori related problems.

Keywords: H. Pylori, Intrinsic Factor, R-binder

6.43 HIGH HELICOBACTER PYLORI WITH LOW MALTOMA INCIDENCE IN PAKISTAN: A BLESSING IN DISGUISE

Shahid Pervez¹, Naureen Ali², Hina Aaqil², Khalid Mumtaz³,
Syed Siddiq Ullah², Irfan Nake Akhtar²
Department of¹Pathology & Microbiology, ²Medical College,
and ³Medicine, Aga Khan University, Karachi

Objective: To study the frequency and characteristics of Gastric Mucosa Associated Lymphoid Tissue (MALT) lymphomas in a tertiary care medical centre of Karachi, Pakistan.

Method: This study was carried out at the Aga Khan University Hospital Karachi which includes all cases of gastric MALToma diagnosed from Jan 1991 – Dec 2008. Cases were identified from records of the Health Information Medical System (HIMS). Slides and blocks were retrieved from archives of histopathology section. Immunohistochemical workup included staining with LCA, Pan B (CD20, CD79a), Pan T (CD3) Mib-1 (Ki-67) & Cytokeratin CAM 5.2.

Results: Annually 4000 ± 500 gastroscopies are performed in our endoscopy unit besides a large number of referrals from rest of Pakistan. Over a period of 18 years there were only 24 patients identified to have gastric MALToma on histopathology; out of these, 13 (54.2%) had active HP infection. The mean and median age was 49.7 and 53.5 (range: 18-80) years. The male: female ratio was found to be 17:7. The common presenting complaints were epigastric pain (n=

10) and dyspepsia (n=9). Endoscopic findings revealed mild gastric hyperemia (n= 16) to superficial erosions (n= 4) & superficial ulcers (n=4).

Conclusion: The incidence of gastric MALToma is very low in Pakistan in contrast to a high H. Pylori gastritis. Its association with HP was found in only half of reported cases. The endoscopic features are non specific in diagnosing gastric MALToma.

Keywords: Helicobacter Pylori, MALT, MALToma

6.44 THE DIAGNOSTIC PREDICTABILITY OF WHITE CELL COUNT FOR ASSESSMENT OF SEVERITY OF ACUTE APPENDICITIS IN PEDIATRIC POPULATION

Khurram Siddique¹, Shirin Mirza²
¹William Harvey Hospital, Kent, United Kingdom and
²Department of Community Health Sciences, Aga Khan
University, Karachi

Objective: To determine the association of white cell count with severity of acute appendicitis in children.

Methods: A cross-sectional study of 204 children aged 4-16 years who underwent surgery at a District General Hospital for acute appendicitis was performed from January 2007 to January 2009. Data regarding history, clinical examination and investigations was collected retrospectively. After computing descriptive statistics, multiple linear regression was applied taking white cell count as the outcome variable and appendicitis at histopathology as the main exposure variable. Correlation coefficients were also computed.
Results: Study comprised of 112(54.9%) female and 92(45.1%) male patients. Mean age was 12.8 years. Mean duration of symptoms was 2.641days and mean white cell count was 12.18 while mean C-reactive protein was 86.82.3% patients were operated within 24 hrs. Operative findings revealed grossly inflamed appendix in 82% of cases including perforation (19.6%) and localized abscess (27.2%). Histopathology showed that 52.7% patients had suppurative and 15.4% gangrenous appendicitis, 21.7% normal, 4.6% fecolith, 1.3% worm infestation and 5.3% had lymphoid hyperplasia. Multiple linear regression analysis showed that acute suppurative and gangrenous appendicitis was strongly associated with white cell count (eta: 0.9 and 0.88). This model predicted that child with normal appendix will have white cell count of 9.129 X 10⁶ /L which will increase by 3.92 X 10⁶/L and 1.46 X 10⁶/L in case of acute suppurative and gangrenous appendicitis respectively.

Conclusion: Linear regression model in this pediatric population shows that severity of acute appendicitis is an important predictor of white cell count which is an important investigation tool in this surgical emergency.

Keywords: Pediatric Appendicitis, Suppurative Appendicitis, White Cell Count

6.45**PHARMACOLOGICAL BASIS FOR THE MEDICINAL USE OF BLACK PEPPER IN CONSTIPATION AND DIARRHEA**

*Malik Hassan Mehmood, Anwarul Hassan Gilani
Department of Biological & Biomedical Sciences, Aga Khan University, Karachi*

Introduction: Dried fruits of *Piper nigrum* (black pepper) are commonly used in gastrointestinal disorders. However, it has not been widely studied. The crude extract of pepper (Pn.Cr) and its principal alkaloid, piperine were investigated to rationalize their medicinal use in gut ailments. Isolated tissues from guinea-pig were used for the in-vitro experiments while in-vivo assays were performed in mice. When tested in guinea-pig ileum, Pn.Cr caused concentration-dependent atropine-sensitive stimulatory effects. Similarly, piperine also produced contractile responses in ileum and this effect was blocked in the tissue pretreated with atropine. In mice, pepper extract exhibited laxative effect at 100 and 300 mg/kg, which was greatly reduced in mice pretreated with atropine. Piperine also produced atropine-sensitive laxative effect at 1-3 mg/kg. Whereas, at higher doses, pepper (500 and 1000 mg/kg) and piperine (10-30 mg/kg) produced antisecretory activities which were attenuated in mice pretreated with naloxone (1.5 mg/kg). These effects were similar to loperamide. This study illustrates the presence of spasmodic (cholinergic), laxative and antisecretory effects, providing the possible pharmacological basis for the medicinal use of *Piper nigrum* and piperine in constipation and diarrhea.

Keywords: Spasmodic, Antispasmodic, Antisecretory

6.46**PHARMACOLOGICAL BASIS FOR MEDICINAL USE OF PHYLLANTHUS EMBLICA IN CONSTIPATION AND DIARRHEA**

*Anwarul Hassan Gilani, Hassan Salman Siddiqi, Malik Hassan Mehmood
Department of Biological & Biomedical Sciences, Aga Khan University, Karachi*

Introduction: The fruits of *Phyllanthus emblica* (amla) have been studied to rationalize their medicinal use in gut motility disorders using the in-vivo and in-vitro assays. The crude extract of *Phyllanthus emblica* fruit (Pe.Cr) caused dose-dependent atropine-sensitive laxative effect at 100 and 300 mg/mL. At higher doses, Pe.Cr (500 and 700 mg/kg) inhibited the castor oil-induced intestinal fluid accumulation and diarrhea. In isolated guinea-pig ileum, Pe.Cr caused partially atropine-sensitive contractions at 1-5 mg/mL followed by relaxation at next higher concentration (10 mg/mL). In spontaneously contracting rabbit jejunum, Pe.Cr caused stimulant effect at 0.1-1 mg/mL while produced relaxation at further tested concentrations (3-10 mg/mL). The stimulatory effect was partially attenuated in tissue pretreated with atropine. It also relaxed the carbachol (CCh, 1 μ M) and K⁺ (80 mM)-induced contractions in a pattern similar to that of dicyclomine,

suggesting anticholinergic and calcium channel blocking (CCB)-mediated pathways. The dual blockade of muscarinic receptors and Ca⁺⁺ channels was confirmed when pretreatment of tissue with Pe.Cr produced a rightward parallel shift in the concentration-response curves of Ca⁺⁺ without suppression of maximum response at lower concentration and a non-parallel shift at higher concentration with the suppression of maximum response similar to that of dicyclomine but unlike nifedipine. The resultant activity-directed fractions exhibited spasmogenic and spasmolytic effects similar to the parent extract. These results indicate that *Phyllanthus emblica* fruit possesses a combination of gut stimulant (partially cholinergic) and relaxant (anticholinergic and Ca⁺⁺ antagonist) entities widely spread in the aqueous and organic fractions, thus explaining its medicinal use in gastrointestinal motor disorders.

Keywords: Cholinergic, Anticholinergic, Ca⁺⁺ antagonist

6.47**SPLENECTOMY FOR HEMATOLOGICAL DISORDERS IN ADULTS: A JOURNEY OVER A PERIOD OF NINE YEARS AT AGA KHAN UNIVERSITY HOSPITAL, KARACHI**

*Hasnain Zafar¹, Aamir Hameed¹, Kashif Khan², Salman Naseem Adil², Usman Sheikh²
Departments of ¹Surgery, and ²Pathology & Microbiology, Aga Khan University, Karachi*

Objective: To review the surgical outcomes of splenectomies done in 48 adult patients with different hematological disorders, prediction of response in ITP and to observe the evolution of splenectomy from open to laparoscopic route.

Method: The records of 48 patients who underwent splenectomy for different hematological disorders were reviewed retrospectively. The response criteria were divided into 3 categories; for ITP, Complete response, Response and No response. For disorders other than ITP, the response criteria also included the improvement in terms of frequency of blood transfusions preoperatively and postoperatively. *Results:* Of 48 patients, 27(53.6%) had ITP, 5(10.4%) had Thalassemia, 4(8.3%) had Idiopathic Autoimmune Hemolytic Anemia, 4(8.3%) had Non-Hodgkin's Lymphoma, 2(4.2%) had Hodgkin's Lymphoma, 2(4.2%) had Hereditary Spherocytosis, 1(2.1%) had Sickle cell Anemia, 1(2.1%) had CLL, 1(2.1%) had Myelofibrosis with myeloid metaplasia, 1(2.1%) had Congenital Dyserythropoietic Anemia. Open splenectomies were done in 42(87.5%) of cases, laparoscopic and hand assisted laparoscopic splenectomies were done in 4(8.4%) of cases whereas in 2(4.2%) of cases, laparoscopic splenectomy had to be converted to open splenectomy. 38(72.9%) of the patients had complete response, 7(14.6%) showed response while in 3(6.3%) cases, splenectomy failed as treatment of their hematological disorder. In analysis of predictors of response in ITP, the results were: with age, p=0.389; gender, p=0.476; BMI, p=0.109; size of spleen, p=0.125; pre-op Hb, p=0.042; pre-op platelet count, p=0.966; duration between diagnosis and splenectomy, p=0.723; no.

of treatment used before surgery, $p=0.029$; treatment regimen used, $p=0.029$.

Conclusion: Our experience of splenectomy for hematological conditions especially ITP which is more common in our region showed that splenectomy helped in gaining complete response in majority of patients who underwent this procedure and that laparoscopic splenectomy is now gradually replacing open ones, however, there was no significant predictor for patient's response.

Keywords: Splenectomy, ITP, laparoscopic

6.48

ASSOCIATION OF GASTRO ESOPHAGEAL REFLUX SYMPTOMS WITH INCREASE IN WAIST CIRCUMFERENCE & WAIST HIP RATIO

Shahid Karim, Afsheen Faryal, Wasim Jafri, Soobia Siddiqui, Zahaib Quadri, S.H.Ali Shah
Department of Medicine, Aga Khan University, Karachi

Objective/Back ground: Gastroesophageal reflux symptoms or disease is increasing worldwide. Western data showed waist circumference (WC) and waist hip ratio (WHR) association with GER symptoms. Being as an Asian country with different anthropometric scale, it has to explore this association in our population. **Object:** Is to investigate the association of GER symptoms with increase in waist circumference (WC) and waist hip ratio (WHR). **Method:** Prospective, Cross sectional, Multicenter study, Jun-Nov 2009. =18years, M/F, 1622 relatives of patients, without co morbid, sitting in OPD waiting area, asked to fill GERD screening Questionnaire. They were grouped by presence or absence of GER symptoms. They were measured for WHR, WC and divided into four groups i.e. WC were 1=<80cm, 2=80-89cm, 3=90-99cm, 4=100cm and WHR were 1=<0.8, 2=0.8-0.89, 3=0.9-0.99, 4=1.0. Chi2, T test and regression analysis done

Result: 1763/1932 gave consent, 141/1763 excluded, M/F 868/754, 587/ 1622 with reflux (Mean age, WC, WHR were 37.11 ± 12.18 , 87.31 ± 11.47 and 0.91 ± 0.06 respectively). GER symptoms were significantly associated with WC = 100cm as compared to <80cm (OR 1.7, 95% CI 1.2-2.4) and WHR = 1.0 as compared to <0.8 (OR 3.14, 95%CI 1.72-5.7).

Conclusion: GER symptoms are associated with central adiposity i.e. increase in waist circumference and waist hip ratio. **Recommendation:** Weight reduction may help in reflux symptoms improvement.

Keywords: Waist circumference, Waist hip ratio, Gastroesophageal reflux

6.49

LIFESTYLE'S ASSOCIATION WITH GASTROESOPHAGEAL REFLUX SYMPTOMS IN RELATION WITH TIME AND POSTURAL ACTIVITY FROM DINNER TO BED: DATA FROM DEVELOPING COUNTRY.

Shahid Karim, Afsheen Faryal, Wasim Jafri, Usman Tariq, Zohaib Nawaz, Saeed Hamid
Department of Medicine, Aga Khan University, Karachi

Introduction: Currently, lifestyle modifications are considered as first line reflux therapy. Lifestyle recommendations cannot be generalized with different lifestyles behavior, anthropometric scale, variability in western statistics and deficient local data. **Aim:** is to investigate the association of reflux symptoms with lifestyle in relation with time and postural activity from dinner to bed.

Methods: Cross sectional, prospective, multicenter, July to Dec 2009. Attendants of patients sitting in OPD, after consent, =18 years male & female, without any history of comorbid, drugs, smoking and alcohol were randomly selected and Offered validated GERD screening questionnaire. Chi2, T-test and regression analysis were applied

Results: 2109/2383 gave consent, 284/2109 excluded, 689/1875 had reflux (36.74%). M/F 1010/865. From dinner to bed reflux symptoms were 47.24 %1st hr, 43.22 %2nd hr, 32.80 %3rd hr, 30.44 %4th hr. Odd ratio at 2nd, 3rd and =4th hr were 0.87(95% CI, 0.65-1.15), 0.55(95%CI, 0.41-0.74) and 0.51(95%CI, 0.37-0.71) when compared with 1st hr. 684/1875 had routine to be recombinant immediately post dinner before going to bed, OR 1.47(95% CI, 1.23-1.79) as compared to non-recombinants. Reflux were common among those with no post dinner routine walking, OR 1.41(95%CI, 1.12-1.73) as compared to routine walkers (379/1875).

Conclusions: Reflux symptoms were associated with short dinner to bed time, post dinner recumbency and lack of walking.

Recommendation: > 3 or 4 hr dinner to bed time with walk and without recumbency.

Keywords: Recumbency, Walking, Gastroesophageal Reflux

6.50

HAEMOBILIA DUE TO LEAKING PSEUDO ANEURYSM OF HEPATIC ARTERY: A RARE COMPLICATION OF LAPAROSCOPIC CHOLECYSTECTOMY

Rushna Raza¹, Rizwan Khan²
¹Alumni, Department of ²Surgery, Aga Khan University, Karachi

Objective: Pseudoaneurysm has been thought to be an uncommon complication of laparoscopic cholecystectomy. It could be life-threatening if not identified timely.

Method: We report a case of bleeding pseudo aneurysm of right hepatic artery in a 54 year old lady five months after laparoscopic cholecystectomy who presented with three months history of per rectal bleeding and one episode of hematemesis.

Results: The false aneurysm was identified using abdominal CT scan with contrast and treated successfully with coil embolization. A review of literature showed 60 other cases of pseudoaneurysms resulting from laparoscopic cholecystectomy, with right hepatic artery being the most frequent site of injury and haemobilia the most common mode of presentation.

Conclusion: Pseudoaneurysm as a complication of laparoscopic cholecystectomy seems to be more frequent than originally considered. Time and mode of presentation varies. High index of suspicion is necessary in case of any persisting symptomatology after laparoscopic cholecystectomy to come to its diagnoses. Treatment with embolization is the best available option

Keywords: pseudo-aneurysm, laparoscopic cholecystectomy, haemobilia

6.51

TRAUMATIC LIVER INJURY: AN AKUH EXPERIENCE OF HALF DECADE

Nadeem Ahmed Siddiqui, Inam Pal

Department of Surgery, Aga Khan University, Karachi

Objective: Increasing incidence of trauma and resulted injuries have become a major problem in last decade. Involvement of liver is very common in both blunt and penetrating trauma. **OBJECTIVE:** To review 5 year AKUH experience of all adult patients coming with liver trauma.

Method: This is a retrospective review of medical records of all patients admitted at AKUH with diagnosis of liver trauma between June 2004 and June 2009. Review included details about demographic, clinical and outcome variables including morbidity and mortality rates. Telephonic contacts were made to reveal any undocumented complication. Patients with missing records or operation done outside AKUH were excluded from our study.

Results: Total 110 patients were admitted at AKUH with liver trauma between Jun2004- June 2009. Twenty patients were excluded due to above mentioned exclusion criteria. In our study population of 90 patients, 78 were males and 12 females. We have 83% (n=76) of patients having age less than 45 years. Seventy nine percent of patients do not have any comorbid and 56 (62%) patients arrived hospital within 4 hours of injury. Blunt trauma was mode of injury in majority of our patients i.e. 66% of which 45 patient sustained RTA. Sixty three (70%) patients were stable at arrival and 60(66%) have abdominal signs present on examination. Ultrasound FAST was done in 53(58%) patients of which 41 were reported positive. CT scan abdomen was done in 71(78%) patients. Liver injuries were associated with other abdominal or systemic injuries in 67 (74%) of patients. Mean injury severity score (ISS) in our study population was 25. Low grade (Grade I & II) liver injuries were found in 22 (23%) of patients, rest were high grade (GradeIII-41, GradeIV-23, GradeV-4). Conservative treatment was offered in 69(76%) patients, of which 58(64%) patients remained stable and cured, while 11 patients became unstable. Of these 11 patients 4 expired while 7 needed intervention. There were total 28(31%) interventions done of

which 19 patients cured and 8 were expired. 21 out of 28 interventions (75%) were because of liver injury and included perihepatic packing (n=12), hepatorrhaphy (n=7) and angioembolization (n=2). There were 12 deaths (13%) in which liver hemorrhage and sepsis were the most common cause of mortality. Mean hospital stay in our study population was 11 days (range 1-70 days). Followed up in clinic was done by 74 patients and mean follow up period was 156 days. Second admission was observed in 17 (18%) patients of which 9(52%) were because of liver problems. Morbidity rate in our patients was 27% (n=25). Liver related morbidity were seen in 8 patients which includes pancreatitis (n=2), biliary problems (n=2), abdominal collection (n=3) and liver abscess (n=1). Delayed complication like incisional hernia and backache were seen in 17 patients.

Conclusion: In our study population, majority of liver trauma patients were young males with blunt hepatic trauma. Majority of liver injuries were high grade and associated with other injuries. Conservative treatment was found successful in most of our patients with intervention rate of 31% and overall mortality rate of 13%. Majority of expired patients had high grade liver injury and most frequent causes of death were hemorrhage and sepsis. Majority of our complications were long term and were secondary to emergency surgery.

Keywords: Liver Injury, Interventional Treatment, Conservative Treatment

6.52

LATE PRESENTING PANCREATIC TRAUMA: OUTCOME OF PATIENTS TRANSFERRED FROM OTHER HOSPITALS TO TERTIARY CARE

Rushna Raza¹, Omair Shakil², Hasnain Zafar³
¹Alumni, Department of ³Surgery and ²Medical College, Aga Khan University, Karachi

Objective: To analyze the affect of delay in presentation of pancreatic trauma due to transfer from other hospitals and to see how the outcome compares with those primarily received at our hospital.

Method: Retrospective file review of all patients with pancreatic trauma admitted to AKUH between January 1988 and December 2009. Study variables were time of presentation since injury and injury severity (using A.A.S.T Grading and Revised Trauma Score). Outcome measures included pancreatic-trauma related complications, length of hospital stay and mortality. Data was collected and analyzed using SPSS version 16.0.

Results: 30 patients were identified with a mean age of 27. 93.3% were males. 19 patients were transferred and 11 were primary with a mean delay in presentation of 118.2 hrs and 1.6 hrs, respectively. Injury severity was comparable in the two groups as assessed by individual organ injury, presence of multiple organ injury and mean RTS. However, the transferred group had a greater severity of pancreatic injury, indicated by higher mean injury grading and mean serum-amylase levels at presentation (p<0.05). Diagnosis of pancreatic injury had been made in only 15.8% of transferred patients. Length of hospital stay was significantly higher in the

transferred group ($p < 0.05$). Complications included fistula (3), ileus (4), abscess (5), pseudocyst (5), positive cultures (5) and sepsis (2); all were seen in transferred patients. *Conclusion:* Clinical outcome of transferred pancreatic trauma patients is more morbid than of primary patients. Transfer from other hospitals confers a significant delay in the diagnosis and management of pancreatic trauma and is associated with a longer hospital stay and greater incidence of complications.

Keywords: Pancreatic Trauma, Delayed Presentation, Outcome

6.53

MANAGEMENT OF PANCREATIC TRAUMA: CONSERVATIVE APPROACH IN DELAYED PRESENTATION TO TERTIARY CARE

Rushna Raza¹, Hasnain Zafar², Ayaz Ahmed², Omair Shakil³
¹Alumni, Department of ²Surgery and ³Medical College, Aga Khan University, Karachi

Objective: To evaluate the management approach to patients transferred from other centers, with or without receiving any management there, and to compare them with patients of pancreatic trauma primarily received at our hospital. *Method:* Retrospective file review of all patients with pancreatic trauma admitted in AKUH between January 1988 and December 2009. Management approach was analyzed including time of surgery since injury, conservative management received and type of surgery performed. *Results:* Out of 30 pancreatic trauma patients admitted in AKUH, 19 (63.3%) were transferred from other hospitals. Mean delay in presentation in the primary and transferred group was 1.6 hrs and 118.2 hrs respectively. All 19 transferred patients received some initial resuscitation with 5 (26.3%) undergoing laparotomy in the previous hospital. Diagnosis of pancreatic injury was made in only 3 of 19 patients (15.8%). Eight of the 19 transferred patients were managed with initial conservative approach, 5 of which eventually underwent surgery. All the primary patients underwent early surgery. Surgical approach differed in the two groups; 56% (9 out of 16 operated) underwent drainage procedure in the transferred group and 50% of primary patients underwent definitive procedure. Hospital stay was significantly longer in transferred group (mean 22.2 days in transferred group vs. 6.4 days in primary group). Transferred patients had significantly higher morbidity but difference in mortality was insignificant. *Conclusion:* Transfer confers a significant delay in the diagnosis and management of pancreatic trauma with greater pancreatic injury-related morbidity. An initial observation phase followed by a conservative surgical approach, shows comparable outcome to the immediate operative approach in early presenting patients.

Keywords: Pancreatic Injury, Transferred Patients, Conservative Surgery

6.54

COMPLICATIONS AND RISK FACTORS AFFECTING THE OUTCOME OF BILIARY-ENTERIC ANASTOMOSIS

Rushna Raza¹, Rizwan Khan², Ammar Rafiq³, Umer Jamy³
¹Alumni, ²Department of Surgery and ³Medical College, Aga Khan University, Karachi

Background: Biliary-enteric anastomosis is a common surgical procedure but little is known about the factors influencing its outcome. We aimed to analyze the incidence of complications and to identify the risk factors determining morbidity and mortality after biliary-enteric anastomosis.

Method: Retrospective chart review of patients undergoing biliary-enteric anastomosis between January 1997 and December 2009. Main variables were age, gender, comorbid and nutritional status, disease type, type of anastomosis, operative hours and estimated blood loss. Chief outcome measures were ICU and total hospital stay, early and late complications and mortality.

Results: Out of 102 patients reviewed, 58% had malignant disease. Common complications were delayed gastric emptying (22.5%), epigastric pain (21.6%) and wound infection (16%). Other complications included anastomotic leak (3.9%), hemorrhage (4.8%), persistent jaundice (6.7%), cholangitis (3.9%), gastric outlet obstruction (1.8%), abdominal abscess (0.9%) and pancreatitis (0.9%). 5 patients underwent re-exploration while 4 required endoscopic intervention. 3 patients developed biliary stricture. Overall mortality was 12.7%. Mean follow-up duration was 20 weeks. 9 patients went into sepsis, 4 of which developed renal failure. Malignant disease was significantly associated with delayed gastric emptying, sepsis, longer hospital stay and mortality. Persistent jaundice was correlated with higher Charlson's index morbidity score, malignant disease and two-layered biliary-anastomosis. Chest infection and renal failure were significantly higher in those with higher ASA status. There was no correlation of nutritional status and type of anastomosis with surgery outcome. *Conclusion:* Outcome of biliary-enteric anastomosis is independent of patient nutritional status and type of anastomosis performed, but is adversely affected by higher Charlson's index, ASA status and if done as part of Whipple's in malignant cases.

Keywords: Biliary-Enteric Anastomosis, Complications, Risk Factors

6.55

IMMUNOPROLIFERATIVE SMALL INTESTINAL DISEASE (IPSID), EXPERIENCE OF A MAJOR REFERRAL CENTRE WITH LITERATURE REVIEW

Shahid Pervez¹, Khalid Mumtaz², Syed Siddiq Ullah³, Irfan Nake Akhtar³, Naureen Ali³, Hina Aaqil³
¹Departments of Pathology & Microbiology, ²Medicine and ³Medical College, Aga Khan University, Karachi

Objective: To study the frequency, stage, age, gender, site, clinical presentation, endoscopic findings, histopathological features, treatment and outcome of IPSID in the largest referral center of Pakistan with literature review

Method: Archives of AKUH contained a total of 27 cases of IPSID diagnosed and treated over an 18 year period (1991–2008). Medical records and slides of all these cases were reviewed. Sections were stained with a panel of antibodies including LCA, CD20, CD79a, CD138, CD3, IgG, IgM, IgA, Kappa, Lambda and cytokeratins CAM 5.2.

Results: A M: F ratio of 2.4:1 was seen with a mean & median ages of 28.7 and 25 years. Most patients (68.8%) presented with abdominal pain and diarrhea. In majority (62.5%) duodenum was the primary site of involvement followed by jejunum and ileum. Endoscopic findings were mostly polypoidal, raised or flat lesions. Biopsy findings included blunting, shortening or flattening of villi with dense and diffuse plasma cell infiltrate as well as lymphoepithelial lesions. All cases with the exception of 3 cases were categorized as stage A & B (Benign and Intermediate) while remaining 3 were categorized as stage C (malignant, diffuse large B cell lymphoma with plasmacytoid features). Stage A & B patients responded well to antibiotic treatment (tetracycline) with regression of the lesions while for stage C patients standard CHOP chemotherapy was administered.

Conclusion: Overwhelming majority of cases presented in stage A & B with close differentials of celiac disease and chronic non-specific inflammation. Most patients were young in their 3rd decade with duodenum as the most common site of involvement. Presenting symptoms were non-specific and delay in diagnosis led to transformation into large B-cell lymphoma.

Keywords: Lymphoma, Small Intestine, Extranodal Marginal Zone B-Cell Lymphoma

6.57

MALIGNANT TUBERCULOUS LYMPHADENOPATHY PRESENTING AS DYSPHAGIA: A CASE REPORT

Ranish Deedar Ali Khawaja, Muhammad Naeem, Saulat H. Fatimi
Department of Surgery, Aga Khan University, Karachi

Objective: Tuberculosis is responsible for up to 43 percent of all peripheral lymphadenopathy in the developing world. Although a systemic disease it can rarely present as dysphagia.

Method: We present a case of 42 years-old female presented to clinic with one month history of progressive dysphagia. At the time of presentation she was unable to take solid and was just taking liquids. There was history of 2-3kg weight loss along with occasional low grade fever. She denied having cough, pain during swallowing, vomiting, jaundice, and abdominal pain. She had no history of TB contact or treatment and no risk factors for HIV infection. She was initially evaluated with Barium Swallow that showed extrinsic compression on the mid dorsal esophagus without any mucosal abnormality followed by CT chest with contrast which showed multiple enlarged mediastinal lymph nodes leading to compression of mid-thoracic esophagus. VATS (Video-assisted-thoracoscopy) and biopsy was done with subsequent histopathological findings consistent with tuberculosis. She was started on anti-tuberculosis therapy. Three weeks post-treatment, dysphagia improved significantly.

Results: Tuberculosis though a systemic disease rarely causes dysphagia. Tuberculous dysphagia can be due to intrinsic esophageal ulcers, tracheo-esophageal fistulae and extrinsic compression due to mediastinal or cervical lymph nodes. The latter is more common and related to the increased incidence of TB mediastinal lymphadenopathy, especially in Asian immigrants and patients with AIDS.

Conclusion: In our patient, dysphagia improved significantly after anti-tuberculosis therapy. Dysphagia is an unusual symptom of esophageal TB and especially of TB involving mediastinal lymph nodes. The diagnoses should be considered in subjects having Asian origin and HIV infection.

Keywords: Tuberculosis, Lymphadenopathy, Dysphagia

6.58

EFFECT OF ILLICIUM VERUM EXTRACT ON GUT TISSUES

Shagufta Khan¹, Mohammad Nadir Khan¹, Mohammad Usman Ali¹, Malik Hassan Mehmood¹, Anwarul-Hassan Gilani², Mahrukh Ayesha Ali³, Farah Naz Chohan⁴, Shaheen Faizi¹
Department of¹Biological & Biomedical Sciences, ²Medical College, Aga Khan University, Karachi, ³Khyber Medical College, Peshawar, ⁴HEJ Research Institute of Chemistry, International Center for Chemical Sciences, University of Karachi

Introduction: Illicium verum (I. verum) fruits are widely used as condiment in different parts of the world including Pakistan. It has been reported that in traditional medicine this fruit is used as aromatic, carminative and stimulant. Studies on isolated smooth muscle preparations are common in fundamental research for screening purpose as well as exploring the mechanism(s) of drug action. The effect of I. verum fruits extract was determined on gastrointestinal track using organ bath studies. Our results showed that I. verum extract caused dose dependent relaxant (0.2-1 mg/ml) effect on rabbit jejunum. It is well established that the periodic depolarization and repolarization of the cell membrane regulate the spontaneous movements of intestinal smooth muscles including ileum. At the height of depolarization the action potential appears as a rapid influx of calcium via voltage operated calcium channels. It has been reported that the tonic contraction induced by KCl in smooth muscle is due to calcium influx via voltage operated calcium channels. Since the I. verum extract (0.3 mg/ml) inhibited 85% of the contractile effect in guinea-pig ileum, induced by KCl (10 mM/ml), suggesting that the I. verum extract may interfere with influx of calcium via voltage operated calcium channels. Our studies using other methods such as effect of BaCl₂ induced contractions in guinea-pig ileum also support the calcium channels inhibitory activity of I. verum extract. In conclusion, I. verum extract possesses antispasmodic activity via calcium channel inhibition. However, further studies are required to identify active principle(s) using bioassay directed fractionation method.

Keywords: Illicium Verum, Gi Track, Spasmolytic, Calcium Channel Blocker

7.1

CLINICAL CHARACTERISTICS AND OUTCOME OF SEPSIS: A PERSPECTIVE FROM A TERTIARY CARE HOSPITAL IN KARACHI, PAKISTAN

Shahla Siddiqui¹, Bushra Jamil², Fauzia Khan¹, Rabia Hussain², Nosheen Nasir³, Phillippe Frossard¹

Departments of ¹Anaesthesia, ²Pathology & Microbiology, Medicine, and ³Biological & Biomedical Sciences, Aga Khan University, Karachi

Objective: Sepsis remains an important source of mortality and accounts for a significant health care burden across the world. Our objective was to determine clinical features and clinical determinants of outcome of sepsis in our population.

Method: We studied 101 patients in one year with sepsis and/or septic shock as per SCCM definitions. Patients were enrolled after informed consent. Data on demography and patient characteristics such as ethnicity, site of infection, type of infecting organisms, presence of co-morbidities and severity of sepsis was collected. Final outcome was recorded in terms of recovery from sepsis or mortality. Association between patient characteristics and outcome was done using parametric and non-parametric tests.

Results: Sepsis patients belonged to six ethnic groups; no significant difference was found in mortality between these groups. The commonest site of infection leading to sepsis was the respiratory tract (48.5%). At the time of enrollment, 68.3% of patients had sepsis and 29.7% had septic shock. Mortality due to sepsis/septic shock was 35.6% and was significantly associated with male gender ($p=0.048$) presence of shock ($p<0.001$). No significant association of mortality was found with any of co-morbidities. Cultures were positive in 49 patients and infections with gram negative organisms were more common (59%) as compared with gram positive bacteria (28%). Sepsis-related mortality was significantly higher in males as compared to females ($p=0.040$).

Conclusion: In adult patients with sepsis who were managed in a tertiary care hospital over a period of one year, poor outcome was associated with male gender and underlying chronic liver disease.

Keywords: Sepsis, Epidemiology, Developing Countries, Septic Shock

7.3

BURDEN OF SEPSIS IN PICU IN A DEVELOPING COUNTRY

Muhammad Rehan Khan¹, Komal Masood², Prem Kumar Maheshwari¹, Anwarul Haque¹

¹Department of Paediatrics & Child Health, and ²Medical College, Aga Khan University, Karachi

Objective: Sepsis is a leading cause of morbidity and mortality in both the developed and developing countries in ICU settings. However, there is insufficient data regarding the burden of sepsis and its associated mortality and multiorgan dysfunction from the developing countries. The objective of the study is

to determine the frequency of sepsis, severe sepsis and septic shock in patients admitted in PICU and its association with the multiorgan dysfunction and mortality in a developing country.

Method: A retrospective chart review of patients admitted in PICU over a period of two years was done. All patients who had SIRS at the time were included in the study. Further stratification for sepsis, severe sepsis, septic shock and multiorgan dysfunction was carried out in accordance with the definitions and guidelines devised in international pediatric sepsis consensus conference 2005. The study was carried at the Pediatric intensive care unit at Aga Khan University Hospital, Karachi

Results: A total of 767 patients were admitted in PICU in two calendar years (2007-2008). Out of these, 133 patients had clinical or culture proven infection during stay in the PICU in addition to SIRS at the time of admission. So, the frequency of sepsis was 17.3% of all PICU admissions. The frequency of severe sepsis was 10.5% and that of septic shock was 9.2% of all PICU admissions. Males (62%) were the predominant sex observed in our study contributing to sepsis. Mean age was 5 years with infants being the largest age group contributing to sepsis (42%) followed by school age group, preschool group and adolescents, contributing 27%, 23% and 8% respectively. Mean PRISM score was 9 at the time of admission. 30% of the patients had culture proven infection. 60% of the patients with sepsis had multiorgan dysfunction (3 or more organ dysfunction). CNS and CVS were the most common organ system dysfunction seen in 71% and 65% of the patients with sepsis diagnosis respectively, followed by respiratory (50%) and hematologic (28%) dysfunction. Mean length of stay was 9 days. 24% of the patients with any sepsis diagnosis expired during PICU stay. Patients with multiorgan dysfunction had high mortality ($p<0.05$). Patients with CVS and hepatic dysfunction had high mortality ($p<0.05$) in sepsis group while those with respiratory and renal system dysfunction had high mortality in severe sepsis and septic shock ($p<0.05$).

Conclusion: Sepsis in combination with multiorgan dysfunction is associated with high mortality in PICU setting in developing countries. Prospective and multi centre studies are needed to determine the true burden of sepsis and associated morbidity and mortality in the developing countries.

Keywords: Sepsis, PICU, Multiorgan dysfunction

7.4

HCV AND HBV CO-INFECTIONS AMONG HIV-POSITIVE MSM IN PAKISTAN

Mehreen Somani¹, Mohammad R. Khanani², Saeed Khan¹, Samina Naseeb¹, Shahana Urooj Kazmi³, Syed Ali¹

¹Department of Biological & Biomedical Sciences, Aga Khan University, ²Dow University of Health Sciences and ³Department of Microbiology, University of Karachi, Karachi

Objective: Global prevalence of HIV has fallen to an estimated 33.2 million but in Pakistan HIV infection is on a steady rise. Main routes of HIV transmission in Pakistan are unsafe heterosexual contact, homosexual and bisexual contact, sharing

of contaminated needles, infected blood and blood products, and mother-to-child transmission. In Pakistan, 7% of HIV positive individuals are men having sex with men (MSM). In view of their high-risk behavior, this group is likely to carry, in addition to HIV, Hepatitis B and C (respectively, HBV and HCV) infection. In this study we have analyzed the infections of HIV amongst MSM residing in various urban and rural areas of Pakistan. Additionally, prevalence of HBV and HCV in the subjects was also studied.

Method: MSM groups were identified in three different regions: the main city of Karachi, and rural areas of Sangar and Larkana. The participants were administered a questionnaire and informed consent was taken. Two vials of Blood samples were collected. From one whole blood vial, plasma was separated and stored at -80°C and DNA was extracted from Buffy coat for future use. From another vial, serum was collected after coagulating the blood. Serum was used for screening of Anti-HIV, Anti-HCV and HBsAg through Enzyme Linked ImmunoSorbent Assay (ELISA). **Results:** Out of 396 samples, 45 (11.36%), 93 (23.48%), and 32 (8.08%) were found positive for respectively, HIV, HCV, and HBV. Several study subjects also showed co-infection of these viruses: 20 (5.05%) were co-infected with HIV and HCV, 2 (0.50%) with HIV and HBV, 4 (1.01%) with HCV and HBV, and 3 (0.75%) were infected with all three viruses. **Conclusion:** Our results depict high prevalence of HCV infection along with HIV and HBV. This indicates that prevalence of HIV, HCV and HBV infections and their co-occurrence are rapidly increasing amongst Pakistani MSM population.

Keywords: HIV, HCV, HBV

7.5

SERO-PREVALENCE OF HIV, HCV AND HBV INFECTIONS IN AFGHAN REFUGEES IN PAKISTAN

Amna Ansari¹, Mohammad R. Khanani², Saeed Khan¹, Shahana Urooj Kazmi³, Syed Ali¹

¹Department of Biological & Biomedical Sciences, Aga Khan University, ²Dow University of Health Sciences and

³Department of Microbiology, University of Karachi, Karachi

Introduction: More than 23 years of warfare in Afghanistan has caused over 6 million Afghans to seek asylum in approximately 70 different countries, with most Afghan refugees settling in the developing countries of Pakistan and Iran. In a developing host country, poor sanitation and nutrition, overcrowding and inaccessibility to healthcare facilities act synergistically to influence morbidity and mortality from infectious disease in the refugee population. The aim of this study was to investigate the prevalence of three viruses; Human immunodeficiency, hepatitis C and B (HIV, HCV and HBV, respectively) in the Afghan refugee population. The participants in the study were from Quetta and different parts of Karachi. We began by obtaining informed consent from Afghan refugee study participants and subsequently administered questionnaires to them inquiring into their medical history, risk behavior and practices. 5 ml of clotted blood was collected from consenting participants. Serum was

separated from coagulated blood samples and used in Enzyme Linked Immuno-Sorbent Assays (ELISA). ELISA kits were utilized for the testing of anti-bodies against HIV, HCV and screening of surface antigens for HBV. Sero-prevalence data from 556 Afghan refugees revealed that 33 (5.9%) tested positive for HIV. Moreover, 205(36.8%) and 51(9.17%) study participants were found to be positive for the HCV and HBV, respectively. These results indicate the presence of a concentrated epidemic in the Afghan refugee population – highlighting the need to implement targeted strategies to prevent further transmission of these infections within and outside the refugee population.

Keywords: HIV, HCV, HBV

7.7

ESTIMATING THE PREVALENCE OF MEASLES SUSCEPTIBILITY IN 12-59 MONTHS OLD CHILDREN IN KARACHI; A CROSS SECTIONAL SURVEY

Sana Sadiq Sheikh¹, Asad Ali², Anita Zaidi², Ajmal Agha¹
Departments of¹Community Health Sciences, and²Paediatrics & Child Health, Aga Khan University, Karachi

Background: Measles is a vaccine preventable disease but a major health problem in Pakistan. Measles vaccine is given routinely in Pakistan at age of 9 months and 18 months. In many countries, additional measles immunization is provided through two routine-dose measles vaccination or supplementary immunization activity (SIA). In countries with low to moderate coverage of measles immunization SIA is more fruitful to improve measles control efforts. In order to objectively assess need and timing of follow-up of SIAs in Pakistan, prevalence of measles susceptibility in children needed to be estimated. **Primary**

Aim: To estimate prevalence of measles susceptibility in 12-59 months old children in Karachi. **Secondary Aim:** To determine the association of level of serologic measles immunity with one, two and three doses of measles vaccination. **Methodology:** It is a cross-sectional study in Karachi. Households were randomly selected through multistage cluster sampling technique. 504 eligible children of 12-59 months from these households will be enrolled. Questionnaire will be administered to mothers to gather information of child's vaccination status and history of measles infection. Serologic immunity detected by presence of Measles IgG antibodies in oral fluid sample of child by EIA. Statistical analysis will be done by Student t-test, [chi] 2 and logistic regression. **Conclusion:** If our study showed high prevalence of measles susceptibility in 12-59 months old children then based on the results appropriate follow up timings of SIA to provide measles immunization will be recommended. This will help to improve measles control efforts and reduce measles burden.

Keywords: Measles, Serologic Immunity, Supplementary Immunization Activity

7.8

ISOLATED CRYPTOCOCCAL OSTEOMYELITIS: A CASE REPORT

Irfan Qadir¹, Farheen Ali², Masood Umer³, Umair Zafar Malik¹

¹Medical College, Departments of ²Medicine and ³Surgery, Aga Khan University, Karachi

Introduction: Cryptococcosis is an acute or sub acute infection caused by yeast-like *Cryptococcus neoformans* that may affect almost any organ in the body, usually lungs and central nervous system. Isolated skeletal cryptococcosis is very rare. To our knowledge, only 40 cases have been reported so far. This paper reports the case of a 28 year old female who presented with a low grade fever, pain and swelling in the left distal arm. Radiographic examination of the arm revealed an osteolytic lesion. She underwent D & C procedure. Both AFB culture and fungal culture of the bone sequestrum were positive for *Cryptococcus neoformans*. Therefore a diagnosis of isolated cryptococcal osteomyelitis was made. Post-operatively the patient was given a triple therapy of clindamycin, ciprofloxacin and Fluconazole.

Keywords: Cryptococcosis, osteomyelitis, *Cryptococcus neoformans*

7.10

A SERIES OF THREE CASES OF MUCORMYCOSIS: A RARE CAUSE OF NECROTIZING FASCIITIS

Irfan Qadir¹, Faisal Mahmood²

¹Medical College and ²Department of Medicine, Aga Khan University, Karachi

Introduction: Mucormycosis usually manifest as rhinocerebral, pulmonary or cutaneous infections. While, necrotizing fasciitis, a life-threatening inflammation and necrosis of subcutaneous tissue and fascia, is mostly caused by streptococcus and staphylococcus species, it may on occasion be a rare presentation of mucormycosis. We report three patients who presented with fever and wound infections in which mucormycosis was identified as the primary pathogen. Diagnosis for each was made on histopathology. While two of the three patients died and the third was lost to follow-up, clinical presentations, risk factors, treatment are described followed by a review of literature including need for active surgical intervention and new modalities in treatment.

Keywords: Necrotizing Fasciitis, Mucormycosis, Infections

7.11

EVALUATION OF PREVALENCE OF LOW AND HIGH LEVEL MUPIROCIN RESISTANCE IN METHICILLIN RESISTANT STAPHYLOCOCCUS AUREUS ISOLATES AT A TERTIARY CARE HOSPITAL

Summiya Nizamuddin, Seema Irfan, Afia Zafar
Department of Pathology & Microbiology, Aga Khan University, Karachi

Objective/Background: The role of methicillin-resistant *Staphylococcus aureus* (MRSA) in hospital as well as community acquired infections is well established, with substantial morbidity and mortality attributed to it. Concurrently, it has developed resistance to various groups of antibiotics, hence requiring toxic and expensive treatment. Additionally nasal colonization with *Staphylococcus aureus* (*S. aureus*) is commonly seen and this provides a reservoir for various nosocomial infections. Intranasal application of mupirocin, is widely used to eliminate *S. aureus* colonization and has been employed as a means of preventing health care-associated staphylococcal infections. Mupirocin resistance has already been reported from all over the world but no such data has ever been released from Pakistan.

Objective: To evaluate the trend of mupirocin resistance in MRSA isolated at the Clinical Microbiology Laboratory of the Aga Khan University Hospital. This is the first report of mupirocin susceptibility in Pakistani isolates.
Method: A total of 200 MRSA strains recovered over a 2 year period from various body sites were tested for mupirocin resistance via the disc diffusion method.

Results: High level and low level mupirocin resistance were detected in 0 and 1 % of MRSA strains, respectively. Resistance to other non β lactam antibiotics were also high. No MRSA strains were found to be resistant to vancomycin and tegicycline.

Conclusion: This study showed that mupirocin resistance among Pakistani MRSA isolated was relatively low compared to that seen in our neighboring countries. Because of the increasing prevalence of MRSA strains in hospital and community settings, mupirocin can still be used as a powerful tool in terms of decolonization of nasal carriers. Frequent monitoring of MRSA susceptibility patterns and infection control initiatives may be helpful in reducing the incidence of MRSA with a concomitant effort to prevent the increase in mupirocin resistance.

Keywords: MRSA, Mupirocin, Resistance

7.12

THE FREQUENCY OF RESIDENTS' COMPLIANCE WITH 6-HOUR SEPSIS BUNDLE IN PATIENTS WITH SEVERE SEPSIS

Ashique Ali¹, Bushra Jamil¹, Hassan Ashraf Zia²

¹Department of Medicine and ²Medical College, Aga Khan University, Karachi

Background: Sepsis is a leading cause of death among hospitalized patients. The Surviving Sepsis Campaign group

has introduced sepsis care bundles (6-hour and 24-sepsis bundles) into clinical practice to improve outcome. The aim of this study was to determine the frequency of residents' compliance with 6-hour sepsis bundle in patients with severe sepsis admitted to the Aga Khan University Hospital

Methods: 67 patients with severe sepsis and residents (Postgraduate Year 3 and 4) responsible for their immediate medical care were observed for compliance with 6-hour sepsis bundle, during a 6 month period (2008 to 2009) Results: Mean age of patients was 53.15 +/- 17.98 (18-86). Mean age of physicians was 31.58 +/- 1.60. Overall residents' compliance with 6-hour sepsis bundle was 11.9%. Out of the 67 patients of severe sepsis, serum lactate was ordered in 14 (20.9%) patients, blood cultures before antibiotics were obtained in 38 (56.7%) patients; 53 (79.1%) patients received antibiotics within 3 hours of presentation to ER and 1 hour of their diagnosis of severe sepsis in the ward. Initial fluid resuscitation was completed in 65 (97%) of the patients. If mean arterial pressure (MAP) remained less than 65 mmHg despite adequate initial fluid resuscitation, vasopressors of choice were initiated in 55 (82.1%). Central venous pressure of =8 mmHg was achieved in 53 (79.%) patients after adequate fluid resuscitation. Inotropes were used with or without packed cell transfusion to achieve a target hemoglobin (Hb) of 7-9g/dl in 59 (88.1%) patients.

Conclusion: The overall compliance with 6-hour sepsis bundle was poor. Extensive educational program and training of first interacting physicians is needed to improve compliance with this important mortality reduction strategy.

Keywords: Sepsis, Compliance, 6-Hour Bundle

7.15

INVESTMENT IN PEDIATRIC TUBERCULOSIS PREVENTION IN PAKISTAN: LOSS OR GAIN?

Emad uddin Siddiqui¹, Munawar Khurshed¹, Kiran Ejaz¹, Saira Lone², Syed Jamal Raza²

¹Department of Emergency Medicine, ²Paediatrics & Child Health, Aga Khan University and ³Jinnah Postgraduate Medical Centre, Karachi

Background: Global tuberculosis affects 1 million children each year. WHO estimates that till 2010 death toll due to tuberculosis might mount to 3 million deaths/year. It is at agenda 6 in WHO Millennium development goals. We have to struggle for this achievable goal in our country. **Objective:** To assess the effectiveness of pediatric tuberculosis prevention, by reevaluation factors in children exposed to tuberculosis from less privileged strata of Pakistan. **Method:** This cross sectional descriptive study was conducted at National Institute of Child Health, from January 2004 to December 2005. Pediatric patients under 15 years of either gender diagnosed with active tuberculosis were enrolled. Interviews were conducted from parents regarding common preventive measures and factors advocating tuberculosis spread. Later factors leading to non-compliance to safety recommendations were also evaluated.

Results: Fifty five (70%) children younger than 5 years, had index cases in direct contact within their own house. We found

15 (14%) patients caught infection by neighbors, 11 of these children were older than 5 year. There were 82 (51%) cases with PCM. Total of 66 (41%) cases of PCM were <5 year of age. (p < 0.005) One twenty three (77%) cases with 5 or more family members. Sixty eight (55%) children of these large families had to live in a single room house.

Conclusion: Our societal and demographic factors are still the same for decades, letting our children at the higher risk of tuberculosis exposure. We need to reevaluate the pediatric tuberculosis preventive strategies on a national scale. Our pace towards achieving goals 6b and 4a of WHO MDG needs to be rechecked, especially in developing countries.

Keywords: Pediatric, Tuberculosis, Loss

7.16

THE CAUSES AND STAGES OF PHELEBITIS

Hamidah Ashiqali, Hasina Amin

Nursing Education Services, Aga Khan University, Karachi

Objective: The major purpose of the study was to identify the causes of phlebitis and do certain intervention to reduce the rate of infection.

Method: The Analytical observational study was conducted from April 2009 to May 2009 in one of the medical ward of 450 tertiary care hospitals. 474 Patients were considered for inclusion in the study; when there was a specific medical order for the intravenous fluids and antibiotics administration. Insertion of a peripheral catheter and it was expected to remain in place for at least 24 h. To avoid any variance in results, first time peripheral catheter insertion during ward stay were evaluated only once. Patients on chemotherapy and peripheral catheter less than 24 hours were excluded. A tool has been develop to obtain data which consist of demographic data, grades of phlebitis, chemical irritant, WBC counts, peripheral line policy compliance.

Results: Out of 474 patients it has been observed that 4.64% peoples get phlebitis at 0.84 % on grade 1 and grade 3 where as 1.89 % patient developed grade 2 phlebitis: all were on IV antibiotic. On other hand 0.63% patient get phlebitis at grade 2 that was not receive any antibiotic. Eventually the WBC count in study shows that 2.53% phlebitis could be due to pathological changes as shown by their WBC count raised on very first day of admission, perhaps other phlebitis developed due to chemical irritant such as antibiotic usage.

Conclusion: The study suggests that the rate of phlebitis increased in medical ward is due to chemical irritants and lack of knowledge among compliance of peripheral line care from insertion to administration of antibiotics.

Keywords: Phlebitis, Cannula, Grade

7.17

XANTHOGNULOMATOUS CHOLECYSTITIS: CLINICAL SPECTRUM AND OUTCOME IN ERA OF LAPAROSCOPIC SURGERY

Rehman Alvi, Imran Jalbani, Ghulam Murtaza Sheikh
Department of Surgery, Aga Khan University, Karachi

Objective: To analyze the clinical spectrum of xanthogranulomatous cholecystitis (XGC), to assess the factors affecting the outcome and to determine the optimal treatment of this less common form of cholecystitis in the present era of laparoscopy

Method: We retrospectively reviewed the case records of 27 patients with Xanthogranulomatous cholecystitis (XGC) confirmed on histopathology. Patients were divided in to three groups according to treatment modality: group I. Open cholecystectomy (OC), group II, Laparoscopic cholecystectomy (LC) and group III. Laparoscopic converted to open cholecystectomy (LOC).

Results: During the study period 7616 patients with the diagnosis of cholecystitis were managed and 6878 underwent cholecystectomy including open cholecystectomy in 2309 and laparoscopic cholecystectomy in 4569 patients. Histopathology confirmed xanthogranulomatous cholecystitis in 30 patients (0.43% of all cholecystectomies) and 27 patients qualified for the review. Gallbladder carcinoma was reported in 100 patients (1.45%) and no association was found with XGC. The mean age of patients with XGC was 49.8 year (range:29-79), with male to female ratio of 1:3. The most common clinical features were abdominal pain and tenderness in right hypochondrium. Biliary colic and acute cholecystitis were the most common preoperative diagnosis. Ultrasonogram was performed in all patients and CT Scan abdomen in 5 patients with mean gallbladder thickness of 4.4mm. There were 10 patients in group I, 8 in group II and 9 in group III. Conversion rate from laparoscopy was 53 % (n=9), surgical site infection rate of 14.8% (n=4) and common bile duct injury occurred one patient (3.7%). Statistically significant differences between group I and group II were raised total leukocyte count: 10.6 ± 3.05 Vs 7.05 ± 1.8 (P.value 0.02) and duration of surgery in minutes: 248.75 ± 165 Vs 109 ± 39.7 (P.Value 0.04). The differences between group III and group II were duration of surgery in minutes: 208.75 ± 58 Vs 109 ± 39.7 (P.Value 0.03) and duration of symptoms in days: 3 ± 1.8 Vs 9.8 ± 8.8 (P.Value 0.04). The mean hospital stay in group I was 9.7 days, group II 5.6 days and in group III 10.5 days. Two patients underwent extended cholecystectomy based on clinical suspicion of carcinoma. No mortality was observed in this study population.

Conclusion: XGC is a rare entity of cholecystitis and preoperative diagnosis is a challenging task. Difficult dissection was encountered in open as well in laparoscopic cholecystectomy with increased operation time. Laparoscopic cholecystectomy was carried out with high conversion rate to improve the safety of procedure. Per operative clinical suspicion of malignancy was high but no association of XGC was found with gallbladder carcinoma, therefore frozen section is recommended before embarking on radical surgery.

Keywords: Xanthogranulomatous Cholecystitis, Chronic Cholecystitis, Cholecystectomy

7.18

FULMINANT AMOEBIC COLITIS

Rehman Alvi, Fareha Fazal
Department Surgery, Aga Khan University, Karachi

Objective: Fulminant amoebic colitis is a rare disease with a high morbidity and mortality. Few studies on this topic have been carried out internationally. This study was designed to identify the most frequent clinical and histopathological features of the disease and to analyze the results of medical and surgical treatment at our hospital

Method: Retrospective case series of all patients admitted with fulminant amoebic colitis. 25 patients met the inclusion criteria. Performa was designed and data analyzed for demographic features, medical and surgical treatment as well as outcome. Data was entered in SPSS 16 and analyzed

Results: Out of Twenty five patients, 14 were female and 11 were male. The average age was 54.76 years. The most common identifiable risk factor was Diabetes mellitus. Most common clinical presentation was bloody diarrhoea and fever. Average HB: 10.79, TLC: 22.67, IHA: 1172. Average hospital stay was 13.92 days. Average ICU stay was 6.72 days. 19 patients underwent surgical management and the most common surgical procedure was right hemicolectomy. 9 patients died during treatment, resulting in a 36% mortality rate. However, there was no significant difference in mortality between the two groups.

Conclusion: Fulminant amoebic colitis is a rare but severely lethal complication of amoebic colitis. The purpose of this study is to advocate early recognition and management of patients with amoebic colitis at risk of taking a fulminant clinical course

Keywords: Fulminant Colitis, Amebic Colitis, Amebiasis

7.19

SURGICAL SITE INFECTION: ANALYSIS OF DAY CARE INGUINAL HERNIA REPAIR

Rehman Alvi, Ayesha Arshad, Amin Pardan
Department of Surgery, Aga Khan University, Karachi

Objective: Day-care surgery is an evolving form of modern surgical care that has resulted in much decrease in burden on the health-care system by reducing hospital stay and operative cost in total. Inguinal hernia surgery is the most common general surgical procedure performed universally, repair rates are up to 28 per 10,000 populations in US, and more than 84% are done as Day-care procedures. SSI (surgical site infection) is the most common preventable post-op complication, depending on patient-related as well as general factors. To review the pattern of SSI and relationship with various factors in patients undergoing Day-care inguinal hernia surgery in AKUH, and using this information for future, prospective studies to provide in-depth analysis of risk-factors and continuous monitoring system for SSI.

Method: Hundred and four patients were included in the study, underwent day-care inguinal hernia surgery from 1/5/08 to 30/4/09. The medical records were reviewed for the demography, clinical presentation, biochemistry, surgical

procedures and outcome. Patients were divided into 2 groups depending on post-op SSI: Group I: Those who had post-op (surgical site infection) SSI Group II: Those who did not have post-op SSI Comparative analysis of two groups was done to identify the significant differences and factors responsible for SSI

Results: 104 patients were included in this study, 102 were males and 2 were females. Mean age was about 45.6 yrs. The overall Post-op complication rate was greater than 12% and surgical site infection of 7.7%. Group I (8 patient) was compared with group-II (96 patients) as regards their co-morbid (DM, HTN, IHD, COPD/asthma, any malignancy, CLD...), smoking habits, hemoglobin level at time of surgery, side and type of hernia, operating time, level of surgeon, anesthesia used, use of pre-op and post-op antibiotics, secondary procedure if performed and recurrence in an effort to find any significant association of these factors with SSI. Cigarette smoking and irreducible hernia was found to be statistically significant (p-value <0.05) factor for SSI. 104 patients were included in this study, 102 were males and 2 were females. Mean age was about 45.6 yrs. The overall Post-op complication rate was greater than 12% and surgical site infection of 7.7%. Group I (8 patient) was compared with group-II (96 patients) as regards their co-morbid (DM, HTN, IHD, COPD/asthma, any malignancy, CLD...), smoking habits, hemoglobin level at time of surgery, side and type of hernia, operating time, level of surgeon, anesthesia used, use of pre-op and post-op antibiotics, secondary procedure if performed and recurrence in an effort to find any significant association of these factors with SSI. Cigarette smoking and irreducible hernia was found to be statistically significant (p-value <0.05) factor for SSI.

Conclusion: An SSI rate in a clean day-care inguinal hernia repair was found to be high as compared to international standards. Cigarette smoking and irreducible hernia came out to be statistically significant factors associated with SSI. Being a retrospective study, we were unable to evaluate the process of care and therefore health system related risk factors for SSI could not be evaluated

Keywords: Surgical Site Infection, Inguinal Hernia Repair, Day Care Surgery

7.21

PREVALENCE OF MUTATIONS IN PFCRT, PFMDR1, PFDHFR AND PFDHFR GENES CONFERRING DRUG RESISTANCE IN P. FALCIPARUM ISOLATES FROM SOUTHERN PAKISTAN

N K Ghanchi¹, J Ursing², S Jafri¹, A Martensson², M A Beg¹
Departments of ¹Pathology & Microbiology, Aga Khan University, Karachi and ²Karolinska Institute, Sweden

Objective: Resistance to antifolate chemotherapy is a significant problem in malaria patients in Pakistan where Sulfadoxine-pyrimethamine (SP) is recommended as a partner drug of ACTs for the treatment of P.falciparum malaria. We present preliminary results on prevalence of SP and CQ resistance in our region using molecular tools.

Method: A total of 240 patients infected with P.falciparum presenting at Aga Khan University clinical laboratories during 2005-2007 were included in our study. The prevalence of

mutations at pfcrt gene codonK76T, pfmdr1 N86Y, pfdhfr C50R, N51I, C59R, S108N, I164L and A436S, G437A and E540K were genotyped by multiplex PCR/RFLP and pfdhfr by sequence analysis of amplified product in P.falciparum isolates from Southern, Pakistan.

Results: Single nucleotide polymorphism (SNPs) in pfcrt, pfdhps and pfdhfr genes associated with resistance to CQ and SP were observed. Prevalence of 108N was 99%, 59R 96% and 51I 7.6% conferring resistance to SP position 50 and 164 remains unchanged, whereas 437G in pfdhps was observed in 51% and 540E in 1% of the isolates. Almost 92% (223/242) of P.falciparum isolates carried the 76T and markedly few isolates had 76K polymorphism.

Conclusion: We confirm the existence of mutations conferring resistance to CQ and SP in P.falciparum population using modern molecular tools. The level of mutations associated with resistance suggests that SP as a partner drug with ACTs has no role in P.falciparum infections. In addition CQ should not be used for P.falciparum infections. Therefore we expect high levels of treatment failures and suggest removal from the current treatment strategy.

Keywords: Malaria, Drug Resistance, Treatment

7.22

LACK OF P.FALCIPARUM MULTIDRUG RESISTANCE GENES (PFMDR) AMPLIFICATIONS IN PAKISTANI ISOLATES

N K Ghanchi¹, J Ursing¹, S Jafri², A Martensson², M A Beg¹
Departments of ¹Pathology & Microbiology, Aga Khan University, Karachi and ²Karolinska Institute, Sweden

Objective: Multidrug resistance genes (pfmdr) amplifications in P.falciparum is frequent event and confer mefloquine (MQ) resistance in vitro and in vivo. An increased copy number variation in pfmdr is reported to be associated with decreased susceptibility to Halofantrine, quinine and artemisinin derivatives in vitro. Recently our national treatment policy has been changed to Artesunate (AS) plus Sulfadoxine - Pyrimethamine (SP) whereas resistance to Sp is already reported. We have investigated the prevalence of copy number variation in pfmdr gene from the field isolates of Northern Pakistan.

Method: A total of 240 patients infected with P.falciparum presenting at Aga Khan University clinical laboratories during 2005-2007 were included in our study. Pfmdr amplifications were analyzed by real time PCR based protocols from 240 field isolates and all samples were run in triplicates
Results: No Pfmdr amplification was observed in our population surprisingly only one sample showed two copies. Upon multiple repetitions the result remains the same.
Conclusion: Our data provide regional information regarding the spread of resistance and suggest MQ can be highly effective first line drug for treatment of P.falciparum. Despite over-the-counter availability and irrational use of antimalarial the use of mefloquine is not significant in Pakistan therefore MQ as a partner drug for artemisinin combinations is better option than SP.

Keywords: Copy Numbers, Pfmdr1, Mefloquine

7.23

PLASMODIUM VIVAX CIRCUMSPOROZOITE PROTEIN GENE DIVERSITY AND ITS ASSOCIATION WITH SPECIFIC HEMATOLOGICAL PARAMETERS

Afsheen Raza¹, M.Asim Beg¹, Najia Ghanchi¹, Sana Jafri¹, Ali M. Thaver², Daniyal Thaver², Faisal Mansoor²

¹Departments of Pathology & Microbiology and ²Medical College, Aga Khan University, Karachi

Objective/Background: Plasmodium vivax is the second most prevalent malarial species accounting for estimated 130–435 million annual infections worldwide. To determine the endemicity of malaria in a particular area, diversity of plasmodium genotypes has to be taken into consideration. However, such epidemiological data is insufficient in Pakistan. Studies have shown that for P.vivax, polymorphic single copy genes coding for circumsporozoite protein Pvcs is an extremely reliable marker for conducting molecular epidemiological studies. Pvcs comprises a central repetitive domain bearing either VK210 or VK247 type, on the basis of which pvcs genotyping is determined.

Objectives: Molecular characterization of clinical P.vivax isolates from Pakistan using Pvcs as a marker of diversity and association of Pvcs genotypes with hematological parameters

Method: Two-hundred and thirty blood samples were collected during 2008-2009 from P.vivax malaria patients. Brief demographic data was also collected. DNA was extracted and nested PCR for Pvcs gene amplification was performed. PCR-RFLP was performed for genotyping. Correlation between Pvcs genotypes and changes in specific hematological parameters with age were analyzed.

Results: Our results shows VK210 was the most prevalent genotype found in southern Pakistan. However, 13% of the samples were positive for VK247 type, which is much higher than previously reported data from neighboring countries. Both types shows association with low RBC and Platelet count in all age groups while changes in hemoglobin, eosinophil, neutrophils, monocytes and lymphocytes counts were found to be type and age specific.

Conclusion: Data from this study shows that Pvcs is a reliable marker for conducting molecular epidemiological studies and both VK210 and VK247 type can be associated with changes in specific hematological patterns. This study may serve as a baseline data for future research on P.vivax diversity from Pakistan.

Keywords: Plasmodium Vivax, Circumsporozoite, Gene Diversity

7.24

ASSOCIATIONS OF THE PLASTICITY REGION OF HELICOBACTER PYLORI IN PATIENTS WITH GASTRODUODENAL DISEASES

Javed Yakoob, Zaigham Abbas, Shagufta Naz, Shahab Abid, Wasim Jafri

Department of Medicine, Aga Khan University, Karachi

Objective: The virulence genes of *Helicobacter pylori* (*H.pylori*) are generally categorized as strain-specific genes, phase-variable genes and genes with variable structures/genotypes. Nearly half of the strain-specific genes of *H.pylori* are located in the plasticity region. These strain-specific genes found outside the cag- Pathogenicity Island are described as the plasticity region. This region presents a great variability of DNA sequences. Recent studies have shown that certain genes in this region may play an important part in the pathogenesis of *H.pylori* associated gastroduodenal diseases. The plasticity region genes include JHP0940, JHP0947 and JHP0986. The first two genes are reported to be associated with an increased risk of both duodenal ulcer (DU) and gastric carcinoma (GC) while later with gastritis. In this study we determined the distribution of JHP0940, JHP0947 and JHP0986 and cytotoxin associated gene (cagA) in *H.pylori* isolates obtained from patients with different gastroduodenal diseases.

Method: Forty three isolates obtained from thirty-five patients with gastritis, six with peptic ulcer (PU) (4 duodenal ulcers and 2 gastric ulcers) and two with gastric carcinoma (GC) were used. DNA extraction was done from clinical isolates and polymerase chain reaction (PCR) was carried out for JHP0940, JHP0947, JHP 0986 and cagA genes using primers described before. Differences in proportion were assessed by using Pearson Chi square, Fisher exact or likelihood ratio test where appropriate. P value less than 0.05 was considered as statistically significant.

Results: These are the preliminary results. Clinical isolates of *H.pylori* were obtained from 43 patients, 29 (67%) male with mean age of 41 ± 13 year, range 22-66. JHP0940 was positive in 15 (35%), JHP 0947 in 14 (33%), JHP0986 in 10 (23%) and cagA in 21 (49%). JHP0986 was associated with cagA in 4(40%) (p value=0.52), JHP0940 in 7 (47%) (p value=0.83) and JHP0947 9 (64%) (p value=0.16). JHP0947 was positive in 5 (83%) with PU, 1 (50%) with GC and 8 (30%) with gastritis (p value=0.02); JHP0940 was positive in 2 (100%) with GC, 2 (33%) with PU and 11 (31%) with gastritis (p value=0.11) with GC and JHP0986 was associated with only gastritis in 9 (26%) and with PU 1 (17%) (p value=0.51).

Conclusion: JHP0947 gene was present in *H. pylori* isolates associated with peptic ulcer and gastric carcinoma. There was no association of cagA with hyperplasticity region genes; however a larger number of isolates are required to confirm these findings.

Keywords: Helicobacter Pylori, Hyperplastic Area Genes, Peptic Ulcer

7.25

CCL2 RESPONSES TO MYCOBACTERIUM TUBERCULOSIS ARE ASSOCIATED WITH DISEASE SEVERITY IN TUBERCULOSIS

Zahra Hasan¹, Jackie Cliff², Hazel Dockrell³, Bushra Jamil², Muhammad Irfan², Mussarat Ashraf², Rabia Hussain¹
Departments of ¹Pathology & Microbiology, ²Medicine, Aga Khan University, Karachi and ³LSHTM, United Kingdom

Objective: Leucocyte activating chemokines such as CCL2, CCL3, and CXCL8 together with proinflammatory IFN γ , TNF α and downmodulatory IL10 play a central role in the restriction of *M. tuberculosis* infections, but is unclear whether these markers are indicative of tuberculosis disease severity.

Method: We investigated live *M. tuberculosis*- and *M. bovis* BCG- induced peripheral blood mononuclear cell responses in patients with tuberculosis (TB) and healthy endemic controls (ECs, n=36). TB patients comprised pulmonary (PTB, n=34) and extrapulmonary groups, subdivided into those with less severe localized extrapulmonary TB (L-ETB, n=16) or severe disseminated ETB (D-ETB, n=16). Secretion of CCL2, IFN γ , IL10 and CCL3, and mRNA expression of CCL2, TNF α , CCL3 and CXCL8 were determined.

Results: *M. tuberculosis*- and BCG- induced CCL2 secretion was significantly increased in both PTB and D-ETB ($p < 0.05$, $p < 0.01$) as compared with L-ETB patients. CCL2 secretion in response to *M. tuberculosis* was significantly greater than to BCG in the PTB and D-ETB groups. *M. tuberculosis*-induced CCL2 mRNA transcription was greater in PTB than L-ETB ($p = 0.023$), while CCL2 was reduced in L-ETB as compared with D-ETB ($p = 0.005$) patients. *M. tuberculosis*-induced IFN γ was greater in L-ETB than PTB ($p = 0.04$), while BCG-induced IFN γ was greater in L-ETB as compared with D-ETB patients ($p = 0.036$). TNF α mRNA expression was raised in PTB as compared with L-ETB group in response to *M. tuberculosis* ($p = 0.02$) and BCG ($p = 0.03$). Mycobacterium-induced CCL3 and CXCL8 was comparable between TB groups.

Conclusion: The increased CCL2 and TNF α in PTB patients may support effective leucocyte recruitment and *M. tuberculosis* localization. CCL2 alone is associated with severity of TB, possibly due to increased systemic inflammation found in severe disseminated TB or due to increased monocyte infiltration to lung parenchyma in pulmonary disease.

Keywords: Tuberculosis, CCL2, Extrapulmonary

7.26

TIME TAKEN FOR PRESENTATION, NUMBER OF HEALTH CARE PROVIDERS SOUGHT AND CLINICAL FEATURES OF DENGUE VIRUS INFECTION IN ADULT PATIENTS AT TERTIARY CARE HOSPITAL

Quratulain Shaikh¹, Jaweed Akhter²
¹Alumni, ²Department of Medicine, Aga Khan University, Karachi

Introduction: Dengue Fever is a Human Arbovirus infection caused by an RNA virus of the Flavivirus genus. There are 4 distinct serotypes of the virus, capable of producing 3 clinical patterns of disease including the atypical infection, the classic dengue fever and the Dengue Hemorrhagic Fever (DHF). Dengue viruses are mosquito borne and geographical distribution of Dengue has greatly expanded and the number of cases has dramatically increased in the past three decades. The clinical manifestations of dengue fever range from a mild, flu like and self limited febrile illness to severe illness with hemorrhages. Knowledge of the clinical features of dengue fever in our region combined with information regarding delays in presentation may help us deal better with outbreaks of this potentially lethal infection in the future.

Objectives: [1] To determine the average time taken by patient with Dengue Fever to present to a tertiary care hospital (Aga Khan University Hospital, Karachi). [2] To determine the number of health care providers sought by an adult patient with Dengue virus infection prior to presentation at a tertiary care hospital (AKUH). [3] To describe the clinical features of Dengue virus infection at presentation to a tertiary care hospital (AKUH).

Method: All patients fulfilling inclusion criteria were enrolled. Non-probability purposive sampling technique was used. Data was collected on a pre-designed proforma, and analyzed using Statistical package for social science Release 16.0, standard version, copyright © SPSS; 1989-02). Results were given for continuous variables as mean \pm Standard deviation. For categorical variables, results were reported as frequencies with percentages.

Results: The mean number of days since the onset of clinical features to presentation at AKUH (tertiary care centre) was 4.99 ± 2.71 days. The study group visited a mean number of 1.03 ± 0.83 health care providers before turning their attention to a tertiary care hospital for the diagnosis and management of their illness. 77.5 % of these patients visited medical doctors for their illness prior to presentation whereas none of the patients sought treatment from hakims, homeopaths or chemists. Clinical features of the disease were very varied amongst patients with non-specific symptoms like fever, headache, chills and myalgias being the most common presenting features. The other symptoms were far less common. Thrombocytopenia was a finding in 65 % of our study population.

Conclusion: The results show that patients with dengue virus infection presented to AKUH (tertiary care center) after a significant delay. However, patients not getting better with treatment from a health care provider outside of a tertiary

care centre, presented to AKUH relatively early without further experimentation and doctors were the most trusted health care providers when it came to dengue viral infections. Clinical features of the disease were very varied amongst patients with non-specific symptoms being the most common presenting features

Keywords: Dengue Fever, Dengue Haemorrhagic Fever, Clinical Features

7.27

ACUTE NECROTIZING ENCEPHALOPATHY OF CHILDHOOD: A FATAL COMPLICATION OF A COMMON DISEASE

Muhammad Rehan Khan, Prem Kumar Maheshwari, Syed Asad Ali, Anwarul Haque
Department of Paediatrics & Child Health, Aga Khan University, Karachi

Objective: Viral illnesses contribute a major burden of infectious diseases. Influenza virus is usually associated with milder respiratory illnesses but rarely, influenza virus infections can result in severe neurological complications. Post-influenza encephalitis and acute encephalopathy have been described in literature since long. Acute necrotizing encephalopathy of childhood (ANEC) is a rare condition characterized by the presence of multifocal symmetrical brain lesions involving mainly thalami, brainstem, cerebellum and white matter. ANEC is a serious and life threatening complication of a simple infection caused by influenza, parainfluenza and other viruses. Influenza A virus (H3N2, H1N1) usually causes milder respiratory illness but rarely the viral prodrome is followed by rapid progression of symptoms into high grade fever, protracted vomiting, convulsions and coma. Most of the patients die within few days of onset of symptoms. The children are especially at the highest risk to acquire this viral infection. We present the case of 2½ years old child who developed this serious condition with classical clinical and MRI findings consistent with ANEC secondary to swine flu. Reverse transcription-PCR analysis of nasopharyngeal secretions confirmed the presence of swine flu (influenza A, H1N1). The sample was confirmed positive by repeat RT PCR at National Institute of Health, Islamabad. We report this first case of ANEC from Pakistan with aim of raising awareness about this life threatening complication of swine flu which has become a global health care problem these days. Vaccination and proper precautionary measures are the only available tools to prevent the swine flu. There is a need of awareness for influenza vaccination in population to prevent this disease and its life threatening complications like ANEC.

Keywords: Acute Necrotizing Encephalopathy, Children, Swine Flu

7.29

DIFFERENTIAL ASSOCIATIONS OF PRO-INFLAMMATORY (IL6) AND DOWN-REGULATORY (IL10) CYTOKINE WITH MORTALITY

Bushra Jamil¹, Nosheen Nasir¹, Najeeha Talaf², Shahla Siddiqui³, Fouzia Khan³, Philippe Frossard⁴, Rabia Hussain²
Departments of ¹Medicine, ²Pathology & Microbiology, ³Anaesthesia, and ⁴Biological & Biomedical Sciences, Aga Khan University, Karachi

Objective: Sepsis is a leading cause of in-patient admissions and deaths at The Aga Khan University Hospital. Since proinflammatory cytokines are associated with severe disease and mortality in sepsis we analyzed differences in pro- and down regulatory cytokines and their relationships in patients with sepsis and septic shock in comparison to those in healthy donors.

Method: A total of 99 adult patients with sepsis and 99 healthy, age-matched controls were enrolled over a period of one year. At the time of enrollment, 69 patients had sepsis and 30 had septic shock. Plasma levels of TNF α , IL6 and IL10 were determined in these 3 groups in house using pairs of monoclonal antibodies in a sandwich Elisa based system.
Results: When sepsis patients (N=99) were compared with healthy donors (N=99) pro-inflammatory cytokines TNF α , IL6 and anti-inflammatory cytokine IL10 in plasma were significantly elevated ($p < 0.0001$). TNF α was similar in patients with either sepsis (N=69) compared to patients with septic shock (N=30) but IL6 ($p < 0.0001$) and IL10 ($p < 0.0001$) were significantly elevated in septic shock. We next analyzed the relationship between TNF α and IL6 with IL10 to see if there was a differential relationship of these cytokines in different groups. IL6 showed a significant relationship with IL0 in patients with septic shock ($r^2 = 0.662$; $p = 0.0002$). TNF α and IL10 showed a significant relationship in controls only ($r^2 = 0.709$; $p = < 0.00001$) and not in patients with sepsis or septic shock.

Conclusion: A differential association of pro-inflammatory cytokines (TNF α , IL6) was observed with down regulatory cytokine IL10 in different groups. Endogenously activated IL10 is unable to modulate IL6 response in our patients with septic shock. Therefore, uncontrolled production of IL6 may be the critical factor in developing septic shock.

Keywords: Unmodulated, IL 6, Septic Shock

7.30

VIVAX MALARIA AND INFECTIVE ENDOCARDITIS!!!!

Quratulain Shaikh, Faisal Mahmood
Alumni, Department of Medicine, Aga Khan University, Karachi

Objective: Vivax malaria is endemic in South Asia. We saw a case at Aga Khan University Hospital when a young girl presented with vivax malaria and had severe abdominal pain which was found to be secondary to splenic and renal infarcts and she had multiple vegetations on her aortic and mitral

valves. All blood cultures were negative. She remained in ICU with ARDS and underwent Mitral Valve Replacement. Vivax Malaria can have atypical presentations but is endocarditis one of them!

Method: Case Report

Results: We report the case of a 17 year old girl who presented to our hospital with high grade fever & severe abdominal pain for 12 days with vomiting and bilateral lower limb pain for 1 day. On examination she was a pale looking young girl in extreme discomfort and was febrile with sinus tachycardia and hypotension. Her abdomen was tense and tender with guarding. Rectal examination was normal. Initial laboratory tests showed Hemoglobin 8.2 g/dl, Hematocrit 24, normal WBC count and platelets were 45,000/cmm. Malarial parasite was found positive for Plasmodium vivax (scanty 1-10/HPF) and MP ICT was also mixed positive. Her initial Chest X-ray was normal. Abdominal plain X-ray ruled out intestinal obstruction or gut perforation. Ultrasound abdomen done initially in emergency room showed a spleen measuring 15 cm, left pleural effusion and minimal fluid in the pelvis. Patient was admitted with the diagnosis of Vivax malaria. She was started on Chloroquine along with supportive care and was given opioids for abdominal pain. On her second day of admission her Hemoglobin dropped to 6.7 gm/dl for which she was given blood transfusion during which she developed respiratory distress for which she required invasive ventilatory support. In the ICU she was in ARDS. She was on inotropic support and was still thrombocytopenic. Her Blood smear showed scanty trophozoites of Vivax Malaria. Her antimalarials were changed to Quinine and Clindamycin. Dengue IgM was negative. Second Ultrasound scan of the abdomen again showed splenomegaly and ascites. During ICU stay her blood smear was negative for Malaria but thrombocytopenia still persisted and she was found to be in DIC as her FDP was > 20 and D-dimer was 4.0. Coomb's Test was negative. Urine cultures grew E.coli which was treated with Meropenem. By her 5th day in ICU her shock got better and she came out of DIC. Ultrasound done the third time now showed multiple hypoechoic areas in the spleen largest being 2.4X 1.9cm representing splenic infarcts. Transthoracic echo done the same day to assess cardiac status showed severe mitral regurgitation, severe right ventricular dysfunction and severe tricuspid regurgitation. Ultrasound doppler legs was negative for DVT. On the same day she was taken for CT scan abdomen and chest which showed bilateral massive lung consolidations, multiple splenic and bilateral renal infarcts suggesting a more complicated etiology to the disease process. Trans-esophageal Echo was done on the same day and showed normal Left Ventricular function, Mild Right ventricular dysfunction, Multiple echogenic densities on anterior and posterior leaflets of the mitral valve, another density on the non coronary cusp of the aortic valve, Severe MR. Vancomycin was added to the antibiotic regime. She underwent Mitral Valve Replacement. She was stable postoperative and was extubated on the 2nd postoperative day. All blood cultures as well as cultures of the vegetations were negative. She is on a followup and stable.

Conclusion: Vivax Malaria is endemic in South Asian region. Various presentations of malaria distinct from the usual presentation have been described in literature. Abdominal pain has also been reported as a presentation of Falciparum

malaria secondary to splenic infarcts. Whether Malaria causes endocarditis is still not reported in literature. The clinical features of malaria like fever, chills, headache, myalgia, nausea, vomiting, cough, malarial paroxysm, migraine, urticarial rashes, bradycardia, postural hypotension, jaundice, cerebral involvement, anaemia, thrombocytopenia, pancytopenia, splenic rupture due to splenomegaly are well described in literature but malaria may present in many atypical ways. Malaria may cause abdominal pain and this has been reported. Association of Malaria with endocarditis is a new entity and needs further review.

Keywords: Vivax Malaria, Infective Endocarditis, Mitral Valve

7.31

CYTOMETRIC BEAD TH1/TH2 ARRAYS CAN DIFFERENTIATE ENDOGENOUSLY ACTIVATED CELLS DURING RECENT INFECTION AND ESTABLISHED TB DISEASE COMPARED TO TUBERCULIN SKIN TEST POSITIVE COMMUNITY CONTROLS IN KARACHI PAKISTAN

Najeeha Talat, Fidaus Shahid, Sindhu Muzaffar, Muniba Islam, Ghaffar Dawood

Department of Pathology & Microbiology, Aga Khan University, Karachi

Introduction: Pakistan ranks 8th globally in terms of tuberculosis disease burden despite wide coverage with BCG vaccination. Tuberculin Skin Test positivity (TST+) rate is between 40-50% in the population and increases to 80% in recently exposed contacts. The diagnostic value of TST is therefore questionable in a high TB burden country with wide BCG coverage. Activated cells during recent infection or in established TB disease secrete cytokines which may provide biomarkers for infection and disease. We have optimized the Cytometric Bead Arrays (CBA) system for assessment of Th1/Th2 cytokines. We have assessed Th1/Th2 cytokine secretion from endogenously activated cells in vitro in patients with active TB and recently infected household contacts. Whole blood (1:10) was cultured in the absence of exogenous stimulus for 2 days and supernatants were tested for Th1/Th2 cytokine secretion of endogenously activated cells. The following cytokines were significantly elevated in recently exposed household contacts (HC=41) and TB patients (N=55) with established disease compared to TST+ community controls (EC+; N=18): IL2 (HC>0.05; TB= <0.00001); IL4 (HC>0.05; TB p=0.00002) IL6 (HC p=0.003; TB >0.05); IL10 (HC=0.0002; TB, p=0.00001); TNF α (HC p=0.01; TB=0.006); IFN γ (HC p=0.0001; TB p=0.0002). In conclusion, IL2 and IL4 activated cells are selectively associated with TB disease while IL6 activated cells are selectively associated with recent infection. These cells may be in transit from lymph node to infected sites but are absent in unexposed community controls who may be TST+ due to either previous BCG vaccination or remote infection.

Keywords: Flow Cytometry, Tuberculosis, Th1/TH2 Cytokine

7.33

EFFECT OF EDUCATING MOTHERS ON COMPLETION OF THREE DOSES OF DPT AND HEPATITIS B VACCINES AMONG THEIR INFANTS IN KARACHI, PAKISTAN- A RANDOMIZED CONTROLLED TRIAL

Beenish Hanif¹, Anita K.M. Zaidi¹, Amna Rehana Siddiqui¹, Agha Ajmal²

Departments of¹Paediatrics & Child Health, and²Community Health Sciences, Aga Khan University, Karachi

Background/Objective: An estimated 60,000 Pakistani children die each year from vaccine preventable diseases. Immunization rates are low with less than 60% of infants fully immunized. The high infant mortality (89 per thousand live births) and morbidity of Pakistani children is partly attributable to low immunization coverage. Objectives: To evaluate impact of a low-cost immunization promotion educational intervention for mothers living in low-income communities of Karachi on: (1) Completion of DPT3-Hepatitis B vaccine (i.e. 3 doses of Diphtheria, Pertussis, Tetanus and Hepatitis B vaccines) immunization rates in their infants. (2) Retention of immunization cards 4 months after the educational intervention.

Method/Design: Multi-site community-based, randomized controlled trial evaluating impact of immunization promotion educational interventions compared to routine health promotion messages to mothers on DPT-3-Hepatitis B immunization completion rates in their infants. Settings and Participants: This study was carried out in five low-income communities of Karachi during August 2008-March 2009. Participants were mothers of infants aged 0 to 42 days identified through pre-existing pregnant women and newborn surveillance databases in these areas. Of 366 mother-infant pairs enrolled, 183 were randomly assigned to intervention group and 183 to control group, using computer generated randomization sequences. Type of Intervention: The intervention consisted of educational messages about importance of vaccines to mothers using three simple laminated pictorial cards. The messages were given by trained community health workers (CHWs) at each participant's home. The first message emphasized how vaccines save children's lives. The second message provided logistic information about the address and location of local vaccination centers. The third message highlighted the significance of retaining immunization cards. A copy of pictorial messages was left with the mother. The control group received verbal health promotion messages about hand washing, breast-feeding, clean water, benefits of using ORS, care-seeking for illness, importance of antenatal check-ups and also some general information on vaccines by trained CHWs. The length of each educational session in both groups was 10-15 minutes.

Primary outcome: Infants receiving all three doses of DPT/Hepatitis B vaccines (assessed through vaccination cards) were considered as "DPT-3/Hepatitis B completed" and infants missing any dose of DPT-3/Hepatitis B or who had lost their vaccination cards were termed "DPT-3/Hepatitis B not completed" Secondary outcome: Rate of retention of immunization cards, 4 months after enrollment in the trial. **Results:** Baseline characteristics among the two groups were similar. At the 4 month assessment, among 179 mother-infant pairs in the intervention group, 129 (72.1%) had received all

3 doses of DPT3/Hepatitis B vaccine, whereas in the control group 92/178 (51.7%) had received all 3 doses (RR= 1.39, 95% CI=1.07-1.82). In the intervention group, 145 (81%) infants retained vaccination cards compared to 123 (69.1%) infants in the control group (RR= 1.17, 95% CI=1.04-1.32). Multivariable analyses revealed that parental knowledge about impact of vaccines on child's health, education of mother, construction material of house, and living in rental housing was associated with DPT-3/Hepatitis B vaccine completion rates when intervention was controlled for (P<0.001). The adjusted odds ratio for DPT-3/Hepatitis B vaccine completion rates was 2.59 (95% CI=1.59-4.22) when controlling for the above mentioned covariates.

Conclusion: A simple educational intervention designed for low-literate populations, increased DPT-3/ Hepatitis B vaccine completion rates by 20 percentage points and retention of vaccination cards by families 12 percentage points. These findings have important implications for improving routine immunization rates in Pakistan.

Keywords: Vaccine, Educational Trial, Infants

7.34

A FIRST INSIGHT INTO THE GENETIC DIVERSITY OF EXTENSIVELY DRUG RESISTANT (XDR) MYCOBACTERIUM TUBERCULOSIS STRAINS IN PAKISTAN

Rumina Hasan, Kausar Jabeen, Yasraba Rafiq, Rabia Laiq, Asho Ali, Mahnaz Tanveer, Sana Jafri, Zahra Hasan
Department of Pathology & Microbiology, Aga Khan University, Karachi

Objective: Pakistan has the eighth highest tuberculosis (TB) burden in the world. MDR rate in untreated patients is reported to be 1.8%. WHO estimates suggest 5% overall MDR. In the present study resistance to second line agents amongst 2067 MDR strains received in our laboratory (2006-2008) was assessed

Method: During the study period quinolone resistance amongst MDR strains increased from 6.3 (n:122) to 12% (n:223). 40 (9.3%) of the 426 quinolone resistant strains that were tested showed additional resistance to one or more of amikacin, kanamycin and capreomycin and were defined as XDR. To further study the XDR strains in our setting, these strains were genotyped using spoligotyping and 15 loci MIRU-VNTR.

Results: Spoligotyping of 23 strains showed 47% (n:11) belonged to the Central Asian strain (CAS) and 13% (n:3) to Beijing genotypes. MIRU-VNTR analysis did not reveal clustering thus suggesting greater possibility of acquisition rather than transmission of resistance. Given that prevalence of Beijing isolates in MTB strains overall in our population is reported at 3%, our data suggests greater representation on Beijing isolates amongst the XDR.

Conclusion: We hypothesize that Beijing genotype in our community appears to have a greater predisposition to acquiring resistance to second line agents.

Keywords: XDR-TB, Genotyping, Beijing Strains

7.35**DETECTION OF BFT, THE ISOFORMS OF THE ENTEROTOXIN GENE IN BACTEROIDES FRAGILIS AND DETERMINATION OF ITS FREQUENCY BY MULTIPLEX PCR ASSAY**

Muhammad Kamran¹, Furqan Kabir¹, Calvin S. Akhter¹, Anita K. Zaidi¹, Romena Qazi²

Departments of ¹Paediatrics & Child Health, and ²Pathology & Microbiology, Aga Khan University, Karachi

Background: Bacteroides fragilis anaerobic, gram-negative bacteria are commonly associated with bacteremia, infections of soft tissue, intra-abdomen and abscesses. Virulent strains of the B. fragilis, termed as enterotoxigenic B. fragilis (ETBF) particularly produce a zinc-dependent metallo-protease, enterotoxin coded by the bft gene. So far, three different isoforms (bft-1, bft-2, and bft-3) have been identified. This protein has enterotoxic activity and epidemiological studies worldwide note a significant correlation between ETBF and human diarrheal disease, especially in children.

Aims and Methods: The aim of this study was to develop a sensitive and specific multiplex PCR assay for the detection of ETBF directly from faeces & investigate ETBF associated cases of community-acquired diarrhea in Pakistan. DNA from stool specimens (n, 211) was extracted using the QIAamp kit (Qiagen). Specific primers were used to detect three isoforms of bft genes by multiplex PCR.

Results: The multiplex PCR assay was highly specific for ETBF and allowed detection without the need for culture. This is the first report of ETBF in community-acquired diarrhea in Pakistan. The incidence of enterotoxigenic B. fragilis was 12% (25/211). Of these bft-1 was 64% (16/25) & bft-3 was 36% (9/25). The finding of ETBF in a high proportion (12%) of samples merits further investigation of this pathogen.

Keywords: Bacteroides Fragilis, Enterotoxin, Multiplex PCR

7.36**CONTINUOUS AMBULATORY PERITONEAL DIALYSIS (CAPD) ASSOCIATED PERITONITIS IN A CHILD: A RARE CASE OF PERITONITIS CAUSED BY SPHINGOMONOUS PAUCIMOBILIS**

Arwa Quresh Tambawala¹, Sadaf Hamid², Iqtidar Khan³, Asad Ali³

¹Alumni, ²Medical College, ³Department of Paediatrics & Child Health, Aga Khan University, Karachi

Introduction: First identified in 1977 Sphingomonas Paucimobilis has emerged as an opportunistic human pathogen. It is a gram negative organism primarily known to cause a range of mostly nosocomial, non-life-threatening infections that typically are easily treated by antibiotic therapy. The natural habitat of this organism has not been totally defined but it is widely distributed in the environment especially in the water and soil and has also been recovered from hospital environments. Sources of its isolation linked to clinical disease include blood, spinal fluid and leg ulcers. It has also been

reported as a rare cause of peritonitis in patients on continuous ambulatory peritoneal dialysis. We present a case of child with peritonitis due to this organism. Clinical features, bacteriology, treatment options and response have been discussed.

Keywords: Sphingomonas Paucimobilis, CAPD, Peritonitis

7.38**CHARACTERIZATION OF DRUG RESISTANCE GENES OF EXTENSIVELY DRUG-RESISTANT MYCOBACTERIUM TUBERCULOSIS CLINICAL ISOLATES IN PAKISTAN**

Rumina Hasan¹, Asho Ali², Nusrat Jabeen¹, Yasraba Rafiq¹, Zahra Hasan¹

Department of Pathology & Microbiology, and ²Nursing Education Services, Aga Khan University, Karachi

Background: Pakistan has a tuberculosis (TB) incidence rate of 181/ 100,000 annually. Diagnosis and treatment of TB is further complicated globally by emergence of extensively drug-resistant tuberculosis (XDR-TB), showing extensive resistance to second-line anti-TB drugs in addition to resistance to isoniazid and rifampicin (MDR-TB). Previous studies have attributed resistance to rifampicin due to mutations in the rpoB gene; resistance to isoniazid mainly due to mutations in katG codon 315; resistance to amikacin, kanamycin and capreomycin due to mutations in the ribosomal gene rrs; and resistance to fluoroquinolones due to mutations in gyr A and gyrB genes.

Methods: We investigated mutations in XDR TB strains which were received at the Aga Khan University Hospital Clinical Laboratory during the period 2006-2009. These 35 clinical MTB strains were subjected to PCR sequencing for 'hot spot' target regions in rpoB, katG, rrs and gyrA. DNA sequences obtained for clinical strains were compared with those of wild type M. tuberculosis H37Rv.

Results: Predominant mutations were found in: rpoB codons 531 (63%) and 516 (31%); katG codon 315 (89%); rrs nucleotide 1401 (69%). Strains had gyrA mutations at codons 94 (66%), 90 (23%) and 91 (3%).

Conclusion: Identification of predominant mutations in XDR-MTB clinical isolates will aid the development of rapid drug susceptibility testing of strains and therefore improve case detection and screening.

Keywords: Tuberculosis, Resistance, XDR

7.39

INCREASED OCCURRENCE OF RD 152 DELETIONS IN MYCOBACTERIUM TUBERCULOSIS CENTRAL ASIAN STRAINS 1 (CAS1) FROM PULMONARY SOURCES

Akbar Kanji, Zahra Hasan, Mahnaz Tanveer, Rabia Ali, Rumina Hasan
Department of Pathology & Microbiology, Aga Khan University, Karachi

Background: Pakistan ranks 8th amongst high tuberculosis burdened countries. Mycobacterium tuberculosis (MTB) Central Asian Strain (CAS) family comprise 44% of isolates in Pakistan. Mycobacterium have genomic deletions called large sequence polymorphisms (LSPs) or Region of Differences (RDs). The RD deletions vary in size from 0.2 kb to 11.5 kb and some of them have been shown to be associated with mycobacterial virulence. We investigated the frequency of deletions in RD105, RD142, RD150, RD181, RD149, RD152, RD207 and RD750 in clinical isolates belonging to CAS1, CAS subfamilies and Non-CAS MTB strains. **Methods** We studied 235 previously spoligotyped MTB strains including; CAS1 (n=133), CAS subfamilies (n=38) and Non-CAS strains (n=64). A PCR based RD deletion detection method was used for RD105, RD142, RD150, RD181, RD149, RD152, RD207 and RD750 regions using sequence specific primers. **Results** CAS1 strains were predominant amongst pulmonary isolates. CAS1 strains from pulmonary sources were found to have significantly greater RD152 deletions as compared with pulmonary CAS subfamily (p=0.01) and Non CAS strains (p<0.001). The pulmonary CAS1 strains also showed greater concurrent RD149 and RD152 deletions as compared with pulmonary CAS subfamily (p=0.002) and Non CAS strains (p<0.001). Extrapulmonary CAS1 strains had fewer RD152 deletions as compared with extrapulmonary CAS subfamily (p=0.036) and Non CAS (p=0.01). **Conclusions** Increased RD152 and concurrent RD149 and RD152 deletions in MTB CAS1 strains were associated with strains from pulmonary sources. As the extrapulmonary isolates had reduced RD152 occurrence this may suggest that the presence of RD152 deletions may support greater localisation to pulmonary sites.

Keywords: Tuberculosis, Pulmonary, Genomic Deletions

7.40

ENVIRONMENTAL RISK FACTORS FOR DIARRHEA ASSOCIATED WITH AEROMONAS SPECIES IN CHILDREN LESS THAN 5 YEARS OF AGE IN KARACHI: A MATCHED CASE CONTROL STUDY

Farah Qamar¹, Anita Zaidi¹, Rehana Siddiqui², Seema Irfan³, Shaheena Bashir²
Departments of ¹Paediatrics & Child Health, ²Community Health Sciences, ³Pathology & Microbiology, Aga Khan University, Karachi

Objective: • To determine the environmental risk factors for diarrhea associated with Aeromonas species in children between 0-59 months of age in Karachi, from January 2008

to march 2010 . • To perform water culture in a subset of the sample to determine the relationship between environmental and disease causing species of Aeromonas in our population. **Methodology:** A community based, matched case control study in children aged 0 to 59 months of age with moderate-to-severe acute watery diarrhea or dysentery. This study is a part of an ongoing study GEMS, (Gates enteric multi center study), started in January 2008 and will continue till March 2010, at four sites, Ibrahim Hyderi, Rehri Goth, Bhains Colony, and Ali Akbar Shah Goth. Cases are recruited at the PHC centers if pre-defined symptoms are present. Stool samples are collected and processed according to the GEMS protocol. Children with diarrhea whose stool culture grows Aeromonas are enrolled as cases. Neighborhood, age and sex matched controls are selected. A sample size of 137 in each group is needed. The ratio of cases to controls will be 1:2. A questionnaire is administered to cases and controls to collect information regarding exposures to possible sources of Aeromonas in the environment. Samples of drinking water are collected from cases and controls. These samples are cultured for the presence and speciation of Aeromonas. **Results:** Environmental risk factors associated with diarrhea due to Aeromonas will be determined by comparing frequencies of occurrence of among cases and controls. The frequency of isolation of pathogenic strains of Aeromonas in samples of drinking water of cases and controls will be determined. The association of Aeromonas species with environmental factors will determined by Conditional Logistic regression. **Conclusion:** The role of Aeromonas species as potential enteric pathogens and environmental risk factors associated with Aeromonas-associated diarrhea will be delineated through this study.

Keywords: Aeromonas, Diarrhea, Children

7.41

AURICULAR PERICHONDRIITIS

Farah Qamar¹, Naima Butt², Anita Zaidi¹
¹Department of Paediatrics & Child Health and ²Medical College, Aga Khan University, Karachi

Introduction: This is a case of a 9 year old girl who presented with pain, redness and swelling of the left ear for 20 days. She was treated with oral cefixime and an incision and drainage was performed in a private hospital and cultures were sent. The swelling and redness persisted and so she was brought to the emergency department of Aga Khan University Hospital, where she was admitted. There were no comorbidities. Rest of the history was unremarkable. She was a well looking child of good height and weight. Her left ear was red and swollen and seemed to be standing out on initial examination. Two thirds of the upper part of her auricle was swollen, red, and tender. The lobule (which does not contain cartilage) was intact. There was no visible pus and a healing scar of previous incision and drainage was visible in the upper part of left ear. The Pus grew Pseudomonas aeruginosa and the child was started on IV piperacillin and tazobactam. After 14 days of IV antibiotics, she was discharged on oral ciprofloxacin for 2 weeks and followed up in clinic. On follow up the patient

was improving, the redness had decreased and there were no complications.

Conclusion: Perichondritis is an infection of the cartilage of the pinna. It mostly follows trauma or surgery of the ear. Commonest causative agent is *Pseudomonas aeruginosa*. Early diagnosis and proper treatment with adequate antimicrobials is important. Treatment options range from intravenous antibiotics to surgery depending upon the severity of the disease.

Keywords: Perichondritis, Auricular, *Pseudomonas*

7.42

COMPARATIVE STUDY OF ROTAVIRUS DETECTION BY ELISA AND PCR

Tayyab-un-Nisa¹, Romena Qazi², Fatima Aziz¹, Abida Rais¹
Department of ¹Paediatrics & Child Health, ²Pathology & Microbiology, Aga Khan University, Karachi

Background: Rotavirus gastroenteritis is the major cause of severe dehydrating diarrhea in infants and young children and causes death of over 600,000 children under 5 years of age annually worldwide. Diarrhea accounts for 11% of mortality in children <5 years, making it a leading cause of death in children in Pakistan.

Study Design: We aimed to compare the sensitivity of RT-PCR & ELISA in detecting rotavirus (RV) to omit any miss rate in our setting. A total of 156 specimens were randomly selected from a case control study of Global Enteric Multicenter Study (GEMS) and subjected to both ELISA & RT-PCR to compare the percent positivity of RV.

Results and Conclusion: Our data showed total 35% (54/155) rotavirus positivity. Of this significant number of samples were found positive by PCR 21% (32/155) and only 9% (14/155) were detected by ELISA whereas 4% (7/155) were picked up by both techniques. It was also noted that PCR detected rotavirus in both cases (n=14) and controls (n=18). This shows that controls can have rotavirus in their stools which can only be picked by sensitive technique like PCR and not ELISA. Our results clearly demonstrate that PCR is a twice as sensitive than ELISA for detection of rotavirus.

Keywords: Rota Virus, ELISA, PCR

7.43

A PRELIMINARY STUDY OF ADENOVIRUS ASSOCIATED GASTROENTERITIS IN CHILDREN UNDER FIVE YEARS OF AGE

Tayyab-un-Nisa¹, Abida Rais¹, Shahida M. Qureshi¹, Romena Qazi²
Departments of ¹Paediatrics & Child Health, and ²Pathology & Microbiology, Aga Khan University, Karachi

Background: Adenovirus is the 2nd most common etiologic agent after Rotavirus to cause acute childhood gastroenteritis. Remains asymptomatic or cause mild illness in older children. Like other gastro viruses it transmitted from person to person

by fecal-oral transmission of contaminated food and water. The most common enteric adenovirus types associated with two thirds of diarrheal disease in young children are 40 & 41. Several reports have appeared implicating adenoviruses in mesenteric adenitis and intussusceptions of the gut. Study: We evaluated 1562 stool specimens selected from Global Enteric Multicenter Study (GEMS) for the presence of adenovirus by ELISA. Subsequently, adenovirus positive samples were further classified into subtypes 40/41 in both children with and without diarrhea.

Results: Adenovirus was found in 3% (40/1562) of total specimens. Of these 23(58%) were positive for types 40/41 adenovirus. Further stratification of type 40/41 positive samples into cases and controls showed that the incidence of type 40/41 was significantly more in cases 43% (17/40) as compared to controls 15% (6/40).

Conclusion: Our data suggests that adenovirus 40/41 is the major serotype among young children with adenovirus associated diarrhea. Whether other adenovirus serotypes are involved in causing diarrhea in type 40/41 negative children less than 5 years of age needs to be further investigated.

Keywords: Adeno Virus, Adeno40/41, ELISA

7.44

PLASMODIUM VIVAX MEROZOITE SURFACE PROTEIN 1(MSP-1) FRAGMENT 1 DIVERSITY AND ITS ASSOCIATION WITH SPECIFIC HEMATOLOGICAL PARAMETERS

Sana Ahmad, Afsheen Raza, Najia Ghanchi, Sana Jafri, M. Asim Beg
Department of Pathology & Microbiology, Aga Khan University, Karachi

Objective/Background: Plasmodium vivax is the second most prevalent malarial species, estimated to infect 75 million people annually. However, very limited molecular epidemiological data on this Plasmodium species is available in Pakistan. We amplified the 1st fragment of a highly polymorphic gene, Pvmsp1, in order to validate its suitability as a genetic marker. This fragment ranged between 350–450 base pairs and located at variable block 2. Objective: To examine the genetic diversity of P.vivax isolates from the two Southern provinces of Pakistan (Baluchistan & Sind) on the basis of fragment1 variants of Pvmsp1.

Method: A total of 135 blood samples representing positivity for P.vivax malaria infection were collected during 2008-2009. Qaigen kit was utilized to perform DNA extraction, followed by gene amplification using nested PCR methodology. Products were analyzed on agarose gel by electrophoresis and assorted into various allelic groups according to their base pair sizes. This data was then correlated with the patients' hematological characteristics (HB, WBC and platelets values) to detect a relationship of each distinctive allelic group with specific hematological parameters.

Results: Pvmsp1F1 strains of P.vivax are genetically diverse in Pakistan; we categorized them into 13 different allelic groups, amongst which 4 groups (bF1, cF1, dF1 and eF1) were dominated in frequency. Out of 135 patients, 94 were

infected by these dominant allelic strains (25 females, 69 males). And the average Hb, WBC and platelet counts were observed as 12.18 gm/dl, 6.70x10E9/L and 91.60x10E9/L respectively. Statistical analysis was done using Mann-Whitney U test ($p>0.05$) and no significant association of allelic groups ($p>0.05$) with the hematological parameters was determined.

Conclusion: Data from this study shows that Pvmsp1F1 is a reliable genetic marker. However, no correlation between allelic groups and the hematological characteristics was observed.

Keywords: Plasmodium, Vivax, Pvmsp1F1, Diversity

7.45

IDENTIFICATION OF IMMUNODOMINANT EPITOPES WITHIN "F" PROTEIN OF HEPATITIS C VIRUS

Humaira H. Qureshi¹, Sohail A. Qureshi¹, Romena Qazi², Saeed Hamid³

Departments of¹Biological & Biomedical Sciences, ²Pathology & Microbiology, and ³Medicine, Aga Khan University, Karachi

Background: In Pakistan the prevalence of HCV is approximately 6.5% with genotype-3 being most predominant. The 9.6 kb linear ssRNA genome of HCV encodes 10 proteins, but an eleventh protein called alternate reading frame protein (ARFP; also known as F) is also produced due to a +1 frame shift in the reading frame of the core gene. This 160 amino acid protein is capable of inducing an immune response as sera of HCV patients contain anti-F antibodies. Although F is expressed in HCV infected patients, its function remains unknown.

Objective: The aim of this study is to identify discrete regions within the F protein that evoke strong immunological responses.

Methodology: F encoding gene was PCR amplified, cloned and expressed in bacteria. The purified protein was then used as antigen in enzyme linked immunosorbent assays (ELISAs) which were developed in-house and optimized using sera from genotype-3 infected patients. A series of peptides spanning the entire F protein were synthesized and used in ELISAs. Peptides corresponding to core region were also included in the study as controls.

Results: Our experiments demonstrate that F protein elicits a strong immunological response in genotype 3 chronic HCV patients. From the 20 peptides which were screened we found that peptide F7 (DSLSPRRAGAKAGPGLSPGT) of F protein and peptide C3 (NVKFPGGGQIVGGVYVLP RR) of core protein evoked the strongest immune responses.

Conclusion: Since both F7 and C3 peptides elicit strong immune response they may be useful for diagnostic purposes and/or as immunoprophylactic agents that might protect healthy individuals from HCV infection.

Keywords: Hepatitis C Virus, Alternate Reading Frame Protein, Genotype 3

7.48

SPONTANEOUS ENTEROCUTANEOUS FISTULA IN A GIRL WITH ABDOMINAL TUBERCULOSIS: A CASE REPORT

Lakhani Madiha¹, Alvi² Abdul Rehman

¹Medical College and ²Department of Surgery, Aga Khan University, Karachi

Introduction: As of today tuberculosis is killing 1.3 million people every year. A major hurdle in its effective control is the fact that our understanding of this disease remains elusive.

Case History: This is the story of an 18 yr old girl who initially suffered from abdominal pain. CT scan done at that time revealed ascites, thickened bowel loops and multiple lymphadenopathy whereas ultrasound showed subphrenic abscess and right pleural effusion. A cervical lymph node biopsy was done which revealed tuberculosis and being diagnosed as a case of abdominal tuberculosis, she was started on antituberculous therapy. As the girl continued to have abdominal pain, GI endoscopy was done. Polypoidal growth was seen in descending colon and the scope could not be negotiated past this. About three months after this, she came to our hospital with the complain of a discharging wound and fever for four days. It was located in the supraumbilical region with purulent discharge. A provisional diagnosis of intrabdominal abscess was made. A CT scan abdomen with intravenous contrast was done which revealed an 14 x 7 cm collection communicating with anterior abdominal wall subcutaneously along with pockets of free air in the anterior abdominal wall. It communicated posteriorly with transverse colon. Under local anaesthesia, about 100cc of feculant material was drained. A corrugated drain was left in the abscess cavity, stoma bag applied and the patient discharged.

Conclusion: Intestinal tuberculosis can surprise physicians with rare complications, such as enterocutaneous fistula. This disease requires maximum vigilance.

Keywords: Tuberculosis, Enterocutaneous Fistula, Complication

7.49

HOW ACCURATE IS A CHEST X-RAY DIAGNOSIS OF TB? LIKELIHOOD RATIOS TELL A DIFFERENT STORY

Nawal Salahuddin¹, Shereen Khan², Muhammad Talha Khan¹, Mohammad Kashif Ashraf³, Farah Naz⁴, Rashida Ahmed⁵, Saulat H. Fatimi⁶

⁴Medical College, Departments of¹Medicine, ³Pathology & Microbiology, ⁶Surgery, Aga Khan University, Karachi, ²Bolan Medical College and ³Dow University of Health Sciences, Karachi

Objective/Introduction: Physicians practicing in areas with high prevalence of Tuberculosis may use that as a justification to initiate empiric antituberculous therapy in patients presenting with an abnormal chest radiograph. Though this practice may be appropriate in some patients it carries a risk of inducing secondary drug resistance. In this study we attempted to

determine the probability of TB in patients presenting with bilateral, hilar lymphadenopathy (BHL). Predictive accuracy was assessed against histopathology.

Method: Biopsy specimens of mediastinal lymph nodes, received between January 2000–December 2005 were reviewed. Specimens from patients without systemic symptoms (weight loss, night sweats, and fevers) were included in the final sample.

Results: 2500 patients were reviewed, 759 patients were included in the final analysis. Mean age of patients was 45.8 ±12.4 years. 259 patients presented with symmetric, bilateral hilar lymphadenopathy; 83 had TB, 167 had Sarcoidosis and 9 had miscellaneous conditions. Positive Likelihood ratio for TB was 0.37 (a 30% chance of actually having TB), with an approximate post test probability of 25%. For Sarcoidosis the Positive LR was 2 (asymptomatic individuals presenting to AKU with a finding of symmetrical hilar lymphadenopathy are 2 times as likely to have the disease than those who do not have the finding on chest x ray.), with a post test probability of 70%.

Conclusion: Our results indicate that the empiric treatment of TB based on BHL can lead to the erroneous use of ATT, which is a recognized risk factor for inducing drug resistance in a community.

Keywords: TB, Chest X Rays, Pakistan

7.50

DRUG RESISTANT TB CONTROL BY TARGETING A PHYSICIAN PROFILE THAT IDENTIFIES KNOWLEDGE AND PRACTICE DEFICIENCIES: RESULTS OF A CROSS-SECTIONAL SURVEY

Nawal Salahuddin¹, Sadaf Ausaf¹, Nisar Rao², Masooma Aqeel¹
¹Department of Medicine Aga Khan University and ²Ojha Institute, Karachi

Objective: Drug resistant Tuberculosis; is a crisis created by poorly administered, partially effective drug therapy. Resistance rates in Pakistan are between 10 - 28% and 47.6 - 69% for primary and secondary drug resistance. The National TB Control Program has identified poor integration of TB control programs with primary care services as a major cause of drug resistant TB. We carried out this study to identify a physician profile whose knowledge and practice deficiencies are risk factors for drug resistant TB and which can then be specifically targeted for educational efforts.

Method: A questionnaire-based, Cross-sectional, prospective study that enrolled physicians from AKUH, Ojha Institute, Civil Hospital, Indus Hospital and private clinics, from January – March 2009. Regression models were used to adjust for contributions of years of practice, DOTS program association, age and TB patients seen per month to a Median Knowledge Score.

Results: 163 physicians were included; 65 (40%) General Physicians, 58 (35%) residents and 42 (26%) specialists. Only 110 (67%) could appropriately monitor patients on treatment and less than half could correctly identify risk factors for drug resistant TB. 87 respondents (53%) could trace TB contacts, whilst 71 (44%) and 100 (61%) respondents respectively

could neither recognize nor manage latent TB. On questions on therapy of TB, less than 50% respondents answered correctly. Univariate regression revealed a significant association between a Knowledge Score greater than 13 and enrollment in a DOTS program (Odds ratio 0.20, 95% CI 0.1, 0.4), age greater than 35 years (Odds ratio 5.6, 95% CI 2.7, 11.8) and years- of -practice (Odds ratio 2.58, 95% CI 1.1, 7.2). On multivariate analysis, Enrollment in a DOTS program (OR 2.04, 95% CI 1.05, 3.9) and being in practice for less than 20 years (OR 0.23, 95% CI 0.08, 0.68) were significantly associated with a higher knowledge score. *Conclusion:* The greatest knowledge deficiencies exist in physicians established in practice for over twenty years and not involved in a DOTS program. Developing programs that specifically address this group will have the highest impact.

Keywords: Drug Resistant TB, Pakistan, Education

7.51

CONJUNCTIVAL FLORA AND CONJUNCTIVITIS DURING FIRST 7 DAYS OF LIFE IN BABIES BORN TO MOTHERS WITH PROLONGED LABOR: A PROSPECTIVE COHORT STUDY

Jaishri Mehraj¹, Sarah Saleem², Syed Iqbal Azam², Nadeem Zuberi³, M. Rafiq Khanani⁴
Departments of ¹Pathology & Microbiology, ²Community Health Sciences, ³Obstetrics & Gynaecology, Aga Khan University, ⁴Dow University of Health Sciences, Karachi

Objective: To determine the incidence of conjunctival flora carriage and incidence rate of conjunctivitis in babies born to mothers with prolonged labor.

Method: Women presenting to deliver in obstetrics wards of two tertiary care hospitals of Karachi were screened for eligibility criteria which included women having singleton baby, with vertex presentation, to be delivered vaginally or only with emergency caesarean section. Women with intrauterine death and non residents of Karachi were excluded. A total of 205 women were recruited in the study. Conjunctival swabs from right eye of new born were taken immediately at birth, and these babies were then followed on day 7 at their homes to observe the development of conjunctivitis. *Results:* Cumulative incidence of conjunctival flora in conjunctival swab was 34% (95%CI: 27.48-40.52) and most common microorganisms observed were E. coli and Staphylococcus species. Risk of presence of conjunctival flora was not different (ARR=1.26; 95% CI: 0.75-2.14) in babies born to mothers without prolonged labor and those born to mothers with prolonged labor. Other variables found associated with increased incidence of conjunctival flora carriage are multiparity and receiving antenatal care during pregnancy. Incidence rate of conjunctivitis in newborns was found 12.23 per year (95% CI: 9.0-16.31). Hazard ratio of conjunctival infection in babies of mother with prolonged labor during first week of life was 0.94 (95%CI: 0.41-2.17). Number of vaginal examinations during labor, presence of conjunctival flora in culture and lack of antenatal care during pregnancy were found associated with the development of conjunctivitis.

Conclusion: Incidence of conjunctival flora carriage and conjunctivitis are high but risk is not more in babies of mothers with prolonged labor. However risk of infection can be curtailed by reducing the practice of number of vaginal examination during delivery and encouraging antenatal care during pregnancy.

Keywords: Conjunctivitis, Pediatrics, Prolonged Labor

7.52

KNOWLEDGE, ATTITUDES AND PRACTICES ABOUT ADULT IMMUNIZATION AMONG ADULT PATIENTS VISITING FAMILY PHYSICIANS IN A TEACHING HOSPITAL OF KARACHI, PAKISTAN

Samar Zaki¹, Waris Qidwai¹, Mohammad Fahadullah², Sikander Ali², Huzair Ali Khwaja³

¹Department of Family Medicine, ³Medical College, Aga Khan University and ²Dow University of Health Sciences, Karachi

Objective: To assess knowledge, attitude and practices about adult immunization among adult patients visiting family physicians.

Methods: A questionnaire based cross-sectional survey was conducted at the Family Practice Center, Aga Khan University Hospital, Karachi, Pakistan, in November and December, 2009. The questionnaire included the demographic profile of the patients and questions regarding knowledge, attitudes and practices about adult immunization. The questionnaire was administered by the study investigators to the adult patients visiting family practice clinics. Ethical consideration including administration of written informed consent and confidentiality were ensured.

Results: A total of 300 patients were interviewed, of which 52% (n=157) were males. The mean age was 40 years. 56% (160) of the patients had graduate qualification. 70% (n=220) of patients had one or more comorbid disease. 74% (n=224) of patients knew that certain vaccines can be given to adults to prevent disease but only 46% (n=138) of the patients had received any vaccine during adulthood. Regarding the availability of vaccines, only 33% (n=99) of the patients knew that vaccine is available against meningitis, 37% (n=112) of patients knew about pneumococcal vaccine and 38% (n=116) knew about availability of varicella vaccine for adults. 42.7% (n=128) of the patients thought that vaccine is available for prevention of malaria. 81% (n=242) of the patients wanted to have an awareness session and more information about adult immunization.

Conclusion: This study concludes that there is need for more appropriate and comprehensive health education regarding indications, importance and availability of adult immunization.

Keywords: Adult Immunization, Awareness, Prevention

7.53

SIMPLIFIED ANTIBIOTIC REGIMENS FOR THE MANAGEMENT OF SEPSIS IN YOUNG INFANTS IN FIRST LEVEL FACILITIES: RANDOMIZED CONTROLLED TRIAL

Anita Zaidi, Shiyam Sundar, Nida Siddiqui, Salim Allana
Department of Paediatrics & Child Health, Aga Khan University, Karachi

Introduction: According to WHO neonatal deaths account for 35% of under 5 mortality. 26% of the neonatal deaths is attributed to neonatal sepsis. Most neonatal deaths in developing countries occur at home. Thus there is strong rationale for the development of simple management and referral guidelines for common life-threatening infections that can be applied in community and first-level facility settings.

Objective: To determine effect of IM procaine penicillin and gentamicin (reference therapy) is equivalent to IM gentamicin once daily and oral amoxicillin twice daily or IM procaine penicillin and gentamicin once daily for 2 days, followed by oral amoxicillin twice daily for 5 days in management of sepsis.

Study Design: Randomized equivalence trial
Study duration: 3.5 years
Setting: 5 peri-urban areas of Karachi
Subjects: Young infants, 0-59 days of age, diagnosed as having possible serious bacterial infection. **Sample size:** Approx 880 children into each arm

Result: The pilot was conducted from 2-24 Dec 2009. Total enrolments in the pilot phase were 16. Out of those 16, 15 completed the study (i.e. they were followed up to 14 days) and there was 1 lost to follow up. Among those 15 babies 11 were per protocol treatment successes, 1 was non-per protocol treatment success, 1 baby had a relapse on day 14 and there were 2 per protocol treatment failures.

Conclusion: At the end of the study it can be assessed that the 2 therapies evaluated in this trial are as effective as the reference therapy treatment of neonatal sepsis or not.

Keywords: Neonatal, Sepsis, Trial

7.54

EMPLOYING REVERSE TRANSCRIPTASE MEDIATED POLYMERASE CHAIN REACTION (RT-PCR) TO DETECT INFECTIONS ASTROVIRUS, NOROVIRUS & SAPOVIRUS

Sana Ayaz¹, Romena Qazi², Mehvish Iqbal¹, Rizwana B. Nasim¹, Shahida Qureshi¹, Anita Zaidi
Departments of ¹Paediatrics & Child Health, and ²Pathology & Microbiology, Aga Khan University, Karachi

Background: Gastroenteritis is a significant cause of morbidity and mortality all over the world. Diarrheal diseases are mostly due to infections including viral, bacterial and protozoan organisms but the vast majority of cases are due to viral infections. Norovirus (NVGI and NVGII), sapovirus (SV), and human Astrovirus (HAstV) are the most important causes of gastroenteritis in infants and young children. **Methods:** This study investigates the prevalence of NV, SV and HAstV

infections in children of a general cohort study in Karachi, Pakistan from Jan 2009 to June 2009. Fecal specimens were tested for NV, SV, and HAstV by reverse transcription polymerase chain reaction (RT-PCR) using specific primers. Results: From 904 fecal specimens tested, 11% (97/904) were positive for NV, SV, and HAstV. Of these, NV was most predominant; with a prevalence of 6% (6/97), of which 5% were NVGII and 1% were NVGI. SV was detected at 2%, while HAstV was detected 2.4%. Conclusion: These findings suggest that NV, SV and HAstV are important enteric viruses causing gastroenteritis among children of our community.

Keywords: Gastroenteritis, Enteric Viruses, General Cohort Study

7.55

DECAPLEX PCR METHOD: A RAPID METHOD TO IDENTIFY SIX PATHOTYPES OF DIARRHEAGENIC ESCHERICHIA COLI

Mehvish Iqbal¹, Romena Qazi², Rizwana B Nasim¹, Fatima Aziz¹, Shahida Qureshi¹, Anita Zaidi¹
Departments of ¹Paediatrics & Child Health, and ²Pathology & Microbiology, Aga Khan University, Karachi

Introduction: Diarrheagenic Escherichia coli (DEC) is most important among the bacterial causes of childhood diarrhea and represent a major public health problem. DEC are divided into six different categories on the basis of their distinct pathogenic scheme. We optimized and tested a single multiplex polymerase chain reaction (PCR) for the detection of ten different virulence genes of six DEC pathotypes including enterotoxigenic (ETEC), enteropathogenic (EPEC), enteroaggregative (EAEC), enterohemorrhagic (EHEC), enteroinvasive (EIEC), and diffuse adherent (DAEC) E.coli. The decaplex PCR is validated with reference control strains, and tested with 150 diarrheal stool samples out of which 30 ETEC (20%), 15 EPEC (10%), 4 EAEC (2.6%) and 2 DAEC (1%) were found positive. This rapid, reliable and efficient multiplex PCR method can be used to establish the incidence of Diarrheagenic E.coli in larger, controlled and prospective epidemiological studies of human diarrhea.

Keywords: Multiplex PCR, Diarrheagenic Escherichia coli, Virulence Genes

7.56

ASSOCIATION OF TYPICAL AND ATYPICAL ENTEROPATHOGENIC E.COLI WITH DIARRHEA: A COMPARATIVE STUDY

Mehvish Iqbal¹, Rizwana B. Nasim¹, Sana Ayaz¹, Romena Qazi², Shahida Qureshi¹, Anita Zaidi¹
Departments of ¹Paediatrics & Child Health, and ²Pathology & Microbiology, Aga Khan University, Karachi

Background: Enteropathogenic Escherichia coli (EPEC) is one of the leading causes of infantile diarrhea in developing

countries. EPEC is divided into two subtypes on the basis of their different genetic characteristic, serotype and virulence properties. The atypical EPEC has eae gene that encodes intimin protein, responsible for binding between bacteria and intestinal membrane. EPEC strains harbouring the EAF (EPEC adherence factor) plasmid are classified as Typical EPEC. EAF carry bfp genes that encodes bundle forming pili (BFP), a fimbrial adhesin that is a virulent determinant of typical EPEC.

Objective: Our aim was to detect the incidence of typical and atypical EPEC associated diarrhea in children <5 years of age.

Method: DNA was extracted from of 881 diarrheal stool samples randomly selected from community field sites of Zn-Gates study and were subjected to multiplex PCR. The primer pairs spanned eae and bfp genes.

Result: The incidence of EPEC infection was 12% (103/881). Among these atypical EPEC (eae+) was 30% (31/103) whereas typical EPEC was 70% (72/103) of which eae+bfp+ were 92% (66/72) and bfp+ were 6/72 (8%).

Conclusion: Both atypical and typical EPEC are virulent and cause diarrhea but occurrence of diarrhea more than doubles with typical EPEC due to the presence of EAF virulence plasmid.

Keywords: Enteropathogenic E.coli, EPEC Adherence Factor, Diarrhea

7.57

DOES VITAMIN D DEFICIENCY INFLUENCE TUBERCULOSIS SEVERITY? PRELIMINARY RESULTS FROM THE SUCCINT TRIAL

Masooma Aqeel¹, Fasih ur Rehman², Farooq Oighor², Nawal Salahuddin², Nisar Rao, Zahra Hasan², Faisal Mahmood², Mehreen Tezoon³, Farheen Ali²
¹Alumni, ²Medicine, and ³Medical College, Aga Khan University, Karachi

Introduction: Vitamin D deficiency may affect the progression of Mycobacterium tuberculosis infection to disease. We present initial data from the SUCCINT Trial where we attempted to identify an association between lower levels of vitamin D and severity of pulmonary TB. In a prospective, randomized clinical trial on consecutive adults, with Category I pulmonary TB, baseline serum vitamin D levels and clinical assessments were collected. Correlational analysis for continuous variables) and Chi square testing for categorical variables was carried out. Of the 131 patients included 74 (56.5%) were males with an average age of 30.7 ± 15.9 years and a mean BMI of 17.3 ± 2.5. Mean Vitamin D level was 26.16 ± 8.3 ng/ml with 34 (26%) patients having optimal (> 30 ng/ml), 65 (49.6%) with insufficient (20-30 ng/ml), and 29 (22.1%) with deficient serum measurements (<20 ng/ml). Mean Clinical severity score was 6.90 ± 2.27. 65 patients (49.6%) had +3 AFB sputum smear positivity, 72 patients (55%) had radiographically 'Far Advanced' disease; with 53 (40.5%) having cavities = 4cm and 18 (13.7%) patients with all 6 lung zones involved. There was no significant correlations found between serum vitamin D levels and TB severity scores, chest X ray involvement; number of zones, cavity size, sputum microbial load (Pearson

correlation coefficients - 0.067, p 0.450, Chi square p 0.69, 0.851). While vitamin D deficiency may increase the risk of acquiring active tuberculosis, our results suggest that there may not be a relationship between severity of ultimate disease and serum levels of vitamin D.

Keywords: TB, VITAMIN D, SEVERITY Score

7.58

RAPID DETECTION OF THREE MAJOR CAUSATIVE PATHOGENS FOR THE DIAGNOSIS OF BACTERIAL MENINGITIS BY REAL-TIME PCR

Furqan Kabir, Fatima Aziz, Syed Mohiuddin, Shahida M. Qureshi
Department of Paediatrics & Child Health, Aga Khan University, Karachi

Background: Respiratory infections kill nearly 2 million children aged <5 years each year. 150 million experience pneumonia and 11-20 million require hospitalization. UNICEF suggests that *Streptococcus Pneumoniae* (StrP) and *Haemophilus influenzae* type b (Hib) accounts for approx. 1 million deaths among children <5 yr of age per year. *Neisseria meningitidis* is also responsible for large epidemics with subsequent child deaths in many Western & African countries.

Methods: Real-time PCR was developed using published sequence specific and fluorescent-dye labeled probes spanning conserved regions (capsular regions such as Bex A, Lyt A & Ctr A) for Hib, StrP and *Neisseria meningitidis*, respectively. PCR was performed on DNA extracted from ninety seven cerebrospinal fluid (CSF) specimens of children aged <5 years. Data was divided into two groups (white blood cell counts <100/ml and >100/ml)

Results: Our data showed 28% (27/97) positivity for all 3 pathogens. The incidence of Hib was highest 48% (13/27) followed by StrP 44% (12/37) and *Neisseria meningitidis* 5% (2/37). Hib was higher in both groups and percent positivity was higher in samples with cell count <100/ml.

Conclusion: Our results suggest that real time PCR is rapid and reliable detection method as compared to LPA/LAT & culturing and that samples with cell count <100/ml should be included in study.

Keywords: Real Time PCR, LPA, Meningitis

7.60

ASSESSING THE NEED FOR TRAINING: GENERAL PRACTITIONER'S KNOWLEDGE ATTITUDE AND PRACTICE (KAP) CONCERNING DENGUE AND MALARIA IN KARACHI, PAKISTAN

Ali M. Thaver¹, Zain Sobani¹, Fahad Qazi², Maryam Khan, Afia Zafar³, M. Asim Beg³
¹Medical College, ²Alumni and ³Department of Pathology & Microbiology, Aga Khan University, Karachi

Objective: Changing environmental conditions have increased the transmission period for both dengue and malaria, it has been estimated that the annual incidence of malaria in 2006

alone was 247 million cases leading to nearly 881 000 deaths; whereas another 50 to 100 million infections of dengue were expected each year. In Pakistan like many developing nations with endemic malaria, an empirical clinical diagnosis is usually made, due to a lack of resources and availability of diagnostic facilities. Since both diseases are endemic in the same population and presenting symptoms are similar a thorough knowledge of both diseases is essential for their differentiation on clinical grounds. Our study aims were to evaluate the knowledge, attitudes and practices of family medicine practitioners regarding dengue and malaria thereby assess the need for further training.

Method: Ninety consenting general practitioners in different towns of Karachi, Pakistan were administered an extensive questionnaire regarding their knowledge, attitudes and practices on management of dengue and malaria. The questionnaire, designed under the guidance of the Dept. of Pathology and Microbiology, Aga Khan University, Karachi, consisted of 50 questions pertaining to the subject.

Conclusion: The authors concluded that despite possessing basic knowledge of the disease, a majority of general practitioners in the area needed training regarding clinical differentiation between dengue and malaria and their management.

Keywords: Malaria, Dengue, General Practitioners

7.62

COMPARISON OF ENTEROTOXIGENIC E COLI MONOPLEX AND MULTIPLEX PCR

Fatima Aziz¹, Tayyab un Nisa¹, Romena Qazi², Anita Zaidi¹
Departments of ¹Paediatrics & Child Health, ²Pathology and Microbiology, Aga Khan University, Karachi

Background: Most commonly found Diarrhegenic E.coli are enterotoxigenic (ETEC), Enteropathogenic (EPEC) and Enterotoxigenic (EAEC). ETEC contributes significantly in causing childhood diarrhea in the developing world with poor sanitation and unclean water. The virulent genes of ETEC used in molecular detection are heat stable (ST) and heat labile (LT) genes either alone or in combination.

Aim: To compare the efficiency of detecting ST gene in monoplex versus multiplex PCR. **Method:** Total of 150 stool samples were randomly selected from a case control study of Global Enteric Multicenter Study (GEMS). Two separate PCR reactions were set up; one with ST gene (monoplex) and other with six genes LT, ST (ETEC), eae, bfp (EPEC), aat, aac (EAEC) (multiplex).

Results: Multiplex PCR showed that the most prevalent Pathogen found in the community was EAEC 22% (33/150) with genes (aat 10/33 and aac 22/33) followed by ETEC 12% (18/150) with genes (LT 6/18 and ST 11/18) and EPEC 7% (11/150) with genes (eae 4/11 and 3/11). Some mixed infections were also observed. It was interesting to note that the detection of ST gene in both mono and multi-plex PCR was 8%.

Conclusion: Our data suggests that ST gene can be efficiently detected by both mono and multi-plex PCR.

Keywords: Multiplex PCR, Monoplex PCR, st Gene

7.63 SIMPLIFIED ANTI-BIOTIC REGIMENS FOR THE MANAGEMENT OF SEPSIS IN YOUNG INFANTS IN FIRST LEVEL FACILITIES: RANDOMIZED CONTROLLED TRIAL

Anita K M Zaidi, Shiyam Sundar, Nida Siddiqui, Salim Allana
Department of Paediatrics & Child Health, Aga Khan
University, Karachi

Introduction: According to WHO neonatal deaths account for 35% of under 5 mortality. 26% of the neonatal deaths is attributed to neonatal sepsis. Most neonatal deaths in developing countries occur at home. Thus there is strong rationale for the development of simple management and referral guidelines for common life-threatening infections that can be applied in community and first-level facility settings.

Objective: To determine effect of IM procaine penicillin and gentamicin (reference therapy) is equivalent to IM gentamicin once daily and oral amoxicillin twice daily or IM procaine penicillin and gentamicin once daily for 2 days, followed by oral amoxicillin twice daily for 5 days in management of sepsis.

Study Design: Randomized equivalence trial
Study duration: 3.5 years
Setting: 5 peri-urban areas of Karachi
Subjects: Young infants, 0-59 days of age, diagnosed as having possible serious bacterial infection.

Sample size: Approx 880 children into each arm
Result: The pilot was conducted from 2-24 Dec 2009. Total enrolments in the pilot phase were 16. Out of those 16, 15 completed the study (i.e. they were followed up to 14 days) and there was 1 lost to follow up. Among those 15 babies 11 were per protocol treatment successes, 1 was non-per protocol treatment success, 1 baby had a relapse on day 14 and there were 2 per protocol treatment failures.

Conclusion: At the end of the study it can be assessed that the 2 therapies evaluated in this trial are as effective as the reference therapy treatment of neonatal sepsis or not.

Keywords: Neonatal, Sepsis, Trial

7.64 COMPARATIVE EVALUATION OF REAL-TIME RT-PCR AND CONVENTIONAL RT-PCR FOR THE DETECTION OF NOROVIRUS IN CLINICAL SPECIMENS

Amna Alam¹, Anita Zaidi², Romena Qazi³, Sohail Qureshi¹
Departments of ¹Biological & Biomedical Sciences,
²Paediatrics & Child Health, ³Pathology & Microbiology,
Aga Khan University, Karachi

Objective: Norovirus (NV) is one of the major causative agents of viral gastroenteritis worldwide. Molecular biological approaches have been employed to develop robust and sensitive methods for detecting NV. RT-PCR becomes method of choice due to its high sensitivity as compared to ELISA or electron microscopy (EM). Establishment of various RT-PCR assays including multiplex assay (detecting several enteric pathogens in a tube simultaneously) reduces time, cost and labor but

sensitivity of assay is sometimes compromised. NV specific real-time RT-PCR assays accelerate the diagnosis of non-bacterial gastroenteritis in outbreaks and increase detection rate in samples that are EM, ELISA and conventional RT-PCR negative. We compared a one-step real-time RT-PCR with conventional RT-PCR (multiplex) to assess the clinical usefulness of these methods for detecting NV GI and GII from clinical stool specimens.

Method: In total, 260 specimens from case and control were randomly selected from stool archives of GEMS followed by RNA extraction. Extracted RNA was tested by conventional (multiplex) RT-PCR and one-step real-time RT-PCR assay.
Results: Real-time RT-PCR detected the highest number of NV positive samples (67/130) and (78/130) as compared to RT-PCR (14/130) and (17/130) in cases and controls, respectively. In comparison, NV GI real-time RT-PCR was found to be 19.2% and 15.4% as compared to conventional 6.1% and 4.6%, respectively; GII real-time was 33.3% and 44.6% as compared to conventional RT-PCR which was 4.6% and 8.5% in cases and controls respectively. Both types of assays were capable of differentiating between NV GI cases and controls.

Conclusion: This study demonstrates that real-time RT-PCR based assays have better sensitivity and rate of detecting NV in stool specimens than conventional PCR.

Keywords: Norovirus, Real Time RT-PCR, Conventional RT-PCR

7.65 COMPARATIVE ANALYSIS OF HEPATITIS B VIRUS DETECTION BY REAL TIME PCR AND SEROLOGY

Noman Ghufuran, Zahra Hasan, Romena Qazi
Department of Pathology & Microbiology, Aga Khan
University, Karachi

Objective: Hepatitis B virus is a DNA virus with a circular genome composed of partially double-stranded DNA. Hepatitis B virus (HBV) is a member of the Hepadnavirus family. Transmission of hepatitis B virus results from exposure to infectious blood or body fluids containing blood. The acute illness causes liver inflammation, vomiting, jaundice and death. Chronic hepatitis B may eventually cause liver cirrhosis and cancer. The present study carried out to evaluate the clinical significance of HBeAg (HBV Envelope Antigen) and ALT (Alanine Transaminase) in HBV DNA positive and negative cases.

Method: This study was conducted in the Aga Khan University Hospital Molecular Pathology section. In this Hepatitis B virus DNA was examined in randomly selected samples from (October-December 2009). Serum Samples (n=524) were analyzed by RoboGene Hepatitis B virus (HBV) Quantification Kit (Roboscreen, Germany) using CFX 96 (Real-time PCR system). HBV serology (HbeAg) was performed on Architect system (Abbot Laboratories, USA) and ALT performed on synchron (Abbot Laboratories, USA).

Results: Of 524 patients, 378 were males and 146 were females. Of these 156 were hepatitis B positive (126 Male, 30 Female) and 368 (287 Male, 87 Female) were negative for

HBV DNA. Out of 156 samples 136 patients were HbeAg positive (82% Male, 96% Female) and 20 patients are HbeAg non reactive but positive for HBV DNA. Of 136 patient 19 patients HbeAg positive ALT levels were available are 19 of which 32% have high amount of ALT and 68 % have normal ALT.

Conclusion: Detection of Hepatitis B Viral DNA is more sensitive method than HBV serology for detection of HBV infection.

Keywords: HBV, HbeAg, ALT LEVEL

7.66

SWINE FLU VIRUS: DETECTION BY REALTIME PCR IN PATIENTS WITH FLU-LIKE SYMPTOMS

Sadia Tabassum, Samina Ghani, Toheed Kausar, Romena Qazi, Tariq Moatter
Department of Pathology & Microbiology, Aga Khan University, Karachi

Introduction: In 2009, a novel H1N1 swine flu virus strain was detected in Mexico from patients exhibiting flu like symptoms. A swine flu pandemic was declared by WHO in June 2009 following reports of hundreds of swine flu cases across the world. The aim of this study was to detect the swine flu virus in patients presented with flu like symptoms. **Methods:** Nasal secretions collected on flocculated swabs were obtained from 346 patients and transported to the laboratory in the viral transport media. After RNA extraction, amplification was carried out using Super script III Platinum one step qRT PCR kit and real time PCR. All positive samples were initially confirmed by a second H1N1 PCR assay and later by sequence analysis.

Results: A total of 346 samples were tested for swine flu virus from June to December 2009 confirming 75 patients positive for H1N1. In the positive patient group 36 were male and 39 were female. The mean age of females was 25 year and males 15 year. Travel history was positive in 11 patients. All patients showed common flu symptoms including fever, cough, sour throat, and sneezing, runny nose, whereas two patients had diarrhea. Three H1N1 patients were hospitalized and later died during treatment.

Conclusion: Swine flu virus is common in the local population as indicated by 20% positivity in suspected flu cases. Secondly, Real time PCR is a convenient and sensitive method for rapid detection of swine flu virus in nasal secretions.

Keywords: Swine Flu, Influenza Virus, Real Time Pcr

7.67

PREVALENCE OF IMMUNOLOGICAL MARKERS IN CHRONIC HEPATITIS B AND C TREATMENT NAIVE PATIENTS

Mehmood Riaz¹, Farrukh Shezad², Abdullah Waqar³, Saeed Hameed¹, Waseem Jafri

¹Department of ¹Medicine, Aga Khan University, Karachi, ²Dow University of Health Sciences, Karachi and ³Ayub Medical College, Abbotabad

Objective: Chronic infections caused by HBV and HCV are common public health problems across Pakistan. Some hepatotropic viruses (HBV and HCV) are capable of triggering autoimmune phenomena and manifest the features of autoimmune hepatitis in the course of the disease. **OBJECTIVE:** To investigate the serum autoantibodies in patients with chronic hepatitis B & C and to assess the diagnostic value of these autoantibodies.

Method: Peripheral blood samples were collected from 89 patients with chronic hepatitis B & C, 12 patients with chronic hepatitis B and 77 patients with chronic hepatitis C. These samples were investigated for the presence of rheumatoid factor (RF), antinuclear antibodies (ANA), anti-double standard DNA, anti-smooth muscle antibodies (ASMA), anti-cardiolipin antibodies (ACA), antithyroglobulin antibodies and anti-mitochondrial antibodies (AMA). Laboratory investigations of this group were compared with equal number of healthy controlled individuals.

Results: 46 (60%) of HCV patients had at least one auto-antibody detected in their serum, the most prevalent being rheumatoid factor (58%). Anti thyroid antibodies were detected only in three female patients (4%). HBV patients and controls have only one antibody positive namely rheumatoid factor, 7 (55%) and 17(19%) respectively. No other autoantibody was found in these patients.

Conclusion: In our setting the immunological antibodies are not highly prevalent in patients with chronic HBV & HCV infection except rheumatoid factor. Larger study is required to assess the diagnostic value of positive RA factor in these patients.

Keywords: Immunological Markers, Autoantibodies, Chronic Hepatitis B & C

7.68

DETECTION OF HEPATITIS DELTA VIRUS CAN BE INDEPENDENT OF HBV

Samina Ghani, Noman Ghufuran, Zahra Hasan, Romena Qazi
Department of Pathology & Microbiology, Aga Khan University, Karachi

Objective: Hepatitis Delta virus (HDV) is a defective RNA virus dependent on hepatitis B virus (HBV) infection for replication and expression. HBV virus infection is one of the most prevalent public health problems worldwide, causing 1 million death annually. Infection with HDV can occur simultaneously with acute HBV infection or may superimposed on chronic HBV cases. Co-existence with HDV tends to accelerate the progress of HBV infection to chronic hepatitis,

cirrhosis and hepatocellular carcinoma. We have investigated the correlation of HDV with HBV by PCR.

Method: This study was conducted in Molecular Pathology section of Aga Khan University Hospital, Karachi. Samples were tested for HBV PCR and HDV PCR, (October-December 09). Total serum sample (n=806) were analyzed by conventional PCR, and HBV were analyzed by RoboGene Hepatitis B virus (HBV) Quantification Kit (Roboscreen, Germany) using CFX 96 (Real-time PCR system).

Results: During Oct-Dec 09, 806 samples were tested for HDV by PCR. Of these 416 were positive, and 390 were negative for HDV. Amongst them (806), 16 samples were tested for HBV and 13 were found to be negative while 3 samples were positive.

Conclusion: Sample may be positive for hepatitis delta virus even without the active co-infection of HBV as detected by viral DNA PCR.

Keywords: HDV, HBV, PCR

7.69

SOCS1 AS A REGULATORY MECHANISM OF PROINFLAMMATORY IFNG-INDUCIBLE CHEMOKINES IN PULMONARY TB

Kiran Iqbal¹, Martin Rottenberg², Nisar Rao³, Zahra Hasan¹
¹Department of Pathology & Microbiology, Aga Khan University, Karachi, ²Karolinska Institute, Sweden, and ³OJHA Institute of Chest Diseases, Karachi

Background: T cell IFN γ is critical for protection against Mycobacterium tuberculosis (MTB) infection. IFN γ -inducible chemokines CXCL9 and CXCL10 are essential for granuloma formation. IFN γ can be modulated by Suppressor of Cytokine Signaling (SOCS-1) molecules and T regulatory (CD4+CD25+FOXP3+) cells. Host IFN γ responses determine disease outcome but little is known about their regulatory mechanisms in patients with tuberculosis (TB).

Methods: We investigated mRNA expression of IFN γ , CXCL9, CXCL10, SOCS-1 and FOX-P3 in peripheral blood mononuclear cells (PBMCs) of patients with pulmonary tuberculosis (PTB, n=23; comprising moderately advanced (PTB-Mod, n=12) or far advanced (PTB-Adv n=11) disease) and healthy controls (EC, n= 30). mRNA from unstimulated and M.tuberculosis H37Rv sonicate stimulated PBMCs were determined using realtime quantitative PCR.

Results: Basal levels of mRNA of CXCL9 and FOX-P3 transcripts were significantly raised (P values: 0.016, 0.028) while IFN γ and CXCL10 expression showed an increased trend in PTB patients. In advanced PTB, CXCL10, CXCL9, SOCS-1 and FOX-P3 expression was increased (P value: 0.029, 0.06, 0.007, 0.048 respectively). Stimulation with M.tuberculosis sonicate-induced increased CXCL9, SOCS-1 and FOX-P3 expression in PTB patients (P value: 0.047, 0.024, 0). A greater expression of CXCL9 was observed in patients with PTB-Adv whereas increased SOCS-1 expression (P value: 0.012) was observed in PTB-Mod group.

Conclusions: Raised CXCL9, CXCL10 and FOX-P3 are associated with active disease, with increasing levels in advanced as compared with moderate group pulmonary

disease. Increased SOCS-1 expression in moderate PTB may indicate increased regulation of proinflammatory markers in patients with reduced disease severity.

Keywords: Tuberculosis, Pulmonary, SOCS-1

7.70

PREDICTIVE VALUE OF CYTOKINE GENE SINGLE NUCLEOTIDE POLYMORPHISMS (SNPS) FOR TUBERCULOSIS DISEASE PROGRESSION IN RECENTLY INFECTED HOUSEHOLD COHORT

Ambreen Ansari, Rabia Hussain, Najeeha Talat, Firdaus Shahid, Zahra Hasan
Department of Pathology & Microbiology, Aga Khan University, Karachi

Objective: Pakistan ranks 8th among high TB burden countries. Due to wide coverage of BCG vaccination in Pakistan the rate of Tuberculin Skin Test positivity (TST+ =10mm) ranges from 50-%in the community to 80% in household contacts of TB patients. In household contacts (HC) the rate of progression to disease is 10-30-fold higher than in the community. Therefore identification of individuals at high risk of progressing to disease is an urgent priority of National TB Programs. We have also previously reported that the IFN γ gene+874 T allele is overrepresented in our population.

Method: We therefore, analyzed the predictive value of IFN γ T allele and its combination with IL10 and TNF α SNPs, in a recently infected cohort of household contacts of active tuberculosis patients using ARMS-PCR. Majority of secondary TB cases (7/9) occurred within 12 month post exposure. To restrict variability within the control we compared secondary cases (DHC) to healthy household contact (HC=27) within the family who did not progress to disease.

Results: Significant association with IFN γ T allele was observed in DHC ($\div 2 = 16.09$, OR= 3.27 [CI 1.81-5.89], p=0.00006, RR= 1.86 [CI 1.33-2.6]) compared to HC. 100% progressors carried a single combination [IFN γ (T allele), IL10 (G allele) and the frequency was significantly different (EPI-INFO version 6) from healthy household contacts (p<0.00001; $\div 2 =60.55$; RR= 2.92 [CI 1.59-2.32]). Addition of TNF α SNPs did not have any further effect.

Conclusion: We have therefore identified a single allele combination which carries a high risk for TB disease progression (Funded by HEC Grant # 20-796/R&D/07).

Keywords: Tuberculosis, Gene Polymorphism, Cytokines

7.71

REAL TIME PCR FOR MYCOBACTERIUM TUBERCULOSIS AS A RAPID DIAGNOSTIC TEST FOR EXTRAPULMONARY SPECIMENS SUCH AS CSF

*Sheeba Parveen, Andleeb Raja, Zahra Hasan, Tariq Moatter
Department of Pathology & Microbiology, Aga Khan
University, Karachi*

Objective: Pakistan has a tuberculosis incidence which is 8th highest globally. The causative agent is Mycobacterium tuberculosis which can cause both pulmonary and extra pulmonary disease. Tuberculosis (TB) results in a diagnostic dilemma due to difficulty in accessing sites of infection. Rapid, sensitive and specific methods are needed for MTB diagnosis. This study shows the sensitivity of AFB PCR detection of MTB in cerebrospinal fluid (CSF) samples being investigated for tuberculous meningitis.

Method: PCR was performed for the target gene, SP1 - intergenic region of MTB Ribosomal gene. Real-time PCR was performed on Light cycler II, Roche Laboratories, USA. Results of AFB Smear and culture from Clinical Microbiology were compared together with those CSF DR.

Results: 375 CSF samples were received at AKUH from March 2008-December 2009. Of these, 119 specimens were both MTB PCR and AFB smear Negative while 29 specimens were positive by MTB PCR. 22 positive specimens had no additional test for available for comparison. 3 specimens were positive for MTB PCR but negative for culture. 3 specimens were positive for both MTB PCR and AFB culture but were AFB smear Negative, but had CSF DR (high protein and TLC, and low glucose count) suggestive of infection. *Conclusion:* Real-Time PCR for MTB DNA is a rapid and sensitive method for early diagnosis of tuberculosis especially in extra pulmonary specimens.

Keywords: Tuberculosis, Culture, PCR

7.72

IS NALIDIXIC ACID SCREENING METHOD STILL VALID FOR DETECTION OF SALMONELLA TYPHI STRAINS WITH REDUCED SUSCEPTIBILITY TO FLUOROQUINOLONE IN PAKISTAN? AN URGENT NEED TO EVALUATE

*Seema Irfan, Kausar Jabeen, Afia Zafar
Department of Pathology & Microbiology, Aga Khan
University, Karachi*

Objectives: Recent studies indicate failure of nalidixic acid screening method to detect fluoroquinolone resistant Salmonella Typhi strains. We reevaluated the efficiency of nalidixic acid screening method to detect fluoroquinolone resistance in Salmonella Typhi in Pakistan, a high endemic country for typhoid.

Methods: 246 non duplicate randomly selected Salmonella Typhi isolates from years 2003-2008 were included. All isolates were previously reported as fluoroquinolone susceptible based on nalidixic acid screening. MICs against ciprofloxacin of all these strains were determined by agar dilution. E. coli

ATCC 25922 strain was used as control strain. *Results:* Repeat testing of all Salmonella Typhi isolates with nalidixic acid (30µg) disk showed 100% susceptibility with an average zone diameter of 22 mm. Agar dilution testing revealed MIC of 0.125 µg /ml for 3 (1.2%) isolates only. *Conclusion:* Keeping in view low isolation rate of nalidixic acid susceptible and fluoroquinolone resistant strains in our study, evaluation of fluoroquinolone MICs on every strain would not be cost effective. We propose routine nalidixic acid screening method with periodic fluoroquinolone MIC determination to evaluate any changing trend in nalidixic acid susceptible Salmonella Typhi isolates. Finally we emphasize need for reevaluation of breakpoints for Salmonella Typhi by CLSI to minimize the cost and decrease the susceptibility reporting errors as MIC determination of all Salmonella Typhi isolates would be expensive in resource limited settings.

Keywords: Enteric Fever, Antimicrobial Resistance, Fluoroquinolone Resistant

7.73

PREVALENCE OF ST26 AMONG UNTREATED SMEAR-POSITIVE TUBERCULOSIS

*Sadia Shakoor, Zahra Hasan, Rumina Hasan
Department of Pathology & Microbiology, Aga Khan
University, Karachi*

Objective: Tuberculosis (TB) control is a major healthcare priority for Pakistan. We have studied Mycobacterium tuberculosis strains from the sputa of 100 treatment-naïve, smear-positive pulmonary TB cases from Karachi, Pakistan, to identify strains most responsible for active transmission in this population.

Method: DNA extracted from M. tuberculosis isolates were subjected to spacer oligotyping (spoligotyping). The spoligotyping patterns were scanned visually and compared with shared types in the SpolDB 4.0 database using Bionumerics version 4.5 (Applied Maths Inc., Texas, USA). Spoligotypes were analyzed to detect emerging strains in the dataset by running the spolTools software. *Results:* Sixty-six (66%) clinical isolates were grouped into 9 different clusters. The largest cluster comprised the Central Asian Strain (CAS) 1 or ST26 (n=40). The remaining isolates (34%) had unique spoligotypes. ST26 was the only emerging strain identified in the dataset on DESTUS analysis. *Conclusion:* We conclude that ST26 being the most prevalent strain in smear-positive cases contributes greatly towards ongoing transmission in Karachi. Our data further suggest that ST26 may have a selection advantage not afforded by other genotypes. This conclusion is further supported by DESTUS analysis (Detecting Emerging Strains of Tuberculosis Using Spoligotypes) identifying ST26 as the only emerging spoligotype. Reasons for the spread of ST26 require further study.

Keywords: Mycobacterium Tuberculosis, Spoligotype, Karachi

7.74**NEONATAL CANDIDIASIS IN A TERTIARY CARE CENTRE: A REVIEW OF CLINICAL SPECTRUM AND OUTCOME**

*Shabina Ariff, Ali Faisal Saleem, Reema Sajjad Khan
Department of Paediatrics & Child Health, Aga Khan University, Karachi*

Objective: Candida species are increasingly becoming important pathogen in neonatal intensive care unit especially in preterm low birth weight neonates and contributing morbidity and mortality in this group of vulnerable population. Most neonatal fungal infection is due to Candida species particularly Candida albicans. We conducted this case control retrospective study to evaluate the risk factors for acute fungal sepsis and to document the frequency and epidemiology of acute fungal sepsis (AFS) in our intensive care unit.

Method: We performed a retrospective chart review of all neonates with discharge diagnosis of acute fungal sepsis from the neonatal intensive care unit (NICU) at Aga Khan University Hospital, Karachi from January 1996 – December 2006. Controls were matched on gender, prematurity and gestational age. P-values and adjusted risk ratios (AOR) were calculated for risk factors.

Results: During the study period of 11 years, 89 cultures from 45 neonates were positive for Candida spp. Controls were 36. Majority of patients (71%) were males. Umbilical artery and/or vein catheterization were done in 42% (n=19) of cases while 50% (n=18) controls, while 8% (n=4) also had Hickman line. Candida albicans is the most prevalent fungus in our neonates comprises of 55% (n=49 isolates, combining all sites) followed with Candida tropicalis (21%) and Candida glabrata (9%). Overall 31 cases received antifungal therapy. Majority of neonates received Amphotericin either alone or in combination with Fluconazole. Mortality amongst our fungus infected cohort was 24% (n=11). 40% (n=6/15) had Candida albicans isolates in blood, while 30% (n=2/5) had Candida tropicalis isolates in blood. We identified not received antenatal care (AOR 3.461 (0.378 – 31.691)); mechanical ventilation (>7 days) (5.126 (0.562 – 46.785)); positive bacterial culture (AOR 1.933 (0.348 – 10.729)); clinical signs of sickness, (AOR 17.476 (2.334 – 130.857)); and duration of hospitalization (4.9 (1.865 – 23.873)) as associated risk factors on neonatal fungal sepsis in our neonatal cohort. We have also identified prevented effect after taking good antenatal care (AOR 0.865 (0.152 – 4.931)).

Conclusion: AFS in NICU setting is not uncommon. Early identification and appropriate treatment has a direct role in reducing morbidity and mortality in neonate

Keywords: Acute Fungal Sepsis, NICU, Antifungal therapy

7.75**TARGETING ALTERNATIVE SYSTEM FACTOR “P”: PROPERDIN SEQUENCE USING WEB BASED ALIGNMENT TOOLS**

*Farzana Abubakar Yousuf¹, Sana Raza², Bushra Chaudhry¹
Department of¹Biological & Biomedical Sciences, Aga Khan University, Karachi, ²Quaid e Azam University, Islamabad*

Background/Objective: Progress in the field of Bioinformatics has developed a number of biological databases with homology study tools. These tools explain biological phenomenon from the structure of biomolecules (DNA, RNA, and Proteins), their interaction to metabolism of organisms and evolutionary processes. We aimed to analyze the immunological factor Properdin “P” through the application of homology tools. Properdin deficiency is involved in causing recurrent infections in complex and infectious diseases. This knowledge will facilitate in treatment of diseases through the development of future medications and in discovering basic relationships amongst species in the history of life.

Methodology: The International Nucleotide Sequence Database (INSD) provided by National Center for Biotechnology Information (NCBI), Universal Protein Resource Knowledgebase (UniProtKB), European Bioinformatics Institute (EBI) and European Molecular Biology Open Software Suite (EMBOSS) were used. The tools applied on multiple sequence analysis were BLAST, Clustal W2, Kalign, MAFFT, MUSCLE and T-Coffee.

Results: The major transcript 1 of properdin showed homology above 83 % with 15 different species at DNA level in BLAST. The multiple alignment using ClustalW2 and T-coffee provided 79 – 100 and 87-89 % homology respectively. MAFFT and MUSCLE provided 45.3 and 45.8% homology at nucleotide level. Protein homologies from BLAST and Clustal W were same with no significant differences while T-coffee provided homology in the range of 59-70 % which differed prominently. The protein homology with MAFFT turned out to be 55. 2% While Kalign and Muscle were inconsistent in giving the identical homology, in repeated procedures.

Conclusion: Among all applications, we found T-Coffee the best tool for properdin DNA and Protein Sequences as it provide more accurate results in the shortest period of time in comparison of curation.

Keywords: Properdin, Alignment tools, Sequence homology

7.76**MULTIDRUG RESISTANT ACINETOBACTER MENINGITIS IN CHILDREN: A CASE SERIES FROM TERTIARY CARE CENTRE**

*Faisal Saleem, Fatima Mir, Anita KM Zaidi
Department of Paediatrics & Child Health, Aga Khan University, Karachi*

Objective: Multidrug resistant strains of Acinetobacter are a serious therapeutic problem, particularly with Acinetobacter meningitis, because very limited availability of sensitive

antibiotics which have CSF penetration. Polymyxin B and E (Colistin) are the only therapeutic options in these cases. The identified risk factors for pediatric nosocomial meningitis are insertion of foreign body devices; neurosurgical intervention; craniocerebral trauma; intrathecal chemotherapy and nosocomial bacteremia.

Method: We retrospectively reviewed 7 consecutive cases of Acinetobacter meningitis (positive CSF Acinetobacter spp.) in last 4 years time and reporting clinical course and outcome.
Results: We reviewed 7 cases. Four were infants. Males were predominant (72%), while 28% were severely malnourished (<5th percentile on anthropometry). Neurosurgical procedure was performed in four patients prior to positive CSF culture, followed by EVD insertion. Acinetobacter spp. was isolate first in CSF (3/7), respiratory sections (2/7) and blood and wound one each respectively. Mean day of positive CSF isolates was of 21 ± 13 days. Acinetobacter spp. was sensitive only to Polymyxin among three patients, while all isolates were sensitive to Polymyxin. All received intravenous Polymyxin (mean 12.8 ± 6.6 days), while 5/7 received intrathecal Polymyxin (mean 12 ± 5.5 days). Four patients died among this cohort, leaving the disease specific mortality rate of 57%. Mean length of hospitalization was 42 ± 17 days.

Conclusion: Nosocomity with multiresistant Acinetobacter meningitis after neurosurgical intervention is increasing worldwide. There are less therapeutic options available. Early identification and treatment can be important in decreasing morbidity and mortality among these patients.

Keywords: Multidrug Resistant Acinetobacter Meningitis, Children, Mortality

7.77

EVALUATION OF THE SYSTEMIC USE OF POLYMYXIN B IN MULTIDRUG RESISTANT ORGANISMS AT AKUH: A RETROSPECTIVE ANALYSIS

Muhammad Hammad, Shaikh Hussam Lateef, Shahjahan Khan, Syed Shamim Raza, Abdul Latif Sheikh
Department of Pharmacy, Aga Khan University, Karachi

Objective/Introduction/Background: Systemic Polymyxin B was introduced into the therapy in 1960s. It's a narrow spectrum antibiotic which binds the cell membrane & acts like a cationic surfactant. Its spectrum of activity encompasses gram negative rods including highly resistant acinetobacter & P. aeruginosa. The systemic use of the drug gradually became obsolete due to its major toxicities associated with its systemic use & availability of other safer antibiotics. Therefore, its application was restricted to the topical infections only. In the recent past, the emergence of Pan-Resistant (PR) microorganisms rendered all the modern day antibiotics ineffective. Microbiological literature reports Acinetobacter & P. Aeruginosa amongst the top most PR organisms. Surprisingly, these organisms remain sensitive to the older obsolete antibiotics like Polymyxin B and these agents re-find their place in the modern day therapy.

Methodology: The data of the admitted patients at AKUH who received Polymyxin B therapy in last six months was

analyzed. Assessment was made for the occurrence of associated toxicities, post treatment negative cultures, microorganisms against which Polymyxin B was used and duration of the treatment.

Results: A total of 59 patients who received Polymyxin B therapy were assessed. 67% patients received Polymyxin B for more than 7 days. Treated positive cultures from trachea were 61%, blood cultures were 27%, and central line cultures were 7%. Post treatment +ve cultures were 3.4%, patients had raised creatinine during the treatment 12 % and hypokalemia developed in 61% patients. Microorganisms treated were; acinetobacter 60 %, P. Aeruginosa 13.5 %, combination of acinetobacter and P. aeruginosa 5 %, stenotrophomonas maltophilia 8%, combination of acinetobacter and stenotrophomonas maltophilia 1.7%.
Conclusion: Treatment options for multidrug resistant organisms are dwindling. Polymyxin B, an old toxic antibiotic resurfaced as an option for those microorganisms with high rate of conferring the negative cultures. However, its use needs to be monitored for its associated toxicity potentials so that the patient safety could not be compromised

Keywords: Polymyxin B in Multidrug Resistance Microorganisms, Multidrug Resistant Organism and Their Therapy, Polymyxin B

7.78

PULMONARY ASPERGILLOMA WITH SURGICAL RESECTION OF BILATERAL LUNG APICES: A CASE REPORT

Ranish Deedar Ali Khawaja, Hashim H. Ahmed, Taimur Asif Ali, Saulat H. Fatimi
Department of Surgery, Aga Khan University, Karachi

Method/Case-Report: We present the case of a 26-years-old male non-smoker presented to the clinic with the primary complains of hemoptysis for the last 8 months. He had a tuberculosis infection two years ago that was treated with anti-tuberculosis therapy. CT scan of thorax showed bilateral upper lung lobe cavity lesions. Surgical management included thoracotomy was performed with left upper lobe resection along with involved ribs. Histopathological findings were consistent with lung parenchyma having acute inflammation with a fungus "Aspergilloma" ball composed of septate fungal hyphae and spores without invasion of adjacent lung parenchyma. Postoperatively he remained vitally stable, but developed generalized itching and severe pain for which he was given medications (fluconazole 200mg, gemastine 1mg, helezol 20mg, ciprofloxacin 500mg, tramadol 50mg, multivitamins) and then discharged. Four months later, the patient presented to the clinic five months with massive hemoptysis for 1 month. Based on his recent infection, he was then diagnosed for right sided aspergilloma and underwent another thoracotomy in which right upper lobe was resected. Histopathology showed lung parenchyma with cystic lesions, with underlying wall showed dense acute and chronic inflammatory infiltrate with granulation tissue formation. Lumina of cyst is filled with necrotic debris admixed with septate fungal hyphae, consistent with "Aspergilloma".

Postoperatively patient required 10L of oxygen to maintain oxygen saturation initially but later on hospital course was uneventful.

Keywords: Aspergilloma, Pulmonary Infection, Fungal Ball

7.79

IFNGAMMA AND CCL2 AS COORDINATE MARKERS OF TUBERCULOSIS IN RESPONSE TO ESAT6 AND M. TUBERCULOSIS (SONICATE) ANTIGEN INDUCED IMMUNITY

Zahra Hasan¹, Nisar Rao², Naseem Salahuddin³, Muniba Islam¹, Mussarat Ashraf⁴, Bushra Jamil⁴, Martin Rottenberg⁴, Rabia Hussain¹

¹Department of Pathology and Microbiology and ⁴Medicine, Aga Khan University, Karachi, ²OJHA Institute of Chest Diseases, Karachi, Pakistan, ³Indus Hospital, Karachi, ⁵Karolinska Institutet, Sweden.

Background: T cell and macrophage dependent immunity is essential against M. tuberculosis. ESAT6-induced IFN γ responses are predictive of tuberculosis but we propose CCL2s as an adjunct biomarker.

Methods: Whole blood cells of tuberculosis patients (TB, n=79: pulmonary (PTB, n=36) or extrapulmonary (E-TB, n=43) and healthy controls (EC, n=33) were stimulated with ESAT6 antigen and M. tuberculosis sonicate. IFN γ and CCL2 responses were measured.

Results: TB patients had raised ESAT6-induced IFN γ as compared with ECs (p=0.039). Amongst PTB patients, ESAT6-induced IFN γ responses were greatest in minimal PTB as compared with moderately advanced (p=0.021) and far advanced (p=0.069) disease. While, M.tb-induced IFN γ was greater in moderate than far advanced PTB (p=0.014). In extrapulmonary TB, ESAT6-induced IFN γ was greater in lymphadenitis (LNTB) as compared with severe disseminated TB (D-ETB), p=0.024. Between PTB and E-TB sites, ESAT6-induced IFN γ was greater in LNTB as compared with PTB (p=0.029). M. tb-induced IFN γ was also raised in LNTB as compared with Plueral (Plu-TB) disease (p=0.001) and D-ETB (p=0.057). M. tb-induced IFN γ was greater in PTB as compared with Plu-TB (p=0.04) and D-ETB (p<0.001) patients. ESAT6-induced CCL2 was raised in PTB as compared with D-ETB (p=0.04). M. tb-induced CCL2 was reduced in TB as compared with ECs (p=0.001). M. tb- induced CCL2 in PTB was greater than LNTB (p=0.022), Plu-TB (p=0.007) and D-ETB (p=0.012) patients. ESAT6 induced IFN γ and CCL2 showed a strong correlation in TB patients.

Conclusions: ESAT6 and M. tb- induced IFN γ and CCL2 responses may further aid in identifying TB infections especially, in extrapulmonary TB.

Keywords: Tuberculosis, CCL2, Immune Response

7.80

STUDY OF THE BIOLOGICAL AND CLINICAL IMPORTANCE OF CYTOMEGALOVIRUS INFECTION IN PAKISTAN

Saira Ibrahim¹, Anwar Ali Siddiqui¹, Paul Moss², El-Nasir Lalani³

Departments of ¹Biological & Biomedical Sciences and ³Pathology & Microbiology, Aga Khan University, Karachi and ²University of Birmingham, United Kingdom

Introduction: Human Cytomegalovirus (HCMV) is the largest member of the herpesvirus family. It is widespread within global populations and associated with latent infection in healthy immunocompetent individuals. CMV reactivation in immunocompromised persons such as infants, transplant recipients and HIV infected patients can cause life threatening disease. Infection is controlled by the development and expansion of a CMV-specific cellular immune response comprising CD4+ and CD8+ T cell subsets. To date, there have been no studies on the nature of the cellular response to CMV in Pakistan. Our objectives include determination of seroprevalence of CMV infection, underlying immune response and its potential impact on host immune response in Pakistani population. Blood samples will be collected from several populations within Karachi. Serum will be screened for anti-CMV IgG and IgM antibodies in order to determine the seroprevalence of CMV infection and to assess the incidence of primary infection or secondary reactivation. The T cell immune response will be assessed by stimulation of peripheral blood lymphocytes and enumeration of the CD4+ CMV-specific response. The CD8+ T cell response will be elucidated through HLA-peptide tetramer staining & Elispot analysis. To best of our knowledge, this is the first study targeting the biological and clinical importance of CMV in Pakistani subjects. The data generated by this study will help in determining whether the size of the cellular control of CMV is comparable to that seen in western individuals. This will help in our understanding of how CMV infection may impact on general health in dissimilar populations.

Keywords: Cytomegalovirus, T cells, Population

7.81

SOCS1 AS A REGULATORY MECHANISM OF PROINFLAMMATORY IFNG-INDUCIBLE CHEMOKINES IN PULMONARY TUBERCULOSIS

Kiran Iqbal¹, Martin Rottenberg², Nisar Rao³, Zahra Hasan¹
¹Department of Pathology & Microbiology, Aga Khan University, Karachi, ²Karolinska Institute, Sweden, and ³OJHA Institute of Chest Diseases, Karachi

Background: T cell IFN γ is critical for protection against Mycobacterium tuberculosis (MTB) infection. IFN γ -inducible chemokines CXCL9 and CXCL10 are essential for granuloma formation. IFN γ can be modulated by Suppressor of Cytokine Signaling (SOCS-1) molecules and T regulatory

(CD4+CD25+FOXP3+) cells. Host IFN γ responses determine disease outcome but little is known about their regulatory mechanisms in patients with tuberculosis (TB).

Methods: We investigated mRNA expression of IFN γ , CXCL9, CXCL10, SOCS-1 and FOX-P3 in peripheral blood mononuclear cells (PBMCs) of patients with pulmonary tuberculosis (PTB, n=23; comprising moderately advanced (PTB-Mod, n=12) or far advanced (PTB-Adv n=11) disease) and healthy controls (EC, n= 30). mRNA from unstimulated and M.tuberculosis H37Rv sonicate stimulated PBMCs were determined using realtime quantitative PCR.

Results: Basal levels of mRNA CXCL9 and FOX-P3 transcripts was significantly raised (P values: 0.016, 0.028) while IFN γ and CXCL10 expression showed an increased trend in PTB patients. In advanced PTB, CXCL10, CXCL9 and FOX-P3 expression was increased (P value: 0.019, 0.06, 0.048 respectively). Stimulation with M.tuberculosis sonicate-induced increased CXCL9, SOCS-1 and FOX-P3 expression in PTB patients (P value: 0.047, 0.024, 0). A greater expression of SOCS-1 (P value: 0.012) was observed in PTB-Mod group. *Conclusions:* Raised CXCL9, CXCL10 and FOX-P3 are associated with active disease, with increasing levels in advanced as compared with moderate group pulmonary disease. Increased SOCS-1 expression in moderate PTB may indicate increased regulation of proinflammatory markers in patients with reduced disease severity.

Keywords: Tuberculosis, Pulmonary, Socs-1

7.82

DETECTION OF JAK2 (V617F) MUTATION IN PATIENTS WITH POLYCYTHAEMIA VERA

*Afsheen Muhammad Ibrahim, Muhammad Ismail,
Romana Qazi, Tariq Moatter
Department of Pathology & Microbiology, Aga Khan
University, Karachi*

Background: MPDs (myeloproliferative disorders) are a heterogeneous group of disease. These disorders are further characterized into three main groups are polycythaemia vera (PV), essential thrombocythaemia (ET) and idiopathic myelofibrosis (IMF). In 1989 molecular investigation revealed JAK2 point mutation (V617F) in PV patients. JAK2 is commonly known as 'just another kinase. This gene is directly involved in the intracellular signalling. We have identified the frequency of JAK2 point mutation (V617F) in patients with polycythaemia vera.

Materials & Methods: Total 80 patients were included in this study. These patients were recruited from the hematology/oncology clinics of the AKUH between May to December 2009. Peripheral blood samples were collected from each patient and DNA was extracted. JAK2 point mutation (V617F) were detected by ARMS PCR to wild type and mutant sequences.

Result: Out of 80 patients, 32 patients (40%) had a JAK2 point mutation (V617F). Of these 13 were females mean age

(63.8 \pm 17.6) and 19 were males mean age (57.6 \pm 13.1). All patients had raised levels of hemoglobin (median= 17), WBCs (m=22), platelets count (m=686). No significant difference was found between the hematological parameters of males and females.

Conclusion: PCR based detection of the JAK2 (V617F) mutation is proposed as a method of diagnosing polycythaemia vera.

Keywords: JAK2, PCR, Myeloproliferative Disorders, Polycythaemia vera

8.2 COMPARISON OF THE SELF ASSESSMENT OF CLINICAL SKILLS BY STUDENTS OF YEAR II WITH THE ASSESSMENT BY FACULTY ON A STANDARD RATING SCALE

*Firdous Jahan¹, Shazia Sadaf², Seema Mohammad¹,
Naghma Naeem², Rahat Qureishi³*
*Departments of¹Family Medicine, ²Educational Development,
and³Obstetrics & Gynaecology, Aga Khan University, Karachi*

Objective: Introduction of clinical skills in early year makes students more comfortable in clinical years. Student self-assessment occurs when learners make judgements about aspects of their own performance for improvement. Comparison of self assessment with faculty's assessment will identify the areas of more intensive teaching and learning. This will improve clinical teaching and learning in clinical years.

Objective: Comparison of the self assessment of clinical skills by students of second year with the assessment by faculty on a standard rating scale

Method: This is a cross sectional study, conducted on second year medical students in the Objective Structured Clinical Examination (OSCE). Students assessed their performance at three stations, using a rating scale and observed by clinical faculty during history taking and physical examination and evaluated on the same rating scale. Statistical analysis was conducted by calculating frequencies, means and standard deviations. Regression analysis was used to correlate self reported rating and actual performance in each station. *Results:* In the differences the significant positive correlation was seen between actual performance and self rating in taking consent, demographic, history of presenting problems and summarization. Students overestimated their performance in demographic, past, family and personal history, associated symptoms, summarizations as well as Liver percussion, spleen examination. Students underestimated their performance in taking personal history and comment on mucosa and prostate

Conclusion: The findings highlight the perceived strengths and weaknesses in clinical competence and self-assessment skills and provide direction for program training needs.

Keywords: Self Assessment, Med Education, Clinical Skills

8.3 GENERAL PRACTITIONERS UNDERSTANDING ABOUT MONToux TEST

Niloufer Sultan Ali, Kishwar Jamal, Ali Khan Khuwaja
Department of Family Medicine, Aga Khan University, Karachi

Objective/Background: The Montoux test (MT) has a limited value in clinical work, especially in high prevalence countries for tuberculosis (TB) like Pakistan. This study was conducted to assess the knowledge, interpretation and application of MT in local set-up by the General Practitioners (GPs). *Method:* A cross sectional survey was conducted among 200 GPs from Karachi, Pakistan who attended Continuous Medical

Education sessions. They were approached by convenience sampling after taking consent. Self administered questionnaire was filled consisting of: basic demographic characteristics, questions regarding knowledge about MT, its application and interpretation. Data of 159 questionnaires was analyzed for percentages and 95% CI, as rest were incomplete. Chi square test was performed for statistical significance. *Results:* Almost two thirds of respondents were males and above 35 years of age. Majority was in private practice and seeing more than five TB patients per month. A big gap was identified about the knowledge of MT among study participants. In all, only 19% of GPs scored = 80% marks. This poor level of knowledge was equally distributed in all comparative groups (M: 20.8%, F: 15.9%; p-0.69) and (<5 TB pts seen per month: 18.6%, >5 TB pts seen per month: 19.3%; p-0.32). Majority showed keen interest in obtaining further knowledge regarding MT.

Conclusion: Our study revealed an overall major deficit in understanding and interpretation of MT amongst GP's which needs to be addressed.

Keywords: General Practitioners, Montoux Test, Understanding

8.4 KNOWLEDGE, ATTITUDES AND PRACTICES OF AKUH SURGICAL FACULTY AND RESIDENTS REGARDING POSTGRADUATE SURGICAL EDUCATION

Shahzad Amjad Khan, Sadaf Khan, Shazia Sadaf
Department of Surgery, Aga Khan University, Karachi

Objectives: 1. To gauge awareness of surgical faculty and residents regarding recent trends and concepts in adult and postgraduate surgical education. 2. To compare how the attitudes and practices differ amongst the faculty and residents vis-à-vis resident education 3. To identify avenues where enhanced focus will lead to improvement in the efficiency and yield of Postgraduate Surgical Education Study Design: A KAP survey based on pilot-tested, self-administered questionnaires.

Methods: Two specifically designed questionnaires, pretested on non-selected volunteers from either group (and accordingly modified) were administered to consenting faculty members and residents. *Results:* The survey revealed interesting differences in perceptions between the two groups. Knowledge is good for certain aspects of adult education though room for improvement exists. Faculty and residents agree upon the value of independence as a strong motivating factor and a worthy goal for the effective teacher. Both groups of respondents agree upon the value of the adult learner's prior experience for effective learning transaction. Faculty and residents have opposing views on work-hour reduction. There is consensus on vitality of skills lab for training but such arrangements do not currently exist. Knowledge of motivating factors is not translated into practice. Residents feel their rotations have elusive goals without specified / ineffective objectives.

Conclusion: Despite the various limited of this KAP survey, we have identified certain areas where knowledge can be enhanced thereby bringing about improvement in the modes

of delivery and acquisition of postgraduate surgical education. Points of consensus can form potential vistas for tangible change.

Keywords: Postgraduate Surgical Education, Knowledge, Attitudes and Practices Survey, Adult Education

8.7

EFFECT OF CLINICAL CLERKSHIP ON ATTITUDE OF MEDICAL STUDENTS TOWARDS ANESTHESIA AS A CAREER CHOICE IN A DEVELOPING COUNTRY

*Fauzia A. Khan, Fauzia Minai, Shahla Siddiqui
Department of Anaesthesia, Aga Khan University, Karachi*

Introduction/Objective: Trends in career choice vary from country to country (1,2,3) and even in the same country over a period of time (4). Many factors may influence career choice but exposure to a subspecialty in the undergraduate curriculum also plays a role in determining the career choice of a medical graduate (5). *Study Objective:* The aim was to explore the fourth year medical student's knowledge regarding anesthesia as a specialty, their attitude towards anesthesia as a career choice and the effect, if any, of anaesthesia clerkship on these.

Method: Participants: 150 year four medical students rotating in anesthesia Interventions: Medical students were asked to fill a structured questionnaire before (pre) and after (post) their anesthesia rotation Measurements: The questionnaire sought information on their perception of anesthesia as a specialty, role of anesthetists, clerkship duration, and reasons for considering or not considering anesthesia.

Main Results: Prior to anesthesia clerkship 12 students (8%) included anesthesia in their first three career choices (2 as first preference). Post clerkship 36 (24%) included it in their first 3 career choices (3 as first preference). There was a change in perception of specialty for 57 participants.

Conclusion: The findings support the positive influence of anesthesia clerkship on changing the attitude of medical students towards anesthesia specialty in a developing country

Keywords: Clinical Clerkship, Anaesthesia, Undergraduate

8.8

CAREER PREFERENCE OF YEAR FOUR MEDICAL STUDENTS IN A DEVELOPING COUNTRY AND FACTORS AFFECTING IT

*Fauzia A. Khan, Fauzia Minai, Shahla Siddiqui
Department of Anaesthesia, Aga Khan University, Karachi*

Introduction: Anesthesiology is a relatively underexposed but vital specialty in medicine. There is increasing recognition for expertise in this area as crucial for the safety of patients during surgery, intensive care and pain management. There is a shortage of qualified anesthesiologists in our country.

Apart from training and work opportunities a very important factor for shortage in any specialty is popular choices among undergraduates.

Objective: The aim of this study was to determine the career preference among fourth year medical students and identify factors driving their choice of specialty.

Method/Setting: Department of Anesthesia, Aga Khan University Participants: 150 year four medical students rotating in anesthesia Intervention: Medical students were asked to fill a structured questionnaire before and after their anesthesia rotation Measurements: The questionnaire sought information on choice of a career and identify top three factors that they considered important in making this choice

Results: The top three choices were general surgery (31%), internal medicine (25%) and pediatric (11%). Only 1.3% selected anesthesia as their first choice. Need for self fulfillment was identified as a major factor affecting career choice (42%).

Conclusion: The trends are similar to other developing countries and there is a need to create awareness of anaesthesia as an attractive speciality among undergraduates

Keywords: Career Choice, Undergraduate, Anaesthesia

8.9

THE NEED AND DEMAND FOR ADVANCED NURSING GRADUATE PROGRAMME IN EAST AFRICA

John Arudo¹, Catrin Evans², Linda East², Jokha Juma³, Scovia Mbalinda, Elizabeth Ambani⁴

¹Aga Khan University East Africa, ²University of Nottingham, United Kingdom, ³Zanzibar College of Health Sciences and ⁴Kenyatta University, Kenya

Background: Institutions of higher learning seek to identify the supply and demand of prospective candidates for the academic institutions. In order to do this successfully, empirical evidence regarding supply and demand is needed. The Improving Nursing Education and Practice in East Africa (INEPEA), a project funded under the ACP-EU Cooperation Programme in Higher Education collected data from BScN nurses who are either currently students or working to better understand the supply for graduate nurses in East Africa in preparation for curriculum design and development for advanced nursing practice graduate programme to be established in East Africa.

Objective: To determine the supply and demand for the advanced nursing graduate programme in East Africa.

Method: INEPEA conducted a survey between January and February 2009. The nurse respondents were students from four universities in East Africa. Nurses in employment were from Aga Khan University Hospital, Kenya, and Tanzania. The employing agencies interviewed were: Ministry of Health, the Nursing Councils, and Deans of the four universities. We adopted Eduventures "What are working nurses looking for in BSN and MSN degree programmes" for the supply data and "Nurse employer survey methods and Statewide results" developed by Florida Centre for Nursing for the employer

data. Double data entry approach was used and logical cross-checks, error listings and duplicate checks were conducted. Data analysis was performed using SAS[®] for Windows version 8.0.

Results: Of the 184 questionnaires completed by BScN nurses, 133 (72.3%) were “very interested” in pursuing MScN programme. The motivation for nurses to pursue graduate MScN programme is majorly intrinsic and decision mainly based on “personal/professional enrichment.” Availability of scholarships, cost effectiveness and affordability are the most important factors affecting the prospective candidates’ choice for the programme. Respondents preferred programmes that offer academic support, choices of areas of specialization, research projects, and coursework with short residency. Two-thirds of the respondents reported unmet need for budgeted positions for BScN (in indirect care) and 75% expressed similar sentiments on MScN (in indirect care). Due to budget constraints, the Division of Nursing in Kenya has to contend with a lower number of projected need for BScN of 1000 from 1800 which was proposed in 2009. Market requirements are for nurses with the following areas of specialization: medical/surgical, ICU, paediatrics, mental health, palliative care, anaesthesia, policy analyst, midwifery, educator, researcher, administrator, and community health.

Conclusion: Health policy implications Given that the majority of those who are interested in graduate programme are government employees, institutions of higher learning offering MScN should consider dialoguing with the relevant ministries to establish a scheme of service for graduate nurses. The government should provide student loans to facilitate access to graduate programme. Both the ministries and regulatory bodies should monitor access and quality of care carefully as the demand for graduate nurses intensifies.

Keywords: Advanced, Nursing, Programme

8.11

IS MULTIPLE MINI INTERVIEWS A BETTER WAY TO SELECT INTERNS?

Sheilla Pinjani¹, Tabish Chawla², Khurram Siddiqui², Masood Umer²

Departments for ¹Educational Development, and ²Surgery, Aga Khan University, Karachi

Objective: Interns selection at AKU is a two-stage process of MCQ test and an interview with two faculty members. Written test is a must as candidates apply from all over Pakistan. 180 candidates are interviewed over two week period, each faculty spending between 5 to 8 hours.

Method: To standardize the process candidates participated in seven structured 7-minute stations on same day with three parallel circuits. Stations were designed on the basis of job description. Faculty was briefed beforehand. The feedback was sought from the candidates and examiners at the end of modified MMI.

Results: MCQ test and MMI did not show significant correlations. Area under ROC curve was 0.87 +/- 0.029, 0.93 +/- 0.022 and 0.89 +/- 0.027 for MMI, MCQs and Total of both respectively. Sensitivity of the MMI at AKU cut off of 62.5 percent was 79% and for MCQ at 40 percent was 82%. MMI

clearly differentiated between top, middle and lower group as compared to MCQs which could only differentiate between top and middle group.

Conclusion: Test was acceptable to candidates and examiners, as of being fair with same questions and elaborated key. MMI designed appropriately is a better screening option for professional attributes.

Keywords: Selection Process, Interns, Multiple Mini Interviews

8.12

NON ACADEMIC FACTORS AFFECTING PERFORMANCE OF RESIDENTS IN ANAESTHESIA RESIDENCY TRAINING

Fauzia Minai

Department of Anaesthesia, Aga Khan University, Karachi

Objective: To identify modifiable non- academic factors which adversely affect the performance of residents during anaesthesia residency training.

Method: After approval from the ethics review committee an exploratory qualitative study based on focus group discussions and semistructured interviews with residents was conducted. The study participants were year 1-5 anaesthesia residents, 2-4 from each year of residency, according to availability. Voluntary participation was invited by e-mail before each scheduled FGD and written informed consent taken. Five focus group discussions of 90 mins to 2 hours duration were held over a six month period, recorded on a digital voice recorder and transcribed by a transcriber recruited from the medical records department.

Data Analysis: Transcribed data was analysed for emerging themes by the principal investigator and results were shared with all study participants before reporting.

Results: Factors hindering effective performance of residents during training were uncertainty of expectations of individual consultants, communication gap, fear of adverse remarks over questions or answers, negative criticism, lack of tolerance for mistakes and lack of constructive feedback, appreciation and encouragement. In locations outside main operating rooms stress and anxiety of distant supervision, distrustful attitude of other consultants and indifference and lack of respect by paramedics are stressors affecting performance. Residents find a gap of knowledge, understanding and trust between various care providers involved in patient care a major obstacle to effective performance. They feel a lack of team work, cooperation and collaboration at the interdepartmental level. Residents also feel that mentors are strongly needed in the program because supervisors provide dissertation supervision only.

Conclusion: A non- threatening, non- judgemental, learner friendly organizational culture should be fostered for training in academics as well as provision of service. Respect for the learner and cooperation and team work among all service providers should be promoted for optimal performance of trainees. Mentoring must be a mandatory part of the program for personal and professional development.

Keywords: Residency, Anaesthesia, Non Academic Factors

8.13

FREQUENCY OF CLINICALLY SIGNIFICANT RED CELL ANTIBODIES

Mohammed Salman¹, Bushra Moiz², Salman Adil²
Department of ²Pathology & Microbiology, and ¹Blood Bank,
Aga Khan University, Karachi

Objective: To detect red cell antibodies and identify their specificity and Titer in a tertiary care hospital.
Method: The study was conducted at AKUH Blood Bank during 4 year period from June 2004 -June 2008. All the requests for antibody screening, identification And titration were retrieved from hospital information service and analyzed. Duplicate results from the same patient were excluded for further evaluation. Antibody screening was performed on each sample and identification and titration were subsequently performed if indicated. Antibody screening and identification Tests were done through conventional test tube method and/or automated column agglutination gel technique (Classic ID Gel station, Diamed AG, 1785 Cressier s/Murat, Switzerland) Antibody titration was done manually through serial dilution technique. Auto antibodies were also identified if present through "Dia Cidel (DiaMed AG, 1785 Cressier s/Morat, Switzerland)

Results: During the study period we performed 27570 antibody screening tests. 736 samples (2.66%) screening was positive for red cell antibodies. There were 25 male and 711 females. Antibody identification was performed on 203 samples and red cell antibodies were identified on 122 samples, Of these 120 were alloantibody and 2 were auto antibodies. Antibodies identified were Anti-D (n=60, 50 %), Anti-Le (a) (n= 15 , 12.5 %) Anti-E (n=10, 8.3 %), Anti-c (n=09, 5 %), Anti-Le (b) 09, 7.5 %. Less frequent antibodies includes: Anti- Jk(a) ,Anti-Lu(b) , Anti-Fy(b), Anti-S and Anti-M Non specific antibodies were identified in 38 samples, while 20 samples had simultaneous auto antibodies . Antibody titers were performed on 656 samples, significant antibody titer >1:16 was found in 206 samples (31 %).

Conclusion: We found red cell antibodies are significantly prevalent in our population. Females showed greater frequency compared to males .Gel technique was found to be a sensitive methodology for antibody determination and identification.

Keywords: Antibody, Frequency, Population

8.14

ARE MULTIPLE MINI INTERVIEWS (MMI) BETTER THAN TRADITIONAL INTERVIEW FOR SELECTION OF FAMILY MEDICINE RESIDENTS: A COMPARATIVE STUDY

Marie Andrades¹, Seema Bhanji¹, Fouad Majeed¹, Sheilla Pinjani²
Departments of ¹Family Medicine, and ²Educational Development, Aga Khan University, Karachi

Objective: Family Medicine Residency program at the Aga Khan University, Pakistan is the First Family Medicine

Residency program of the country. MMI was used as a pilot for Family Medicine Residency selection for the first time as it has been used in many parts of the world. The objective of this study was to compare the ratings between MMI and traditional interview.

Method: The candidates underwent traditional interviews along with MMI and same attributes were tested in both. The station content, question probes, checklists for all the stations were developed after thorough literature search, rigorous job analysis and faculty feedback, each designed to measure a single characteristic, presenting situations the applicant will most likely face in a family medicine residency. Descriptive statistics were calculated and comparison between ratings for MMI and interview was performed by means of Wilcoxon sign rank test.

Results: The total numbers of candidates were 14. Raters rated candidates higher during interview than in MMI in all attributes except in communication skills and commitment. Comparing between interview and MMI, the ratings were not statistically different for attributes like communication skills, professionalism, problem solving, team approach, commitment to the program and reason for taking up Family medicine,. The only difference in rating was for ethics attribute (mean interview 3.04 vs mean MMI 2.5, p value 0.046).
Conclusion: Our structured interview ratings were not different from MMI ratings. Implementation of MMI for selection needs to be done after taking into consideration the feasibility and feedback from the stakeholders.

Keywords: Multiple Mini Interviews, Traditional Interviews, Residency

8.15

EFFECTIVENESS OF A FORMAL MENTORSHIP PROGRAM IN FAMILY MEDICINE RESIDENCY: THE RESIDENTS' PERCEPTIVE

Marie Andrades, Seema Bhanji, Mariam Shoukat Ali, Fouad Majeed
Department of Family Medicine, Aga Khan University, Karachi

Objective: Mentoring is a recognized form of teaching learning strategy in postgraduate medical education. The objective of this paper is to describe the perspective of the residents a year after implementation of a formal mentorship program in the residency.

Method: A mentorship program plan was developed with input from faculty and residents. This included need assessment, development of a mutually agreed definition for mentorship, and development of the responsibilities of the residents and the faculty in this relationship. A year later after the intervention the effectiveness of the mentorship program was evaluated from the residents' perspective through a self administered questionnaire on a 10 point Likert scale from strongly agree to strongly disagree.

Results: We had a response rate of 95% (n=20). Satisfaction level was highest for academics (75%). The area with the strongest level of disagreement was personal problems (20%). The obstacles reported as a barrier to a successful mentoring relationship were time constraints, failure to develop rapport

with mentor and gender difference between mentor and mentee. The most important attributes of the mentor which the mentees found helpful were accessibility, providing support for emotional and psychological needs, an active listener and someone they could trust.

Conclusion: Based on this survey it appears that mentoring does have a role in trainees' personal and professional growth especially when their needs are addressed.

Keywords: Mentorship, Residency, Teaching and Learning

8.16

COMPARING MMI WITH STRUCTURED INTERVIEWS FOR SELECTION INTO FAMILY MEDICINE RESIDENCY: CANDIDATES PERSPECTIVE

Seema Bhanji¹, Marie Andrades¹, Fouad Majeed¹, Samreen Kausar¹, Sheilla Pinjani²

Departments of¹Family Medicine, and²Educational Development, Aga Khan University, Karachi

Objective: Family Medicine Residency program at the Aga Khan University (AKU), Pakistan is the First Family Medicine Residency program of the country. Traditionally structured interviews are used for selection into the family medicine residency. This time along with the interviews, Multiple Mini Interviews (MMI) was used for the first time as a pilot for Family Medicine Residency selection at AKU. The objective of this study was to compare candidates' viewpoint regarding interviews and MMIs in order to adopt the best method for future selection.

Method: Candidates feedback was taken after both interviews and MMI. The feedback tool inquired about anxiety caused, difficulty level, time provided, specific knowledge required, reliability of the methods and a true portrayal of self using a seven point likert scale. Descriptive statistics were calculated and comparison between ratings for MMI and interviews was performed by means of Wilcoxon sign rank test. Immediate debriefing from the candidates and faculty was sought by an educationalist as a neutral individual.

Results: Feedback responses were available for 14 out of 15 candidates. None of the attributes showed any statistically significant difference between rating of MMI and interviews.

Conclusion: Candidate perceptions were similar for both MMI and structured interviews. Adoption of the best method for selection would require comparison of the scores obtained in MMI and traditional interviews and feasibility in conducting MMI.

Keywords: Multiple Mini Interviews, Traditional Interviews, Residency Selection

8.17

DEVELOPMENT OF AN UNDERGRADUATE MEDICAL SCHOOL BIOETHICS CURRICULUM

Kulsoom Ghias¹, Parvez Nayani², Kausar S. Khan, Murad M. Khan³, Robyna Khan⁴, Syeda Kauser Ali⁵, Arshi Farooqui⁶
Departments of¹Biological & Biomedical Sciences, ²Community Health Sciences, ³Psychiatry, ⁴Anaesthesia, ⁵Educational Development and⁶Bioethics Group, Aga Khan University, Karachi

Objective: The five year undergraduate Bachelor of Medicine & Bachelor of Surgery (MBBS) programme of the Aga Khan University (AKU) Medical College incorporates multiple methods of teaching and learning, with an emphasis on problem-based learning. Its aim is to equip students with the knowledge, skills, behaviors, attitudes and values necessary for a high-caliber physician. In addition to providing competent medical care, the graduates are expected to be compassionate patient advocates, demonstrate honesty, respect and empathy, and be ethically and culturally sensitive.

Method: Over the course of a year, approximately 360 faculty man hours were invested to review and revise the bioethics curriculum originally instated in 1988. The process involved identifying outcomes and terminal objectives, specific learning objectives, content, appropriate instructional methodologies, assessment strategies, and relevant resources. Innovative approaches were devised to work within the time constraints of the existing undergraduate medical curriculum. Instructional and assessment methodologies to actively engage student interest were included. Strategies for effective implementation of the curriculum, including faculty development and institutionalization of bioethics teaching, were also addressed during curriculum planning.

Conclusion: The new bioethics curriculum for medical undergraduates at AKU is designed to be comprehensive and robust. To the best of our knowledge, this is the first of its kind at the medical school level in Pakistan. The process that led to the development of the revised curriculum is as important as the contents of the curriculum. We believe the participatory approach created ownership which will be a critical factor for curriculum implementation.

Keywords: Bioethics, Medical Education, Curriculum development

8.18

ASSESSING REASONING AND DECISION MAKING SKILLS: USING SCT AND EMQ, A PILOT FOR UROLOGY RESIDENTS

Jamsheer Talati¹, Sheila K. Pinjani², S. Raziuddin Biyabani¹, Hammad Ather¹
Departments of ¹Surgery and ²Educational Development, Aga Khan University, Karachi

Objective: Residents undergo continuous assessment at AKU and take the 'European Board of Urology' residency examination. AKU designed another test to explore residents' decision making ability under uncertainty.

Method: 48-item script concordance (SC) and 21 item k-type extended matching questions (EMQ) pilot test was administered to all (9) residents, (6) interns and to 12 final year students. The responses were corrected using aggregate scores and alternative scoring where candidates were scored 1 or 0 depending upon concurrence with the majority of faculty.

Results: Residents' mean percentage scores were higher for SCT than EMQ. Residents' scores on SCT were statistically significantly higher (61.8 + 11.0) than interns' (58.1 + 12.7) and students' (54.5 + 6.0). When first-year residents were excluded, the scores of residents were statistically significantly different from those of students (p=0.000). EMQ corresponding scores were 44.8 + 28, 43+13.6, and 46.2 +9.5. Cronbach alpha was 0.93. Residents had less difference in scores calculated from the two methods for SCT, but greater variation for EMQ. Reverse was true for students. Residents took longer to answer the questions.

Conclusion: SCT differentiates candidates with specific clinical experience though EMQ did not. The greater time taken to respond by experienced residents, suggests possible involvement of reasoning in SCT. Residency evaluation should experiment with further testing of clinical reasoning.

Keywords: Clinical reasoning, decision making skills, residents

8.19

THORACIC EPIDURAL ANESTHESIA WITH IPSILATERAL BRACHIAL PLEXUS BLOCK FOR BREAST LUMPECTOMY WITH AXILLARY LYMPH NODE SAMPLING IN A PATIENT WITH SEVERE PULMONARY FIBROSIS: A CASE REPORT

Mohammad Sharif, Tauseef Ahmed
Department of Anaesthesia, Aga Khan University, Karachi

Objective: We are presenting a case of advanced interstitial lung disease with extensive pulmonary fibrosis, scheduled for excision of recurrent breast nodule and axillary lymph node sampling for carcinoma of breast. Patient was also suffering from rheumatoid arthritis for which she was taking prednisolone. Thoracic segmental epidural anesthesia supplemented with brachial plexus block was successfully performed in this patient with uneventful surgery.

Keywords: Epidural Anesthesia, Brachial Plexus Block, Pulmonary Fibrosis

8.20

LOGBOOK: A TOOL FOR MAPPING THE CURRICULUM AND PROMOTING STUDENTS LEARNING AT THE AGA KHAN UNIVERSITY

Shazia Sadaf¹, Tabassum Jafri², Raheela Mohsin³, Firdous Jahan⁴, Sameena Shah⁴, Naveed Yousuf⁵, Rashida Ahmed⁶, Rukhsana W Zuberi³
Departments of ¹Surgery, ²Medicine, ³Obstetrics & Gynaecology, ⁴Family Medicine, ⁵Educational Development, ⁶Pathology & Microbiology, Aga Khan University, Karachi

Objective: External Program Review of the MBBS Programme at Aga Khan University (AKU), according to the LCME criteria, in 2006 highlighted Logbooks as an area of Non Compliance.

Method: Task force with the mandate to introduce a uniform logbook in all clerkships to monitor and ensure uniform learning experience was constituted. Extensive review of literature and existing formats of the logbooks was undertaken to identify a standardized format incorporating the requirements of all clerkships.

Results: Adaptation of the epitomize framework provides a standardized format for documentation of clinical presentations and procedures/interventions observed or performed facilitating monitoring of student's performance through the clerkships. Analysis of the completed summary sheets highlighted the "must" and "rarely" seen clinical presentations in each of the clerkships. This served as a valuable feedback for the curriculum planners for incorporating revisions in the core curriculum.

Conclusion: The pilot of introducing a uniform logbook helped identify gaps in learning opportunities; facilitate planning of corrective measures to ensure completeness and uniformity of clinical experiences and specified the minimum number of patients to be seen by each student for each problem. Every completed entry in the Logbook through the "Epitomise" framework helps illustrate the particular patient problem maximizing student learning.

Keywords: Epitomise, Logbook, Clerkship

8.21

TESTING THE PREDICTIVE VALIDITY OF THE STUDENTS CONTINUOUS ASSESSMENT FORM USED AT THE AGA KHAN UNIVERSITY

Hasnain Zafar¹, Shazia Sadaf¹, Sadaf Khan¹, Syeda Kauser Ali²
Departments of ¹Surgery, and ²Educational Development, Aga Khan University, Karachi

Objective: Students' performance during final year clerkship at the Aga Khan University (AKU) in the disciplines of Medicine, Surgery and Family Medicine is observed and scored on the SCA against a descriptive behavioral anchor rating scale. The objective of this study was to determine the predictive validity of the Students Continuous Assessment

(SCA) form used in final year undergraduate clerkships at the Aga Khan University.

Method: Predictive validity was assessed by correlating SCA scores with the End of Clerkship Clinical Examination (ECCE) and the Final Certifying Written Examination (FCWE) results of all the students of the academic year 2007 – 2008 using correlation matrix and the significance of the difference between correlations was calculated using Olkins Z score.

Results: Scores of 82 students were reviewed and analyzed. Analysis of the scores showed good correlation between the overall SCA marks with the ECCE and the FCWE marks. Further analysis of the SCA form showed that the scores obtained on the knowledge component of the form correlated significantly well with the FCWE scores.

Conclusion: The SCA form demonstrates considerable predictive validity in predicting an overall impression of the students' performance at the written examination. This can be further enhanced by effective discrimination between the low and the poor performers on the SCA through the "Frame of Reference Training" for the assessors

Keywords: Clerkship, Continuous Assessment, Frame-of-Reference

8.22

INFECTION CONTROL AND NEEDLE STICK INJURY, CONTROL AND PREVENTION IN RADIOLOGY

*Amin Rajani, Raza Sayani, Zainab, Misbah Salim
Department of Radiology, Aga Khan University, Karachi*

Introduction: The Radiology Department provides diagnostic and therapeutic procedures for patient care. The Diagnostic procedures performed by the department also include invasive techniques with potential for transmission of microorganisms through various means among which one important mode is the Needle stick, which many a time is taken for granted by being unaware of potential danger of acquiring the life threatening viruses like Hep.B, Hep.C and HIV. Here is a possibility for the patients, their accompanying relatives and the health care staff to acquire an infection during their visit for Radiology services. These infections are a major source of avoidable morbidity, mortality and additional resource use. Many could be prevented by use of effective infection control practices. However, the theory-practice gap affects compliance with infection control procedures in the same way that it affects other areas of practice. This paper discusses the application of an infection control program in Radiology Department as well as the audit of radiology staff through a data collection form, highlighting the percentage of awareness amongst the staff and the number of staff who had needle stick injury in past. This study explains why each aspect of the infection control and needle stick injury program is important.

Keywords: Infection, Prevention, Practices

8.24

EVALUATION OF A NEWLY DESIGNED UNDERGRADUATE GERIATRIC CURRICULUM IN THIRD YEAR MEDICAL STUDENTS

*Saniya Sabzwari, Seema Mohammed
Department of Family Medicine, Aga Khan University, Karachi*

Background: The rise in the population of elderly is a worldwide phenomenon. This rise has had an impact on the practice of medicine as health needs, problems and solutions of the elderly are unique. Research has identified that geriatric education in US medical schools is needed. Teaching geriatrics leads to improvement in geriatric knowledge, skills and attitudes of medical students In Pakistan geriatrics is not recognized or taught as a separate specialty. At our university the need for geriatric education was highlighted in a review of the undergraduate curriculum in 2006. An undergraduate geriatric curriculum was designed and implemented in 2008. This study was conducted to assess knowledge and understanding of geriatrics in 3rd year medical students. *Methods:* A pre and post questionnaire (questions placed in a different order) was designed to measure the knowledge and understanding of basic geriatric principles in 3rd year medical students. The tutorials focused on geriatric history taking, assessments and principles of aging physiology and pharmacology. Pre and post knowledge scores were compared by means of student t test.

Results: Pre and post test scores were available for 62 students. There was a statistically significant difference between the total knowledge scores (4.7 vs. 6.4, P value < 0.001). A breakdown of different components showed a statistically significant difference in aging demographics (0.67 vs. 1.75, P value <0.001), physiology (1.4 vs. 1.8, P value < 0.03) and assessment (2.08 vs. 2.63 P value <0.001).

Conclusion: The new curriculum led to improvement in knowledge and understanding of geriatrics in 3rd year medical students in our university.

Keywords: Geriatric, Curriculum, Education

8.25

PROBLEM BASED LEARNING (PBL) APPROACH TO TEACH PATIENTS' SEXUAL REPRODUCTIVE ASSESSMENT TO BACCALAUREATE STUDENTS

*Farhana Irfan Madhani, Arusa Lakhani
Nursing Education Services, Aga Khan University, Karachi*

Objective: With increased awareness about sexual health and disease burden it is vital for nurses to address patients' sexual history so that specific care is implemented. However, that in Pakistan, because of cultural inhibitions, sexuality is considered a very private matter. Patients are reluctant to share sexual history or relate concerns to young nurses, especially if they are not married. Baccalaureate students, on the other hand find, it difficult to explore for information and collect relevant data about their patients' sexual health because

of two major reasons. Firstly, the cultural reluctance, where by students feel shy to explore for data and secondly, the challenge of translating and addressing the learnt content from English into the native language, Urdu, to make it easily understandable for patients.

Method: Evidence: The principles of Evidence- Based Education require consideration of the uniqueness of students and their values. This means that the Faculty has to maintain the standards of education by ensuring the implementation of evidences and the use of critical appraisal. On the other hand, students have also to be made comfortable in clinical practice and patient care. Practice Change: A teaching learning strategy in a simulated clinical situation using the PBL approach through video tape is introduced to teach the baccalaureate students history taking skills. This activity allowed the students to experience and practice gathering sexual reproductive history from their patients. Learning was further enhanced through student's self reflection, and peer and faculty feedback..

Results: This PBL approach through video tape approach has provided the students the needed comfort for obtaining sexual health history and developing an insight for being more sensitive and productive with respect to their patients' needs.

Conclusion: One of the very important roles of nurses in patient care is to interview and collect data to plan and implement care. Equipping students with the skills of sexuality communication will not only ease students' barrier but may reduce the sexual health burden through early recognition.

Keywords: Teaching, Sexual Health, Problem Based Learning

8.27

STRESS, JOB SATISFACTION AND WORK HOURS IN MEDICAL AND SURGICAL RESIDENCY PROGRAMS IN PRIVATE SECTOR TEACHING HOSPITALS OF KARACHI, PAKISTAN

Rohail Kumar¹, Zain Shahid¹, Sadia Syed¹, Sameer ur Rehman¹, Nabeel Hassan Siddiqui¹, Masood Kadir²

¹Medical College and ²Department of Community Health Sciences, Aga Khan University, Karachi

Objective: Residency training programs in medicine and surgery can be extremely challenging. These programs span over multiple years and also happen to have strenuous working hours leading to both physical and mental stress among residents. This raises the question of job satisfaction among these residents. Thereby, our study focuses on assessing stress levels, job satisfaction and working hours of the residents in both medicine and surgery and also looking at a correlation between the three aforementioned factors

Method: The study is a questionnaire based cross-sectional analysis conducted on the residents of Aga Khan University Hospital and Ziauddin Medical Hospital in Karachi. Ghq-12 was used to assess the mental health of the residents and a standardized Job Satisfaction Survey tool was used to assess their work satisfaction. A total of 183 residents participated

in the study, 65% of them were from medicine and 35% from surgery

Results: 56.3% of the total residents were under stress with no significant difference in stress among medicine and surgery residents. 75.6% of the residents reported to be satisfied with their jobs. There was a statistically significant difference in job satisfaction ($p < 0.001$) and mean working hours ($p < 0.001$) among medicine and surgery residents. We found a positive correlation of mean working hours with both stress ($p = 0.009$) and job satisfaction ($p = 0.029$)

Conclusion: Medicine and surgery residents tend to differ on mean working hours and job satisfaction. The greater mean working hours of the residents could be a possible reason for increased stress and decreased job satisfaction among residents

Keywords: Residents, Stress, Job Satisfaction

8.28

EXTENT OF KNOWLEDGE AND UNDERSTANDING OF PRESCRIPTIONS AND DRUG LABELS AMONGST ADULT POPULATION

Muhammad Junaid Patel, Muhammad Shoaib Khan, Farheen Ali, Waqar Kashif, Mehmood Riaz, Muhammad Tariq, Muhammad Farrukh Shezad, Abdullah Waqar, Talha Riaz, Zehra Kazmi

Department of Medicine, Aga Khan University, Karachi

Introduction: Inadequate knowledge and misunderstanding of various aspects of drug prescription/labels is an important factor contributing to adverse drug events. We assessed basic knowledge and understanding regarding prescriptions and drug labels. It was a cross sectional study based on structured in person interviews. Among the 181 respondents, 59% were female. Mean age of subject was 46 ± 14 . 76% were graduate/postgraduate while only 9% were illiterate. Drug aspects like timings, duration and dosage were well understood only in graduates/postgraduates while indications, side effects, precautions, contraindications and drug interactions were poorly understood among all. Up to 90% respondents had no understanding about medically accepted short hands. A total lack of awareness regarding the various routes of administering drugs was found. 50% preferred Urdu as the language on drug labels. 50% did not even read their drug labels. It is shown that awareness regarding various aspects of drugs in the community is lacking. Doctors, nurses and pharmacists can play a vital role in improving awareness among our population.

Keywords: prescriptions, drug labels, medical terminologies

8.29**UNUSUAL COMPLICATION OF COARCTATION OF AORTA REPAIR IN A SMALL CHILD**

Aftab Ahmed Khatri, Mohammad Hamid, Mohammad Sharif, Mansoor Ahmed Khan

Departments of Anaesthesia, Aga Khan University, Karachi

Objective: Aftab Ahmed Khatri, Mohammad Hamid, Mohammad Sharif, Mansoor A. Khan, Muneer Amanullah. We are presenting a case of 51 days old 2.9 Kg male patient, admitted with respiratory distress and diagnosed as pneumonia and pulmonary congestion. He had a previous history of preductal coarctation with PDA. It was decided to repair coarctation and close the PDA. Intubated patient brought to operating room, Arterial line was placed in right radial and left femoral artery which showed a gradient of 25 -30 mm of Hg. During surgery PDA was closed and later cross clamp was applied proximal and distal to coarctation. Patient remained haemodynamically stable and maintaining saturation for about five minutes but then suddenly his end tidal CO₂ drops to 8 from 30 mmHg and there was loss of wave form of both pulse oxymeter and arterial line. Surgeon was informed about this change but they had already opened the aorta for repair and it was impossible to release cross clamp at that time. Cross clamp might have cause kinking of innominate artery with compression of main pulmonary trunk. Our concern was hypoxic and ischaemic injury to brain. Fortunately temperature was around 32.8 C and we tried to lower it further. Total cross clamp time was 20 min. ECG showed ST depression but patient never developed bradycardia or arrhythmias. Patient was given boluses of epinephrine, phenylephrine and Bicarb. When cross clamp was released the ECG changes revert back to normal. Patient remained intubated and transferred to CICU. On second postop day neurological examination was done which showed no sign of hypoxic brain injury.

Keywords: Coarctation of Aorta, PDA, Hypoxic brain injury

8.30**ANAESTHETIC MANAGEMENT OF PORTOCAVAL SHUNT IN TETRALOGY OF FALLOT PATIENT WITH PROTEIN C AND S, ANTITHROMBIN III AND FACTOR V LAIDEN DEFICIENCY.**

Mohammad Sharif, Mohammad Hamid, Aftab Ahmed Khatri
Departments of Anaesthesia, Aga Khan University, Karachi

Case Report: We are presenting a case of 17 year old tetralogy of fallot patient, who presented with shortness of breath and left upper abdominal pain and diagnosed on CT scan as portal vein thrombosis. Further workup showed pancytopenia, Protein C, protein S, antithrombin III and factor V laiden deficiency. Portocaval shunt was planned to relieve his symptoms. Haemtologist, anaesthesiologist, intensivist and vascular and paediatric congenital heart surgeons were involved in the management during perioperative period. Enoxaprin started preoperatively and continued postoperatively for one week. Before induction FFP and platelets were given and at the same time arterial line and central venous pressure (CVP)

lines were placed. All intravevous lines were kept air free due to presence of VSD and kept running (Keep Vein Open) to prevent thrombosis. Patient remained haemodynamically stable during induction. Intraoperatively before giving heparin patient was again transfused with 2 FFP to raise antithrombin III level. N₂O was avoided during the procedure. Surgery lasted five hours and patient extubated at the end of surgery. He remained haemodynamically stable in CICU and discharge after one week.

Keywords: Protein C, Protein S, Anaesthetic Management

8.32**KNOWLEDGE, SKILLS AND EXPERIENCES WITH COMPUTERS AMONGST UNDERGRADUATE MEDICAL STUDENTS AT AKU**

Rahat Qureshi¹, Azra Naseem², Karim Wallani²
Departments of¹Obstetrics & Gynaecology, and²Institute of Educational Development, Aga Khan University, Karachi

Introduction: As early as in 1980 Medical Schools have been evaluating computer literacy amongst students (Wilkinson 2009; Seago 2002). At the Aga Khan University School of Medicine on-line courses will be offered to the new class of 2014 for teaching Clinical Skills to year one and two students. At this time it is essential to understand the students' knowledge, experiences and skills in the use of computers at the point of entry into medical studies. This will help us to identify the strengths and the weak areas of students and help in developing the orientation sessions and special sessions for updating computer skills where required.

Methodology: The objectives are the study is to study the background characteristics of students who will be using e-Learning Tools. We will evaluate the correlation of their background characteristics with level of computer skills. The participants of this survey are first year Medical Students Class 2014. At the start of the Session the students will be given the self assesment questionnaire on knowledge, skills and experiences in using computers. The information will be collected on the student's age, gender, method of schooling, proficiency in English language. The data is being entered in SPSS and as the students responses are mostly on an ordinal scale data will be analyzed for frequency distribution and correlation for each of the responses with the variables.

Keywords: Computer, Skills, Knowledge

8.33 ENRICHMENT PROGRAM: STRATEGIC APPROACH TO ENHANCE EXISTING KNOWLEDGE BASE OF ENTRY LEVEL STUDENTS IN AKU-SON DIPLOMA/BScN PROGRAMS HAVING DIVERSIFIED EDUCATIONAL BACKGROUND

Laila Pirani, Syeda Naghma Rizvi, Ambreen Tharani
School of Nursing, Aga Khan University, Karachi

Objective: The School of Nursing enrichment program's pilot project was designed with a strategy to enhance entry level students' learning capacity to cope with the academic demands of the BScN and Diploma programme. Students who applied for the General Diploma and BScN programme and were unable to meet the standard entry level cutoff scores required by School of Nursing, were offered the enrichment programme over the period of six weeks.

Method: A quantitative study, using comparative research design was selected. A group of 42 students were shortlisted as per the selection criteria of enrichment program; however 40 students joined the program. Hence, this enrichment program provided support to the students in basic Sciences, Math and English along with Computer skills and Professional/Personal Management courses, comprising of 168 teaching hours. As per the set criteria of progression policy, minimum required passing score of a 50% in individual course and 50% as an aggregate was made mandatory. Data analysis of the pre and post assessment was opted to ascertain the effectiveness of the enrichment programme.

Results: The analysis revealed significant improvement in the progress of these students at the end of the enrichment programme with an overall success rate of 95% and all these successful participants were admitted in the respective nursing programs.

Conclusion: Participants found the overall program quite supportive in order to achieve the main objective and hence it was recommended that this pilot should be continued in future too.

Keywords: Enrichment, Cutoff Scores, Learning Capacity

8.34 EXPERIENCE OF PHASE III MEDICAL STUDENTS AT EMERGENCY DEPARTMENT OF PAKISTAN

Syed Muhammad Baqir, Kiran Ejaz
Department of Emergency Medicine, Aga Khan University,
Karachi

Introduction: Emergency medicine (EM) has been recognized as a specialty in western countries. However, in Pakistan, most hospitals and medical colleges have no provision of teaching EM. Many medical students are interested in EM following a standard clerkship and seek out additional learning opportunities. *Objective:* To assess student perception and feasibility of incorporating EM in the undergraduate medical curriculum.

Method: A review of the Course Evaluation Feedback Questionnaire of 313 students was conducted in December

2009. Evaluations were submitted by medical students rotating through Emergency department of Aga Khan University Hospital. Till the first half of 2009, a separate 4 item evaluation questionnaire was used but with the upgrading of the curriculum a 7 item evaluation questionnaire was used later. Average scoring of each item on both questionnaires was calculated.

Results: Out of 72 sessions over 4 years, the educational merit of the session earned an average score of 3.6. The question of Clinical application of the knowledge scored 3.7. After upgrading the curriculum, students evaluated the objectives of the sessions being met with an average of 3.93, important points being emphasized with 3.93, presentations being made according to students understanding. Average score of 4.14 was given for encouraging the participants. Interaction between the participants and facilitators was rated as 3.96. In overall rotation evaluation, students reported facilitation was interactive. Among academic sessions, most students wanted to learn ECG but thought that having three continuous sessions were tiring.

Conclusion: As a specialty that emphasizes basic clinical skills, emergency medicine should be incorporated in the undergraduate medical curriculum in all medical universities.

Keywords: Medical Education, Evaluation, Karachi

8.35 MEDICAL STUDENTS' INTEREST IN GENERAL SURGERY: A GLOBAL PERSPECTIVE

Ranish Deedar Ali Khawaja¹, Sadaf Mumtaz Khan²
¹Medical College and ²Department of Surgery, Aga Khan
University, Karachi

Objective: A declining interest in General Surgery has been noticed across the globe. Lifestyle factors are quickly becoming the key determinants for students when choosing a specialty. We present a global trend of medical students towards the specialty of General Surgery.

Results: In North America, the popularity of General surgery and some surgical subspecialties among graduating medical students is declining. A study showed that only 34% of men and 13% of women would choose a surgical specialty as a future career. Studies from the Canadian medical schools have shown that the number of medical students identifying a surgical specialty as their first choice has decreased from 24.7% in 1998 to 21.7% in 2006. A survey conducted at a UK medical school found that the three most common deterrents for surgery among respondents were family considerations, the sacrifice of personal time, and negative role models. A French study showed that medical specialties and anesthesia were more highly sought than surgical specialties. A study focused on graduates of public medical university in Brazil showed that overall 23% of graduates selected a first-year residency in surgery. Surgical specialties were ranked highest as a career choice among medical school entrants in Jamaica. In South Africa, there has been a significant decline in the number of applicants for registrar posts and an inability to attract and retain general surgical specialists in

the state sector. Current research indicates a declining preference for a surgical career among undergraduate medical students in Australia and New Zealand, with 'controllable lifestyle' identified as an important factor in specialty choice. A recent study carried out in the Kingdom of Jordan showed that the most preferred specialty among male students was surgery. "On-call schedule" and focus on community health were more influential for female students compared to male students.

Conclusion: A sustainable approach to understand and perhaps counteract the observed declining interest in surgery should be established. Students need to be exposed to the humanistic values of surgery during medical school as early as possible but need to be reassured that their sacrifices and commitments will be compensated.

Keywords: General Surgery, Medical Students, Surgical Career

8.36

AWARENESS OF RADIATION PROTECTION IN CLINICAL AND NON-CLINICAL STAFF

Afsheen Mahmood, Shaheen Dhanani, Amin Rajani, Fareed Jumani
Department of Radiology, Aga Khan University, Karachi

Objective: To evaluate the level of awareness about radiation protection in clinical and non-clinical staff.

Method and Material: Level "A" is for radiation technologist and level "B" is for non-clinical staff of AKUH. The questionnaire of level "A" pertaining to radiation protection practices, procedures, dose limits and existing of national and international standards. The questionnaire of level "B" contained basic radiation protection awareness from nurses
Results/Survey for non-clinical staff: Numerical representation - ER-14, C1-9, B1-12, Radiology reception -8. Survey for clinical staff: Fifty questionnaires were distributed in Radiology AKUH including radiographers and senior radiographers. Out of which 92 % were returned with answer, 8% of them refused.*55% males were evaluated.*45 % females were evaluated.*13% were not interested to give their data.*30% were senior radiographer.*69% were radiographers & trainee radiographers.

Conclusion: Our survey demonstrated that the awareness level of non-clinical staff is 60% which is satisfied but they should have more knowledge because they have little bit exposure during portable x-rays and departmental procedures. Awareness level of clinical staff is 67.3% which is not satisfied because they are continuously working in radiation area so they need more attention regarding to the awareness of radiation protection.

Keywords: Radiation, Protection, Awareness

8.37

FACILITATION SKILLS OF BASIC SCIENCES FACULTY AND FRESH MEDICAL GRADUATES: AN AKU EXPERIENCE

S. Abdul Saeed, Nukhba Zia'
Department of Biological & Biomedical Sciences and 'Emergency Medicine, Aga Khan University, Karachi

Objective: In October 2002, Aga Khan University (AKU) Medical College shifted from a didactic teaching system for undergraduate medical education to a Clinical Presentation Based curriculum using Problem-Based Learning (PBL) as one of the strategies. PBL focuses on integrated learning in clinical context through a self-directed approach (1). Facilitators are the backbone of the PBL system. We have previously reported (2) hiring fresh medical graduates as Teaching Assistants (TAs) in the department of Biological & Biomedical Sciences (BBS) to alleviate concerns regarding faculty overload. Over the years, we have observed that among the students there is a liking for having TAs as their facilitators. In this study we have compared the facilitation skills of the basic sciences faculty members and the TAs during one full academic year.

Method: Both the faculty members and the TAs received PBL training through a mandatory workshop. Data was collected through standard facilitation evaluation form (Likert's scale 1-7) filled by the students at the end of each teaching module. This form has 10 attributes covering various aspects of facilitation skills and 11th judging the 'overall facilitation skills' of the facilitator. In the academic year 2008-2009, 21 faculty members and 12 TAs facilitated in 31 and 35 modules respectively. Each faculty member facilitated on an average 1.47 ± 0.5 modules and each TA in 2.9 ± 1.1 modules. Data were analyzed using SPSS statistical package and means were compared using Student's t-test.

Results: Our results show that there was no significant difference between the overall facilitation skills of faculty and TA facilitators. In 4 out of 10 attributes TAs scored significantly higher compared with the faculty ($p < 0.05$).

Conclusion: Our data suggests that there is no difference in the overall facilitation skills of TAs and the faculty members. It appears that in attributes such as 'asking appropriate question, prioritize learning objectives and identifying misconceptions', the TAs perform better than the faculty members. However, there was no significant difference in the overall performance of faculty members and the TAs. Therefore, we can infer that this model of utilizing recent medical graduates as the facilitators for PBL sessions and carrying out PBL-related academic activities may be adopted by other universities in making successful shifts from traditional curricula to PBL mode of undergraduate medical curriculum delivery.

Keywords: Facilitation, PBL, Teaching Assistants

8.39

INTEGRATED COMMUNICATION SKILLS TEACHING IN A HYBRID CURRICULUM WITH PROBLEM-BASED LEARNING: DOES IT IMPROVE PATIENT-PHYSICIAN CONSULTATION SKILLS?

Shah Sameena¹, Andrades Marie¹, Rashida Ahmed², Aneela Jaleel³, Fasia Baseer⁴, Iqbal Azam⁵
Departments of¹Family Medicine, ²Pathology & Microbiology, ³Community Health Sciences, Aga Khan University and ⁴Biological & Biomedical Sciences and ⁵Medicine Department, Ziauddin Medical University, Karachi

Introduction: There is evidence that communication can be learnt and teaching communication skills at the undergraduate level leads to better health outcomes. Communication skills' teaching is now necessary for accreditation purposes and licensing examinations. It is known that problem-based learning (PBL) methods enhance communication skills but it is not known to what extent the addition of an integrated communication skills programme improves the patient-physician consultation skills of the students.

Research Question: Does the addition of an integrated communication skills programme in a Curriculum that includes PBL improve Patient-Physician Consultation Skills in medical students?

Method: In a quasi experimental study a total of fifty 3rd third year students were randomly selected from two private universities with curricula that include PBL. The university with an integrated spiral communication skills programme was taken as the intervention site. A four station OSCE of eight minutes each was conducted. There were two "history taking", one each of "breaking bad news" and "dealing with patient's health beliefs" stations. The simulated patients were trained to ensure standardization and validity. An equal number of examiners from each university were recruited and standard setting was done prior to the OSCE for each station. A seven point rating scale based on the Cambridge-Calgary Guide was used along with global assessment. The students were rated on seven communication skills constructs with individual items in each. Independent samples t-test and Repeated Measures ANOVA were used to compare overall and construct scores between the two universities.

Results: Higher scores were achieved by students in the university with an integrated spiral communication skills programme in three stations although the difference was insignificant. The university with an integrated spiral communication skills programme had significantly higher scores in the constructs of "Initiating the Session" (p-value=0.019), "Understanding the Patients Perspective" (p-value<0.001), "Providing Structure to the Consultation"(p-value=0.003), "Building the Relationship" (p-value<0.001) and "Closing the Session" (p-value<0.001) in addition to higher global scores.

Conclusion: The addition of communication skills teaching enhances individual communication skills as demonstrated on an OSCE, implying that the addition of communication skills teaching improves the process of the consultation.

Keywords: Communication Skills, Interagted Curriculum, Patient-Physician Consultation Skills

9.1**RESPIRATORY DYSKINESIA - AN UNDER-RECOGNIZED SIDE-EFFECT OF NEUROLEPTIC MEDICATIONS: A CASE REPORT**

Mukesh M. Bhimani, Murad M. Khan, Muhammad Shiraz Waris
Department of Psychiatry, Aga Khan University, Karachi

Objective: Respiratory dyskinesia (RD) is an under-recognized side effect of neuroleptic administration. It manifests as irregular respiration, dyspnea, grunting or gasping, and abnormal chest or esophageal movements. When reviewing tardive dyskinesia, textbooks and articles either fail to discuss this respiratory variant or dismiss it as rare. It may mimic other respiratory or cardiac disorders and is often overlooked or misdiagnosed. We describe a case of RD that we recently came across in our clinic

Method: Case Report

Keywords: Respiratory Dyskinesia, Tardive Dyskinesia, Antipsychotics

9.2**CLINICAL SPECIALTY AND GENDER AS PREDICTORS OF DEPRESSION AMONG RESIDENTS IN A TEACHING HOSPITAL**

Aisha Yousuf, Waris Qidwai
Department of Family Medicine, Aga Khan University, Karachi

Background: Depression and Anxiety are well recognized in medical profession. Many studies have been done for anxiety and therefore interventions have been made to resolve it. But unfortunately little work is done in Karachi for medical and surgical residents suffering from depression.

Objectives: To determine the frequency of depression among medical and surgical residents in a teaching hospital in Karachi and to identify the relationships between specialty and gender and the depression scores in them.

Method: A cross-sectional survey was conducted among residents at a teaching hospital AKUH in Karachi. Zung Self-Rating Depression Scale was administered for screening. The survey, stratified by sex and specialty, resulted in 192 responses, for 82.75 percent response rate.

Results: The rate of depression in the overall sample was 58.72 percent. Among different specialties depression was found in Allied medicine was 50.0 percent, in allied Surgery was 27.6 percent, in Internal medicine was 14.1 percent, General Surgery was 8.2 percent but the p value was 0.059. Among gender 56.8 percent male and 65.6 percent female residents were found to have depression but the p value was 0.484.

Conclusion: Our study indicates that the levels of depression among residents are significantly high. Specialty and gender are not the predictors for depression. Because depression is harmful to medical profession additional studies are needed to identify risk factors for depression in Karachi.

Keywords: Depression, Residents, Gender

9.3**FREQUENCY OF DEPRESSION AND ITS ASSOCIATED RISK FACTORS IN MEDICAL AND SURGICAL POST GRADUATE TRAINEES AT A TEACHING HOSPITAL**

Aisha Yousuf, Waris Qidwai
Department of Family Medicine, Aga Khan University, Karachi

Background: Doctors in depression need serious attention, otherwise inability to cope successfully with the enormous stress of education may lead to a cascade of consequences at both personal and professional level. This may also affect patient care and lead to preventable medical errors. *Objectives:* To determine the frequency of depression among post graduate medical trainees in a teaching hospital AKUH in Karachi and to determine the associated factors contributing to depression in them.

Method: A cross-sectional survey was conducted among 172 post graduate trainees in June to August 2008. Zung Self-Rating Depression Scale was administered for screening and self administered questionnaires were used to assess the associated demographic and work related risk factors. Adjusted odds ratios (OR) were calculated by logistic regression. *Results:* The response rate was 82.75%. Depression in the overall sample was 58.72% in which 66.3% were minimal to mildly depressed and 33.66% were moderate to markedly depressed. After adjusting for the effects of other variables in the model, the odds of working hours less than 76 hours (OR 3.71; CI=1.67, 8.23) and 76-90 hours (OR 3.150; CI=1.42, 6.97) and none or occasional peer support (OR 2.05; CI=1.01, 4.18) were associated with depression. *Conclusion:* Our study indicates that the levels of depression among post graduate trainees seem higher than expected. Because depression is harmful to medical profession, they should be encouraged to recognize and seek treatment. This study also indicates that less working hours and lack of peer support causes depression. Additional studies are needed to define the working hour's effect on depression in Karachi.

Keywords: Depression, Post Graduate Trainee, Risk Factors

9.5**SHORT TUNNELED VERSUS LONG TUNNELED VENTRICULOSTOMIES FOR EXTERNAL VENTRICULAR DRAINAGE**

Muhammad Zubair Tahir, Syed Ather Enam
Department of Surgery, Aga Khan University, Karachi

Objective: Hydrocephalus is a common clinical problem usually treated by permanent CSF diversion by ventriculo-peritoneal shunts. In certain conditions permanent diversion is avoided and temporary diversion is employed using external ventricular drains (EVDs). Two types of EVDs are used in practice, those with short and long subcutaneous tunnels. In this study we intend to compare the rate of infection in the two types of EVDs.

Method: This randomized control trial was carried out at Aga Khan University Hospital from 08.10.08 to 08.07.09 on 60 patients. Patients undergoing EVD insertion were included

and divided in two groups. Group A received short tunneled EVD and group B received long tunneled EVD. Post operatively, patients were monitored at regular intervals for EVD related infections. Data was analyzed using SPSS. P-value <0.05 was considered significant.

Results: Mean age of patients was 33.6 + 24.4 years, 32 % were male. In group A, out of 30 patients, 12 patients had IVH, which comprises 40% of total patient population. In group B non-pyogenic infections (43.3%) were the most important cause of hydrocephalus (13 out of 30 patients). Out of 30 short tunneled EVDs, 1 patient (3.3 %) developed catheter related infection. While in group B, who received long tunneled catheters, out of 30 cases, 3 (10%) suffered with infection (P-value 0.881).

Conclusion: Patients with short tunneled EVDs showed fewer incidences of catheter related infections than patients having long tunneled EVDs, although the result was not statistically significant. The insertion of long tunneled catheters did not seem to reduce the risk of infection.

Keywords: Hydrocephalus, External Ventricular Drain, Ventricles

9.6

MULTIMODALITY TREATMENT FOR CEREBRAL ANEURYSMS IN A DEVELOPING COUNTRY – INITIAL EXPERIENCE AND FUTURE PERSPECTIVES

Muhammad Zubair Tahir¹, Rajesh Kumar¹, Syed Ather Enam¹, Tanveer Ul Haq²

Department of ¹Surgery, and ²Radiology, Aga Khan University, Karachi

Objective: The aim of this study was to analyze the current status of different treatment modalities for cerebral aneurysms in term of resource consumption and cost effectiveness in developing country like Pakistan.

Method: The study consisted of 85 patients with sub arachnoid hemorrhage (SAH) identified prospectively from January 2004 to June 2009. 50 underwent surgical clipping while 35 were treated via interventional coils. Cost of treatment related to all aspects of the inpatient stay was evaluated in both groups.

Results: Average age of patients in the endovascular group was 38 years, whereas in the surgical group it was 45 years. 54 patients were found to be in good grades (1 and 2) according to the Hunt and Hess (H & H) grading system. Of these patients 22 received coils and 32 were clipped. The remaining 31 were of poor grades (H & H 3 and 4), of which 13 had coiling and 18 underwent clipping. 74 of 85 patients had anterior circulation aneurysms, and the rest of the patients (11 of 85) had posterior circulation aneurysms. The hospital stay in clipping and coiling patients was 12 and 7 days respectively. The average total cost for patients undergoing endovascular treatment of the aneurysms was \$5080, whereas the average total cost of surgical clipping was \$3127. **Conclusion:** Surgical clipping is more cost-effective in our setup. The benefits of apparent decrease in length of stay in the endovascular group were offset by higher procedure price and cost of consumables. Higher cost of GDC coils is major

hurdle in the development of endovascular neurosurgery in developing world.

Keywords: Cerebral Aneurysms, Clipping, Coiling

9.7

FACTORS ASSOCIATED WITH DEPRESSION AMONG ELDERLY IN KARACHI PAKISTAN

Kashmira Nanji¹, Masood Kadir¹, Khahir Ahmad², Haider Naqvi³

Departments of ¹Community Health Sciences, ²Surgery and ³Psychiatry, Aga Khan University, Karachi

Objective/Background: Depression is considered as a significant public health concern as it elevates morbidity, mortality and reduces quality of life among elderly. There is scarcity of analytical base comprehensive epidemiological studies on factors associated with depression in Pakistan. **Objective:** To identify factors associated with depression among elderly 60 years or above living in Karachi, Pakistan. **Method:** A multicentre matched case control study was conducted to achieve study objective. A total of 234 depressed cases and 468 non depressed controls were selected from four tertiary care hospitals in Karachi. Elderly (> 60 years) were recruited from psychiatric OPD whereas; controls were recruited from other OPD and were individually matched on age and gender with cases. We used gold standard for ascertainment of cases and controls. Analysis was performed using SPSS 11.5.

Results: Risk factors included in final conditional logistic regression model were living in nuclear family system, (MOR: 4, CI: 2.1-4.9), self reported difficult situation during past one year (MOR: 9, CI: 6.0-19.7), difficulty in hearing and vision both (MOR: 5, CI: 2.0-9.8), presence of > 2 NCD (MOR: 2, CI: 1.0-3.4) low socioeconomic status (MOR: 3, CI: 1.8-6.0). However involvement in leisure activity was found to have protective effect against depression. **Conclusion:** Several modifiable factors were identified thus interventions should be taken to reduce them and non modifiable factors should be used to identify high risk group for primary prevention. However factors identified through this study may vary in its association with depression across different communities.

Keywords: Depression, Elderly, Pakistan

9.8

MANAGEMENT OF PAN SPINAL (C1–SACRUM) EPIDURAL ABSCESS; CASE REPORT AND REVIEW OF LITERATURE

Muhammad Zubair Tahir¹, Syed Ather Enam¹, Rameez Ul Hasan²

Departments of Surgery, Aga Khan University and ²Jinnal Postgraduate Medical Center, Karachi

Objective: We report a rare case of panspinal epidural abscess in an immuno-compromised young lady.

Method: She presented with a low grade fever, back pain and progressive lower limb weakness. Her magnetic resonance imaging (MRI) of whole spine revealed an epidural abscess extending from C1 to sacrum.

Results: She was treated with minimally invasive surgical technique and showed excellent recovery. Authors have discussed the current literature on this rather unusual clinical entity and different treatment options available to deal with it.

Conclusion: Posteriorly located PEA can be drained with minimally invasive technique of non-contiguous laminotomies, fenestrations and flavectomies and irrigating the epidural space with small catheters cranially and caudally.

Keywords: Epidural Abscess, Laminotomies, Spinal Infection

9.9

COMMON PSYCHIATRIC PRESENTATIONS TO THE EMERGENCY DEPARTMENT OF A TERTIARY CARE HOSPITAL: AN AUDIT

Muhammad Shahid¹, Haider Naqvi², Kamran Hameed³, Hanniya Waseem¹, Abdul Samad
Departments of ¹Emergency Medicine, ²Psychiatry, and ³Medicine, Aga Khan University, Karachi

Background: In US approximately 6% of all emergency department visits comprise of psychiatric illnesses ranging from acute psychotic disturbances, manic episodes, major depression, bipolar disorder, and substance abuse. On an average 3-4 patients in a day either present with manifestations of psychiatric disease or are known psychiatric patients with medical or surgical problems to our emergency department.

Objective: The objective of the study was to see the characteristics of the psychiatric patients admitted through the Emergency Department of a tertiary care hospital.

Method: Retrospective chart review was done of patients admitted in Psychiatry ward through the Emergency Department at Aga Khan University Hospital Karachi during two years period (2006 and 2007).

Results: Three hundred and eighty seven patients were admitted during this time period; out of which 203 were females. Patients were mostly educated, unemployed and residents of Karachi. Many patients had 'Depression' as a final diagnosis when they were discharged from the Psychiatry service. Physical examination was not documented in the notes of most of the patients; however, mini mental examination was done in the Emergency Department. Complete blood count was the most common investigation which was sent through the Emergency Department.

Conclusion: As depression is very common among patients admitted through the Emergency Department, therefore, Emergency Physicians should be aware of the signs and symptoms of this disorder. It is also emphasized that physical examination of the Psychiatry patients should be documented in the Emergency Department notes.

Keywords: Psychiatry, Emergency Department, Characteristics

9.11

COMMUNITY BASED REHABILITATION CENTRE URBAN SQUATTER SETTLEMENTS OF KARACHI

Fouzia Arif, Yousuf Memon, Ajmal Agha, Fahmida Khawaja, Parveen Benjamin, Sultan Baig, Rubeca Stephen
Department of Community Health Sciences, Aga Khan University, Karachi

Introduction: Disability could be physical or neurological. In developing countries like Pakistan, disable population is usually excluded from the mainstream. This causes adverse affects on their already jeopardized health and development. Sultanabad is one of the squatter settlements of Karachi where AKU-CHS works with the community for their health and development. As one of the initiatives, the community has launched a center for disable children in which AKU-CHS provides technical support. The objectives of the center are to establish community based rehabilitation center for handicapped children, to identify problems faced by disabled children and to help them progress to be part of the mainstream population. As a first step towards planning services, community was screened to identify disable children.

Methodology: A survey was conducted in two sectors of Sultanabad. A questionnaire to screen disabilities was developed for the survey. Data were entered twice and validated using Epidata version 3.1 and analyzed using SPSS version 16.0.

Result: We screened 1200 households. We found 2481 less than 15 years children/adolescents. Among them, 40 (1.6%) had disability. Among them, 43.7% male and 56.3% were female. The disabilities included mental retardation (40%), epilepsy (13%), physical disability (8%), 15% with polio, and Down's syndrome (5%). It was noted that parents of 24 (60%) children/adolescents did not fill out the consent form due to embarrassment and fear of stigmatization, which left us with 16 (40%) children/adolescents to register. Consanguineous marriage was reported in 68.75%.

Conclusion: There is dire need to identify and manage the handicapped children/adolescents at squatter settlements and develop appropriate strategies to provide support them and their parents in coping with it.

Keywords: Community, Rehabilitation, Disable

9.12

CAMPARITIVE STUDY OF DEPRESSION IN HOUSEWIVES AND WORKING WOMEN

Fozia Riaz, Riaz H.Soomro
Department of Paediatrics & Child Health, Aga Khan University, Karachi

Objective: It is now recognized that depressive disorders in the developing world are a serious public health concern, predicted to become the most common cause of disability by the year 2020. This study is an attempt to compare a level of depression in housewives and working women and focuses on signs and symptoms of depression and their relationship with different variables

Method: It is primary data based study which was conducted in Bilal colony a peri urban area of Karachi. In this study level of depression is evaluated on the basis of questionnaires and results were analyzed on excel data basis
Results: Results reveal that level of depression is much higher in housewives as compare to working women and majority of housewives are suffering from severe depression which is alarming as well. Although working women are also suffering from depression but majority have mild depression.
Conclusion: The study will help researchers, psychiatrist and general public as regarding the awareness of depression its signs and symptoms and level of depression in housewives and working women. This study will open new doors of research and will be helpful in reducing morbidity related to this problem.

Keywords: Depression, housewives, working women

9.14

AN EXPLORATION OF THE INFLUENCE OF DISABLED CHILDREN ON THE LIVES OF THEIR MOTHERS IN KARACHI, PAKISTAN

Aisha K Yousafzai¹, Zia Farrukh³, Kausar S Khan²
Departments of ¹Paediatrics & Child Health, ²Community Health Sciences, and ³Nursing Education Services, Aga Khan University, Karachi

Objective: The majority of caregivers for disabled children are women, yet little is understood about how they perceive their role, particularly in a context where services to support disabled children are low. The study objectives were to explore the influence of disabled children on the daily lives of their mothers, to see whether the additional responsibility catalyses women's agency to address and overcome new challenges, and to identify possible issues that they choose to pursue for strengthening care for disabled children.

Method: A participatory qualitative research design was implemented. A women's group of caregivers of disabled children was formed in a low income community in Karachi, Pakistan. Several different tools were used during the course of the group meetings to facilitate discussion including social mapping. A thematic analysis was conducted.
Results: Disabled children were identified as a source of positive influence and power on the lives of mothers. In a society where women may experience restrictions in freedom of movement and decision making, caring for a disabled child enabled women to move beyond traditional boundaries. However, a lack of support for caregivers and services for disabled children in the wider community created anxiety and stress for women.

Conclusion: Previous literature has highlighted prejudice and marginalisation for disabled children in developing countries. However, protective factors within the home are an important source of well being for disabled children. Community based strategies designed to empower and strengthen the capacity of caregivers are essential for the well being of disabled children.

Keywords: Disability, Caregivers, Karachi

9.15

INCIDENTAL MULTIPLE SCLEROSIS LIKE LESIONS IN ASYMPTOMATIC PATIENTS; ANALYSIS OF 864 CONSECUTIVE MRI AT A TERTIARY CARE HOSPITAL IN KARACHI, PAKISTAN

Mohammad Wasay¹, Farhan Rizvi¹, Muhammad Azeemuddin², Adnan Yousuf¹, Sten Fredrikson
Departments of ¹Medicine, and ²Radiology, Aga Khan University, Karachi

Objective: Multiple sclerosis is uncommon in Pakistan. There is no published data reporting incidental multiple sclerosis in Pakistan

Method: Brain MRIs for 864 patients were retrospectively (333) and prospectively (531) reviewed at Aga Khan University Karachi during 2006-7 to identify patients with incidental multiple sclerosis. The lesions were characterized based on Barkhof criteria. Patients were excluded if they had a known history of multiple sclerosis and age less than 15 years and more than 40 years.

Results: Six patients out of 864 (0.7%) fulfilled brain MRI criteria suggestive of MS. The reason for MRI was headache (4 patients), recent head injury and headache (1 patient) and subjective memory loss (1 patient). Age range was 17-40 years (mean 33 years). There were four men and two women. None of the patients had risk factors for stroke. Serum B12 (done in 5 patients), Anti nuclear antibodies (done in 2 patients) and ESR (done in 2 patients) was normal. None of the patients underwent CSF analysis or Visual evokes potentials. Mean number of MRI lesions were 6 (range 3-12). None of the patients had any spinal cord lesions (cervical spinal cord MRI done in one patient). Two patients had brain stem lesions. The locations of lesions in most patients were deep white matter and periventricular white matter.

Conclusion: Although Pakistan is considered a low-prevalence area for MS, approximately 1% of brain MRI scans in patients without clinical MS symptoms showed lesions fulfilling brain MRI criteria of MS. Clinical and radiological follow up of these patients will be helpful to study the natural course.

Keywords: Incidental, Multiple, Sclerosis

9.16

STROKE IN YOUNG, ASIAN WOMEN; RISK FACTORS, SUB TYPES, PRESENTATION AND OUTCOME

Mohammad Wasay¹, Subash Kaul², N V Ramani³, Padma Gunaratne⁴, Bindu Menon, Ahmed Khalifa⁵, MM Mehndiratta⁶
Department of ¹Medicine, Aga Khan University, Karachi, ²Nizam Institute of Medical Sciences, Hyderabad, India, ³National Neurological Institute, Singapore, ⁴Mahidol University, Bangkok, Thailand, ⁵Gaziantep University, Gaziantep, Turkey and ⁶Pant Hospital, New Delhi, India

Background/Objective: About 20-25% patients admitted with diagnosis of stroke are younger than 45 years in Asian countries. Most studies report young stroke patients as a single group though risk factors and outcome are different based on gender in this group. The data is limited regarding risk factors

and outcome of stroke in young women. Objective: The objective of our study was to evaluate risk factors, presentation and outcome of young Asian women presenting with ischemic stroke.

Method: The data was collected from 14 centers in eight Asian countries from 2007-08 by retrospective review and prospective enrollment. For retrospective chart reviews patients were identified by ICD-9 coding system or extracted from hospital base registries. For prospective enrollment patients were identified by participating physicians at respective hospitals. Women with ages 15-45 were included if they had a ischemic stroke (both arterial and venous) confirmed by CT scan or MRI. Patients with intracranial hemorrhage were excluded.

Results: A total of 926 patients were included in the study. Mean age was 34 years (Range 15-145 years). Cardiovascular risk factors were present in 46% women including hypertension (36%), Diabetes (18%), Valvular heart disease (13%), dyslipidemia (10%) and history of previous stroke (5%). Only 2% women were smoker and 2% had a known history of hypercoagulable state. 79 (9%) women were pregnant or post partum. CT scans were done in 68%, MRI was done in 27% and both tests were done in 5% patients. Intracranial MRA was done in 259 (28%) for evaluation of intracranial disease. MRA findings included normal (14%), normal variant (1%), diffuse atherosclerosis (3%), Focal stenosis of a major intracranial vessel (7%) and focal occlusion of a major intracranial vessel (2.6%). Extracranial carotid Dopplers were done in 351(38%) patients out of whom 47 (5%) patients had more than 50% stenosis of carotid arteries. A work up for hypercoagulable state done in less than 25% patients revealed Low Protein C levels (4%), Low Protein S (4%), Elevated serum Homocystiene levels (5%) and positive Anti Phospholipid Antibodies (3%). 24% patients had large vessel thrombotic stroke, 22% patients had cerebral venous thrombosis, 15% had cardioembolic stroke, 15% had stroke of ill defined etiology, 14% had small vessel strokes and 10% had other causes of stroke. Discharge mortality was 4.5%.

Conclusion: Stroke in young women are not uncommon in Asian countries. Venous stroke constitute a large group (22%) among these patients. Most of the patients did not undergo a thorough workup for evaluation of stroke. Mortality is low among these patients.

Keywords: Stroke, Young, Asian Women

9.17

CEREBRAL VENOUS THROMBOSIS IN YOUNG, ASIAN WOMEN; RISK FACTORS, SUB TYPES, PRESENTATION AND OUTCOME

Mohammad Wasay¹, Subash Kaul², Padma Gunaratne³, Bindu Menon⁴, Niphon Pongvarin, Abdul Malik⁵, Suneel Kumar, Shahzad Ahmed⁶, Safia Awan¹, Mohammad Saadatnia⁷
¹Department of Medicine, Aga Khan University, Karachi, ²Nizam Institute of Medical Sciences, Hyderabad, India, ³The National Hospital of Sri Lanka, ⁴Mahidol University, Bangkok, Thailand, ⁵Liaquat National Hospital, ⁶Jinnah Postgraduate Medical Center, Karachi and ⁷Isfahan University of Medical Science, Isfahan, Iran

Objective: The data is limited regarding risk factors and outcome of cerebral venous thrombosis in young women. The objective of our study was to evaluate risk factors, presentation and outcome of young Asian women with cerebral venous thrombosis (CVT).

Method: The data was collected from 14 centers in eight Asian countries. Women with ages 15-45 were included if they had a diagnosis of CVT confirmed by CT scan or MRI/MR Venogram. Patients with intracranial hemorrhage were excluded

Results: There were 201 patients included in the study. Age range was 15-45 years (Mean 29 years). Pregnancy and post partum state (48 patients; 24%) was not common predisposing factor. Hypercoagulable states constituted for 45 (23%) cases including Protein S deficiency (17%), Protein C deficiency (16%), Anti thrombin III deficiency (13%), elevated Serum Homocystiene (11%) and Anti phospholipids antibodies (3%). Other predisposing factors included use of Birth control pills (5%), infections (3%) and Factor V mutation (2%). Hemorrhagic infarcts were present in 44(22%) patients while non hemorrhagic infarcts were present in 43(21%) patients. These infarcts were associated with mass effect (10%) and mid line shift (4%). Superior sagittal sinus thrombosis was present in 44% patients followed by Transverse sinus thrombosis (31%) sigmoid sinus (14%) and straight sinus (8%). Anticoagulation was the main treatment used in 122 (61%) patients followed by anti platelets (75 patients; 37%). Three patients (1.5%) underwent surgical decompression. None of the patients received thrombolytics. Mortality at discharge was 9(4.5%). There was no difference in mortality in patients with obstetric versus non- obstetric CVT. *Conclusion:* Cerebral venous thrombosis is a common cause of stroke in young Asian women. Obstetric causes and hypercoagulable states are responsible for almost half of the cases. Mortality among these patients is low.

Keywords: Cerebral, Venous, Thrombosis

9.18

SEASONAL VARIATION AMONG STROKE PATIENTS PRESENTING TO AGA KHAN HOSPITAL, KARACHI

Muhammad Fahad Saleem, Ayeesha Kamran Kamal, Mohammad Wasay
Department of Medicine, Aga Khan University, Karachi

Objective: Seasonal variation in stroke is known. There is minimal published data on seasonal variations of stroke in Pakistan. The aim of study was to examine seasonal variation in stroke and its subtypes in patients visiting a Tertiary Care Hospital in Karachi

Method: Patients admitted in Aga Khan University Hospital, from August 2007 to July 2008 with new stroke, diagnosed on history, clinical examination and CT scan or MRI was included. Patient who developed stroke due intervention, due to aneurysm rupture and not having neuroimaging to confirm clinical diagnosis were excluded.

Results: Patient's age ranged from 18-95 years with mean of 60.9 (SD12.89). 146 (62.1%) were male. Out of 235 cases, 82 (34.9%) presented in winter, 69(29.4%) in spring, 44 (18.7%) in summer and 40 (17%) in Autumn. 177 (75.3%) had ischemic stroke, out of which 57(24.3%) were in winter, 52(22.1%) in spring, 34 (14.5%) both in summer and autumn. Hemorrhagic stroke occurred in 25 (10.6%) in winter, 17 (7.2%) in spring, 10 (4.3%) in summer and 6 (2.6%) in autumn. In winter and spring out of 151 subjects, 109 (72.2%) had ischemic strokes and 42 (27.8%) had hemorrhagic strokes while in summer and autumn out of 84 subjects, 68 (80.95%) had ischemic strokes and 16 (19.05%) had hemorrhagic strokes. The numbers of stroke admissions were higher in winter and spring months as compared to summer and autumn months. No significant difference was found in types of stroke due to seasonal variation (p value= 0.3145).

Conclusion: The numbers of stroke admissions were higher in winter and spring months. There is no significant variation in frequency of stroke and its types in different seasons of year in Tertiary Care Hospital in Karachi.

Keywords: Seasonal, Variation, Stroke

9.19

VITAMIN D DEFICIENCY IN A COHORT OF PATIENTS WITH PARKINSON'S DISEASE

Mohammad Wasay¹, Adnan Yousuf¹, Iqbal Azam²
Departments of¹Medicine, and²Community Health Sciences, Aga Khan University, Karachi

Objective: The role of vitamin D deficiency in Parkinson's disease has been recently described. Few studies have reported higher prevalence of vitamin D Deficiency in PD patients as compared to control. It is unclear that this deficiency is related to patient's activity level, exposure to sunlight or medications use. **Objective:** To identify frequency of 25- Hydroxy vitamin D deficiency in patients with known PD and its possible relationship with activity level and medication use. **Method:** Vitamin D levels were checked in consecutive patients with established PD. The levels were defined as mild Vitamin

D Deficiency; 15-20 ng/ml, moderate Vitamin D Deficiency; 10-14 ng/ml and severe Vitamin D Deficiency; less than 10 ng/ml. Activity level was described as normal, assisted ambulation and bed ridden or wheel chair bound. **Results:** We analyzed 35 patients. Age range was 41-76 years (mean 55 years). There were 16 women. Mean duration of PD was 6 years (range 4-13 years). 22 patients were active as normal; eight patients were ambulatory with assistance and five patients were wheel chair bound or bed ridden. Only 3 patients were taking Dopamine agonist monotherapy, 16 patients Levodopa monotherapy and 16 patients were taking combination therapy. Vitamin D levels were normal in 7 (20%) patients, mild deficiency 12 (35%), moderately deficient in 10 (30%) and severe deficiency in 6 (17%) patients. There was no statistically significant correlation between activity level and vitamin deficiency states, duration of PD and number of medications. The lack of significance was most likely due to small sample size.

Conclusion: Vitamin D deficiency was highly prevalent in our patient population. There was no statistically significant correlation between activity level and vitamin deficiency states, duration of PD and number of medications. Large prospective studies are needed to analyze this correlation.

Keywords: Vitamin D Deficiency, Cohort Of Patients, Parkinson's Disease

9.20

AORTIC ARCH VASCULAR DISEASE: A NEW CAUSE OF STROKE IN A SOUTH ASIAN POPULATION?

Ayeesha K Kamal¹, Kamran Kamal², Zafar Sajjad², Rushna Raza³, Sidra Raoof³, Sahar Zafar³
Departments of¹Medicine, ²Radiology, and³Medical College, Aga Khan University, Karachi

Objective: The distribution of atherosclerotic stenosis in the aortic arch and its branches has not been described in South Asians in a developing country. **Aims:** This is a prospective study from a tertiary care hospital with a regional stroke center serving the city of Karachi with a population of 20 million. **Method:** Patients greater than age 18 years admitted with the diagnosis of stroke who received a gadolinium enhanced magnetic resonance angiogram (MRA) were enrolled in this study. All MRA studies were independently reviewed by two neuroradiologists (ZS, MKK) for vascular stenosis from the aortic arch to the circle of Willis. Medical details were independently collected. A vascular neurologist (AKK) reviewed the final medical and radiologic data and assigned appropriate stroke classification by the Trial of Org 10172 in Acute Stroke Treatment (TOAST) method. The stroke neurologist assigned symptomatic and asymptomatic status to the vascular lesions based on detailed review of each case. In addition, data was coded for whether associated aortic arch disease was: 1) etiologic- apart from the aortic arch disease no other proximate cause of stroke could be identified, 2) affecting management- by affecting collateral supply for e.g. arch disease that rendered intervention at distal carotid bifurcation futile, 3) presymptomatic bystander- the disease was present as a marker of atherosclerosis but not etiologic

or adversely contributing to morbidity from the proximate cause of stroke. Informed consent was taken from patients and the study was approved by the Local Ethical Review Committee.

Results: Patients were screened during the period of April 2006 to April 2008. A total of 63 patients were enrolled. The mean age was 54.63 years, 51 (81%) patients were male and 11 (17.5%) were female. Prevalence of risk factors was as follows: Hypertension 76.2%, DM 49.2%, Smoking 33.3%. The TOAST classification was atherosclerosis 42.9%, lacunar 17.5% and cardio embolic 17.5%. Supra aortic disease was etiologic in 11% of patients with the most common involvement of the vertebral take offs. In 17.5% of the patients it affected management by decreasing collateral supply. In 19% of the patients there was presymptomatic aortic arch disease.
Conclusion: Vertebral artery takeoff disease may be an important cause of large artery stroke in Asian – Pakistani patients. Ongoing studies will further refine these preliminary observations.

Keywords: Aortic Arch, Vascular, Disease

9.21

DESIGNING OBJECTIVE STRUCTURED CLINICAL EXAMINATION (OSCE) FOR NEUROLOGY RESIDENCY EXAMINATION USING 'PAIRED COMPARISON TECHNIQUE'

Mughis Sheerani, Ghazala Perveen, Mubashira Hashmi, Nausheen Ahmed, Sonya Hanif, Royala Zaka
Department of Medicine, Aga Khan University, Karachi

Objective: To design and develop an Objective Structured Clinical Examination (OSCE) to assess affective domain and psychomotor skills of the Neurology Residents at different levels of training during their residency program
Method: Seventeen Neurology faculty members at different teaching Hospitals of Karachi were interviewed and were given the questionnaire. The neurology faculty was asked to identify the most important domains that cannot be tested by multiple choice questions (MCQs) or short essay questions (SEQs). The responses were taken on a specially designed form that compared each modality against each other (Paired comparison technique). The responses from the Neurology faculty were entered in the grid and probabilities were calculated. The most common attributes that can be tested in OSCE type examination were divided into groups as follows: Group1 communication skills/Ethics; Group2: Interpret: EEG/EMG/Neuro-radiology; Group 3: History taking skills; Group 4: Examination/ localization; Group5: Lumbar puncture skills
Results: The probabilities calculated were as follows: Communication skills and Ethics compared to EEG/EMG/Neuroradiology was 0.5, to History taking was 0.9, to Examination/ Localization 0.88 and compared to Lumbar puncture was 0.41. EEG/EMG/Neuroradiology when compared to Communication skills was 0.48, to History taking was 0.70, to Examination/localization was 0.90 and to Lumbar puncture skills was 0.23. History taking skills when compared to Communication skills and Ethics was 0.10, EEG/EMG/Neuroradiology was 0.30, Examination/localization

was 0.24 and Lumbar puncture skills was 0.52. Examination/Localization when compared to Communication skills/Ethics was 0.12, to EEG/EMG/Neuroradiology was 0.10, to History taking was 0.76, to Lumbar puncture was 0.17. Lumbar puncture when compared to Communication skills/ Ethics was 0.59, to EEG/ EMG/ Neuroradiology 0.77, to History taking 0.48 and compared to Examination / localization was 0.83

Conclusion: The probability of selecting 'history taking skills' and 'localization' was the highest as compared to the skills of 'lumbar puncture' and interpreting tests results like electromyography (EMG) and electroencephalography (EEG). Surprisingly, the probability of selecting 'communications skills' and 'ethics' over history taking and localization was lower than one would have anticipated.

Keywords: Paired, Comparison, Technique

9.22

SEX AND HEMORRHAGIC STROKE: DOES THE FORMER INFLUENCES THE LATER?

Mubashira Hashmi¹, Shaista Siddiqi², Liaquat Ali, Farrukh S.Khan¹

Department of¹ Medicine, Aga Khan University, Karachi and² Liaquat National Hospital Karachi,

Objective: Gender differences in the risk factors, outcome and management of cardiovascular disease, ischemic stroke or stroke in general have been reported by previous data. Very few studies are available to analyze whether various aspects of hemorrhagic stroke differ by sex. Objectives: To study the influence of sex on risk factors, clinical presentation, and outcome of patients with hemorrhagic stroke

Method: We prospectively enrolled 163 patients (99-males and 64-females) with hemorrhagic stroke presented to Liaquat National Hospital from March 2007, to September 2008. Sex differences in demographics, clinical characteristics, laboratories and acute stroke outcome were determined. These are the initial results, as the study is still recruiting patients.

Results: Females were five years older than males (61 vs. 56 years, p value=0.02). Males smoke more (16% vs. 3%) where as diabetes (31%, p value=0.08), hypertension (HTN) (92.2%, p value=0.08) and history of old stroke (23% vs. 16%) were more commonly seen in females. Females also had a much higher systolic blood pressures (176 vs. 166mmHg, p value=0.07) as compared to equal diastolic pressure in both sexes at presentation. History of falls related more commonly to males (16% vs. 9%) while altered sensorium was more frequent in females (22% vs. 32%, p-value: 0.03). Females have high HDL and serum platelet counts (50 vs. 45mg/dl, p value=0.02), (307 vs. 227 p value=0.03). Females also had a longer hospital stay (10 vs. 8 days) and more in hospital mortality (22% vs. 14%).

Conclusion: Some clear differences in patients presenting with hemorrhagic stroke in relation to sex has been determined. Risk factors were more in female, with increase systolic blood pressures and altered sensorium at presentation. Better control

of these might lessen the longer hospital stay and poor outcome in this sex.

Keywords: Sex, Hemorrhagic, Stroke

9.23

CARBAMAZEPINE AND ATHEROSCLEROSIS: IS THERE ANY LINK?

Mubashira Hashmi¹, Shaista Siddiqi, Mughis Sheerani¹, Sarah Saleem², Abdul Malik, Tehseen Kazmi, Farrukh Shohab¹
Departments of ¹Medicine, and ²Community Health Sciences, Aga Khan University, Karachi

Background: Carbamazepine is one of the most commonly prescribed anti-epileptic drugs in children and adults. Long-term use of Carbamazepine has shown to affect metabolism of lipids and lipoproteins, altering their serum levels. Furthermore through its enzyme inducing properties, it can significantly lower serum levels of lipid lowering agents. There are contradictory reports on the potential pro-atherogenic properties of Carbamazepine; predisposing epileptics to dyslipidemia and risk of atherosclerosis. There are few regional studies available which have dealt with this important issue; however no local data has been reported till date.
Objectives: The aim of this study is to evaluate the effect of Carbamazepine on serum lipids of young epileptics of our community.

Method: We carried a prospective observational study at out-patient department of Liaquat National Hospital. A total of 74 subjects, 37 each from exposed (epileptics on Carbamazepine therapy) and non-exposed group (healthy controls who are not on Carbamazepine therapy) were included. Fasting lipid profile of all the selected subjects was checked and matched with normal values as defined by National Cholesterol Education Program (NCEP).

Results: Mean values of total cholesterol, triglycerides and HDL-C were significantly raised in exposed group (subjects on Carbamazepine treatment) as compared to non-exposed group (p value=0.005). Mean value of LDL was not significantly altered (p value=0.2) Total number of subjects with deranged lipid profile was significantly high in exposed group as compared to non-exposed group (p value=0.009). Atherogenic ratio however was not significantly affected in exposed subjects. No significant relationship was seen between deranged lipid profile and other variables like age, sex, type of diet mostly taken and BMI.

Conclusion: To conclude, in the present study lipid values of epileptics on Carbamazepine therapy were found to be significantly altered. The Atherogenic ratio, which is the true predictor of coronary heart disease, however was not deranged in the subjects on the Carbamazepine therapy. Long term prospective studies are required to evaluate the risk of atherosclerosis caused by alteration in serum lipid levels in epileptics receiving long-term treatment with Carbamazepine.

Keywords: Carbamazepine, Atherosclerosis, link

9.24

LONG-TERM CLINICAL OUTCOME OF PATIENTS WITH GBS IN KARACHI

Nadeem A. Memon, Maqsood Ahmed, Nasir Khan, Asmita Panjwani, Mustafa Khan, Bhojo A. Khealani
Department of Medicine, Aga Khan University, Karachi

Background: Guillain-Barre Syndrome is an acute polyneuropathy, characterized by an ascending paralysis, areflexia and albuminocytological dissociation. In contrast to West, acute outcome of axonal and demyelinating varieties of GBS is reported to be similar in our country, where 74.2% showed significant recovery at 30 days. Regarding long-term clinical out come, 12 out of 13 patients of GBS were able to walk without support at one year time in Japan. However, there is no published data on long-term outcome of GBS from Pakistan.

Objective: To determine longterm outcome of GBS.
Method: All patients who were referred to Clinical Neurophysiology laboratory at AKUH, during 2006 and 2007, for electrodiagnostic evaluation of GBS were identified through departmental record/register. The patients with electrodiagnostic data supportive of GBS were interviewed on telephone. Modified Rankin Disability Scale was used to measure the outcome. The patients were inquired to determine outcome at 2 weeks, 3 months, 6 months and 12 months. GBS subtypes were determined on basis of Ho et al criteria for GBS subclassification. SPSS version 16.0 was used for analysis.

Results: A total of 40 patients were identified and 17 were accessible. Their mean age was 31.4 ± 13.9 years. Twelve (70.6%) were male. Eight (47%) had preceding illness (fever, diarrhea etc). Mean duration of GBS symptoms at the time of electrodiagnostic study was 10.8 days. Six (36%) had AMAN variant, four (23%) had AIDP, and seven (41%) had unclassified GBS. Ten (59%) received IVIG, three (17%) received steroids, one patient received plasmapheresis, one patient received multivitamins and one patient received both IVIG and plasmapheresis. MRDS score was 3 or more in 76.5% of patients at the time of NCS/EMG. At two weeks, almost half of the patients showed improvement and only 35% had MRDS 3 or more. At three months, none of the patient had MRDS greater than two, and only 18% of total patients showed mild disability (MRDS of 2 or less). At 6 and 12 months, none of the patient showed MRDS score more than one (at 6 months 47% had MRDS of 1 and at 12 months 23% had MRDS of one). Finally, 76.5% of total patients achieved complete recovery at one year.

Conclusion: Longterm outcome of GBS is excellent. However, a significant minority continue to have mild residual symptoms at one year. These findings require confirmation on large scale prospective study.

Keywords: Long-Term, Clinical Outcome, Gbs in Karachi

9.25**PREVALENCE OF TEMPORAL LOBE EPILEPSY (TLE) AND MESIAL TEMPORAL SCLEROSIS (MTS) IN A TERTIARY CARE HOSPITAL IN PAKISTAN**

Fowzia Siddiqui¹, A Zafar, SA Quadri², SN Ahmed³

¹Department of Medicine, Aga Khan University, ²Dow University of Health Sciences, Karachi, and ³University of Alberta, Canada

Objective/Background: The study aims to determine the prevalence of TLE in a tertiary-care hospital in Pakistan. The study also highlights patient subset with MTS confirmed through MRI as future surgical candidates.

Method: A retrospective study in a hospital-setting with an established specialized epilepsy clinic. A detailed questionnaire was filled describing seizure semiology and relevant investigations. 619 visiting patient were registered in the clinic. All files were reviewed. Diagnoses for the varying seizure types were mentioned in the files by two American Board Certified epileptologists. Non epileptic patients were excluded. All MRI's were reviewed and MTS was identified using 2mm MR slices.

Results: 469 patients were diagnosed with epilepsy. These included 247(53.6%) males and 213(46.3%) females. Out of 186 patients with complex partial seizures with or without secondary generalization, 84 (45%) had TLE. EEG reports were available for 74/84 patients, out of which 66 (89%) showed temporal discharges. MTS was confirmed in 27%. Good seizure control was achieved in 21 (25%) while 24(28%) were refractory to drug therapy.

Conclusion: TLE is a prevalent form of focal onset seizures with or without secondary generalization in Pakistan, a quarter of whom remain refractory to drug therapy and a third has MTS. The high number of TLE and MTS patients at our clinic emphasizes the need for comprehensive epilepsy surgical programs in Pakistan.

Keywords: TLE, MTS, Pakistan

9.26**ISCHEMIC STROKE PATTERNS, RISK FACTORS AND ACUTE OUTCOME: RESULTS FROM NATIONAL ACUTE ISCHEMIC STROKE DATABASE**

Bhojo A. Khealani, Sidra Aurangzeb, Hazim Brohi, Mohammad Tariq, Ibrahim Alam Siddiqui, Arsalan Ahmed, Farrukh Shahab, Safia Awan, Mohammad Wasay
Department of Medicine, Aga Khan University, Karachi

Background: Stroke is a common neurologic diseases but large, multicenter, case series/database are lacking from our country. Such data is important to identify stroke pattenen, risk factors, management paradigms and acute outcome.
Method: All patiens of age 14 and above, admitted within a week of radiologically proven ischemic stroke at five tertiary care centers in Pakistan were prospectively recruited in the data base. There demographic, clinical, laboratory, radiologic and pharmacologic data was recorded and anlyzed.
Results: A total of 824 patients were recruited. 497 (59%)

were male. Their mean age was 60 ± 14 years. 137 (17%) were younger than 45 years. 11% had stroke onset while asleep. Mean time from stroke onset to presentation was 20±22 hours. Only 3% presented within 3 hours window and additional 10% presented in 6 hour window. 48% had HTN, 19% had CAD, 18% had past history of stroke, 14% had hshistory of DM, 7% had hstory of TIA and 2% each had Afib and Rheumatic heart disease. Mean NIHSS at presentation was 13±9 and at discharge was 8.5±7. 79% had modified Rankin score of 3 or more at admission. 44% had modified Rankin score of 3 or more at discharge and 14% died during the hospital stay. 31% had large vessel thrombotic, 25% had small vessel thrombotic, and 11% had cardioembolic strokes. Only 0.6% patients recieved tPA. At discharge 40% recieved aspirin, 43% recieved aspirin and persantin, 9% were anticoagulated and 15% recieved clopidogril. 67% were discahrged on lipid lowering agents, 50% on anti hypertensive medications, 17% on oral hypoglcmic agents and 7% on insulin.

Conclusion: Only a minority of patients reach to a tertiary care center within time window for thrombolytic therapy and of these only a quarter of the patient's recieved thrombolytic therapy. Hypertension is the most common risk factor followed by CAD, prior cerebro vascular events and diabetes mellitus. Large vessel thrombotic and small vessels thrombotic are most common mechanisms for the stroke followed by cardioembolic. We noted relatively higher case fatality during acute period. Statins are underutilized. Efforts are needed to improve awareness to control risk factors and to improve early presentation to tertairy care centers for thrombolytic therapy.

Keywords: Ischemic, Stroke, Patterens

9.27**CLASSIFICATION AND CLINICAL FEATURES OF HEADACHE DISORDERS IN PAKISTAN: A RETROSPECTIVE REVIEW OF CLINICAL DATA**

Muhammed Murtaza¹, Mehreen Kisa¹, Haroon Daniel², Aziz B. Sonawalla³

¹Medical College, ²Nursing Education Services, and ³Department of Medicine, Aga Khan University, Karachi

Background/Objective: Morbidity associated with primary headache disorders is a major public health problem with an overall prevalence of 46%. Tension-type headache (TTH) and migraine are the two most prevalent causes. However, headache has not been sufficiently studied as a cause of morbidity in the developing world. Literature on prevalence and classification of these disorders in South Asia is scarce. The aim of this study is to describe the classification and clinical features of headache patients who seek medical advice in Pakistan.

Method: 255 consecutive patients who presented to a headache clinic at a tertiary care hospital were enrolled in this study. A questionnaire was filled during each consultation that recorded demographic details, onset and lifetime duration of illness, pattern of headache, associated features and family history. International Classification of Headache Disorders

(ICHD) version 2 was applied. Chronic Daily Headache (CDH) was defined as greater than 14 episodes per month. *Results:* 66% of all patients were women and 81% of them were between 16 and 49 years of age. Migraine was the most common disorder (206 patients) followed by TTH (58 patients), medication-overuse headache (6 patients) and cluster headache (4 patients). CDH was seen in 99 patients. Patients with TTH suffered from more frequent episodes of headache than patients with migraine (p value <0.001). Duration of each headache episode was higher in women with menstrually related migraine (MRM; p value=0.015). Median age at presentation and at onset was lower in patients with migraine who reported a first-degree family history of the disease (p value=0.003 and p value <0.001 respectively).

Conclusion: Patients who seek medical advice for headache in Pakistan are usually in their most productive ages. Migraine and TTH are the most common clinical presentations of headache. Onset of migraine is earlier in patients with first-degree family history. MRM affects women with more severe disease and warrants special therapeutic consideration. Follow-up studies to describe epidemiology and burden of headache are needed.

Keywords: Classification, Clinical Features, Clinical Data

9.28

PREVALENCE OF REFLEX EPILEPSY IN A TERTIARY CARE HOSPITAL; AN UPDATED STUDY

Mustafa Khan, Asmita Jawaid, Mughis Sheerani
Department of Medicine, Aga Khan University, Karachi

Objective: To study the electroencephalographic and clinical characteristics of patients with reflex epilepsy in a tertiary care center. *Background:* A variety of stimuli may give rise to seizures. These include touch, wind, rubbing, and tapping. In addition to photic and auditory stimuli, cutaneous stimuli should be used in EEG evaluation. This is especially true for the cases where the patient identifies a particular stimulus as a trigger of his or her seizure. The occurrence of such patterns is not well defined in our setting.

Method: We retrospectively reviewed all EEG studies referred for evaluation of reflex epilepsy at Neurophysiology laboratory at the Aga Khan University Hospital, Karachi during last 3 years. Routine protocol for EEG recordings and history taking was adopted and the patients with history of any sort of triggered seizures were reviewed for reflex epilepsy. *Results:* Twenty-two patients were identified on the basis of clinical history over the last three years period. Mean age of the patients was 4 years (range 3 to 11 years). Fourteen patients (64%) were male. Sixty eight percent had a first degree relative that had epilepsy. Majority of patients had seizures of focal onset. Three patients (14%) reported nocturnal seizures as well. EEG showed focal spikes in 16 patients (73%) associated with tapping on fingertips of both hands and feet, whereas 2 patients (9%) EEGs showed bursts of generalized sharp waves while they are having meals. Four patients (18%) showed spikes with an auditory stimulation at 2500 – 3000 Hz frequency. Follow up EEGs at 1 year revealed marked diminution of the epileptiform activities.

Conclusion: Reflex epilepsy is not so rare entity in our setup. Reflex epilepsy appears to be a disease of childhood. Terminal sensory stimulation was the common factor for inducing seizure activities. Careful neurological exam and electrophysiological evaluation helps in diagnosis of reflex epilepsy.

Keywords: Reflex, Epilepsy, Updated Study

9.29

COMPARISON OF CMAP OF PERONEAL NERVE FROM EDB AND TA MUSCLES IN RELATION TO POSTURES ADOPTED DURING PRAYERS OFFERED BY MUSLIMS; A MULTI CENTRE STUDY

Mustafa Khan, Rahim Jan, Asmita Jawaid, Bhojo Asumal
Khelal, Nadir Ali Syed
Department of Medicine, Aga Khan University, Karachi

Background: The lesions of the common peroneal nerve occur more frequently than lesions of other nerves in the leg secondary to leg postures. It was observed during routine NCS that patients having low CMAP amplitude from EDB while having normal CMAP amplitude from TA were often regular prayer offering people. On the basis of this observation, we conducted a study in Neurophysiology labs of The Aga Khan University Karachi to look for the frequency of false positive peroneal neuropathy in normal subjects as a result of damage to EDB muscle secondary to peculiar posture adopted during prayers in Muslim.

Objective: To look for the frequency of false positive peroneal neuropathy in normal subjects as a result of damage to EDB muscle secondary to peculiar posture adopted during prayers in Muslim population

Method: This is a prospective multi center study. 60 Muslim subjects were selected randomly between the ages of 25 – 60 years. Subjects were divided in two groups that is (group – 1) 40 subjects (20 from each sex) who offer complete prayers 5 times a day regularly for last 5 -10 years and (group – 2) 20 subjects (10 from each sex) who either rarely or don't offer prayer were selected from the hospital employees of these two centers. All these subjects were screened out prior to the NCS for any other concomitant medical condition affecting the peroneal nerve CMAP. Conventional techniques of NCS of bilateral peroneal motor nerves from EDB and TA muscles, bilateral posterior tibial nerve as well as bilateral sural and superficial peroneal sensory nerves were applied to record data. Muscle mass of EDB muscle was measured with a measuring tape around foot. Data was analyzed on SPSS version 14.

Results: A total of 60 subjects were enrolled in this study. 30 were male 30 female. 40 (67%) (20 of each gender) subjects offer prayer regularly 5 times a day for last 5-10 years and 20 (33%) (10 of each gender) rarely or don't offer prayers. 30 out of 40 subjects (group – 1) have a sitting posture on left leg 2 have right leg while 8 have a sitting posture of crossed legs. All 60 subjects showed normal and symmetric motor NCS of bilateral posterior tibial and peroneal (from TA muscle) nerves as well as bilateral superficial and sural sensory nerves. Comparison of CMAP amplitudes of peroneal

motor nerve recorded from EDB muscle in group 1 showed 30 % low CMAP in 14/40 (35%) subjects while 50% in 24/40 (60%) subjects whereas no axonal loss was noted in 2 / 40 (5%) subjects. 5 - 10 % muscle mass difference in EDB was also noted in these subjects. Group 2 also showed 10 % low CMAP amplitudes in 1 / 20 (5%) subjects.

Conclusion: The reduced CMAP amplitude of peroneal motor nerve recorded from EDB muscles should be interpreted cautiously as it may be posture related and does not truly reflect peroneal neuropathy.

Keywords: CMAP, EDB, TA muscles

9.30

PSYCHIATRIC PRESENTATIONS OF SEXUAL DYSFUNCTION IN PAKISTAN: A CASE-NOTE REVIEW

Syed Ahmer, Faheem Khan, Mukesh Bhimani
Department of Psychiatry, Aga Khan University, Karachi

Objective: This is a case not review of all patients who had presented to the psychiatry clinic of a Aga Khan University hospital in Karachi, asking to see a specialist for sexual problems from January 2008 to May 2009. The sample consisted of 47 men and one woman.

Method: We devised a data collection form that encompasses all relevant details that psychiatrist takes in cases with presenting complains relating to sexual problem including treatment prescribed. Majority (52%) of patients was referred by urologist, and educated i.e. secondary class (79%) and married (73%), with median age of patients 25.5 years. We calculated frequencies and percentages through SPSS 16.0

Results: Prior to assessment only 17 % were known to have psychiatric illness; however assessment shows 23% suffering from mental illness. 25% of patients. Had history of substance use including 17% smoking and 8% alcohol. 96% reported involvement in masturbation at some point in their life. Majority reported their sexual orientation as heterosexual (79%), only 13% were exclusively homosexual. Presenting complains were categorized as arousal (39.6%), orgasmic (35.4%), desire (10.4%) and sexual pain disorder(8.3%). Majority of cases were diagnosed as suffering from Premature ejaculation(29.2%), closely followed by Premature Ejaculation (27.1%) and Depression (23 %). Majority of them were prescribed by SSRI as it addresses depression as well as premature ejaculation. Master & Johnson technique was educated in every case.

Conclusion: What we have presented in this study is probably only the tip of the ice-berg of sexual health problems in Pakistan. We need to find out more about what are the barriers that inhibit Pakistani populace from contacting a doctor to seek help for their sexual health problems.

Keywords: Sexual Dysfunction, Psychiatric Presentation, Psychiatric Sexual Presentation

9.31

PREVALENCE OF ANXIETY AND DEPRESSION IN MOTHERS OF CHILDREN AGED 0-3 YEARS RESIDING IN TANDO JAM SINDH

Sanober Nadeem, Ghazala Rafique, Seema Lasi
Department of Community Health Sciences, Aga Khan University, Karachi

Objective: Anxiety and depression is a common disorder in women in the world and has a direct effect on child social and emotional development. Children of depressed mothers suffer a variety of developmental, behavioral, and mental health problems, compared with children whose mothers are not depressed. Several studies conducted in Pakistan have revealed a high prevalence of over all anxiety and depression with more than double the prevalence in women, and a higher prevalence in rural compared to urban areas. Human development programme is working on Early Child Development (ECD) and objective of this study was to determine the prevalence of and factors associated with anxiety and depression among mothers of 0-3 years old children

Method: A cross sectional survey was conducted in the HDP field site in Tando Jam, Sindh on 203 women whose children were less than three years of age. Demographic questionnaire and Aga Khan University Anxiety and Depression Scale (AKUADS) were administered during household survey to identify depression and associated factors in mothers by trained community ECD workers.

Results: The prevalence of anxiety and depression among mothers of 0-3 years old children was 23%. Univariate analysis showed that women who are less educated (p-value < 0.001), were verbally and physically abused in the family (p-value < 0.001 & 0.01), had cousin marriage (p-value < 0.05) and dissatisfied with life (p-value < 0.001) are at risk of anxiety and depression.

Conclusion: This study has shown that women, who are less educated, abused in family environment, lack personal satisfaction in life and suffer from higher levels of anxiety and depression. Women empowered may help in improvement of maternal mental health

Keywords: Anxiety and Depression, Mothers, Pakistan

9.32

DEPRESSION AND ITS ASSOCIATED RISK FACTORS IN MEDICAL AND SURGICAL POST GRADUATE TRAINEES AT A TEACHING HOSPITAL: A CROSS SECTIONAL SURVEY FROM A DEVELOPING COUNTRY

Aisha¹, Waris Qidwai²
¹Alumni, Department of ²Family Medicine, Aga Khan University, Karachi

Objective: Depression in doctors demands serious attention, otherwise inability to cope efficiently with the stress of education and work may lead to consequences at both personal

and professional level. In recent years efforts geared towards counseling are becoming more common within hospital settings but unfortunately not for depression. And in case of doctors this may also affect patient care and lead to preventable medical errors. An extensive literature search revealed that there is a dearth of validated information on this subject. This study was therefore undertaken to determine the frequency of depression among post graduate medical trainees in a teaching hospital in Pakistan and to explore the associated factors contributing to depression in them.

Method: A survey was performed in a tertiary care teaching hospital in Pakistan. Zung Self-Rating Depression Scale was administered among 172 post graduate trainees for screening depression and self administered questionnaires were used to assess the associated demographic and work related risk factors. Adjusted odds ratios (OR) were calculated by logistic regression.

Results: The survey response rate was 82.69%. Depression in the overall sample was 58.72%, out of which 33.66% were moderate to markedly depressed. Multiple logistic regression analysis revealed that working hours less than 76 hours (OR 3.71; CI=1.67, 8.23) and 76-90 hours (OR 3.15; CI= 1.42, 6.97) and none or occasional peer support (OR 2.05; CI=1.01, 4.18) were independent predictors for depression among the post graduate trainees.

Conclusion: More than half of our sample population is depressed. Therefore, they should be encouraged to recognize and seek treatment. . We feel that depression among post graduate trainees is a relatively unexplored area and more studies should, therefore, be conducted to gather more validated information on the subject.

Keywords: Depression, Post Graduate Trainee, Risk Factors

9.33

EGO DEFENSE MECHANISMS IN PAKISTANI MEDICAL STUDENTS: A CROSS SECTIONAL ANALYSIS

Maria Adnan Parekh¹, Hina Majeed¹, Tuba Rashid¹, Anum Bilal¹, Salman Khalid¹, Nadia Mansoor¹, Roha Khalid¹, Mohammad Awaish¹, Ibrahim Rizqui¹, Imtiaz Jehan²
¹Medical College and ²Department of Community Health Sciences, Aga Khan University, Karachi

Objective: Ego defense mechanisms, defined by Freud as unconscious resources used by the ego to reduce conflict between the id and superego, are a reflection of how an individual deals with conflict and stress. This study assesses the prevalence of various ego defense mechanisms employed by medical students of Karachi, which is a group with higher stress levels than the general population.

Method: A questionnaire based cross-sectional study was conducted on 682 students from five major medical colleges of Karachi over 4 weeks in November 2006. Ego defense mechanisms were assessed using the Defense Style Questionnaire (DSQ-40) individually and as grouped under Mature, Immature, and Neurotic factors.

Results: Neurotic defenses had a higher mean score (5.62) than Mature (5.60) and Immature (4.78) mechanisms. Immature mechanisms were more commonly employed by males whereas

females employed more Neurotic mechanisms than males. Neurotic and Immature defenses were significantly more prevalent in first and second year students. Mature mechanisms were significantly higher in students enrolled in Government colleges than Private institutions ($p<0.05$).

Conclusion: Neurotic mechanisms are more commonly encountered than Mature or Immature mechanisms among medical students of Karachi, and this could reflect greater stress levels than the general population. Employment of these mechanisms was associated with female gender, enrollment in a private medical college, and students enrolled in the first 2 years of medical school.

Keywords: Defense Mechanisms, Sigmund Freud, Medical Students

9.34

GENERAL PHYSICIANS OPINION REGARDING COMMON PSYCHIATRIC DISORDERS: A COMMUNITY BASED SURVEY FROM KARACHI, PAKISTAN

Haider A. Naqvi¹, Sanyia R. Sabzwari², Sajjad Hussain¹, Muhammad Islam³, Mohammad Zaman¹
Departments of ¹Psychiatry, ²Family Medicine and ³Community Health Sciences, Aga Khan University, Karachi

Objective: There is substantial body of literature on recognition and management of common psychiatric disorders in general practice from western countries, where health care systems are better developed. In Pakistan almost 70% of health care services are provided by private health care sector, therefore it is important to explore the opinion of these general physicians regarding common psychiatric disorders.

Method: We conducted this survey in two stages over a period of nine months. In the first stage, a mapping exercise was conducted over the course of six months in order to create an epidemiologically representative sampling frame of 1800 general practitioners (G.Ps). Through this list, using cluster random sampling technique, we selected 360 GPs from the Karachi City. In the second stage we interviewed them using a pre-designed questionnaire. This questionnaire was designed by a group of psychiatrists and family physicians. It explored various issues related to knowledge, awareness and practices of G.Ps regarding common psychiatric disorders.
Results: We interviewed 360 doctors; among them 314 were males while 43 were females. The mean age of physicians was 44 years (St. Deviation 10.399). They had been in practice on an average of fifteen years (St. Deviation; 9.520). Majority (n=327) had graduated from a public sector medical college. When inquired about the frequency of patients with mental disorders in their daily practice, 70% (n=250) reported it to be about 10%. Around 72% (n=260) GPs reported that frequency of cases with depression and anxiety varied between one to five patients, seen on daily basis. Surprisingly, 63% (n= 229) general practitioners reported lack of awareness with the ICD-10 Diagnostic criteria for depression and anxiety disorders. This difference was statistically significant (Chi square; 7.866, df: 2, Sig 0.019), when year of graduation was stratified as recent and remote by year 2000. When we inquired about the familiarity with psychotropic medication, 75%

(n=290) reported experience with the benzodiazepine (BDZ) group of medications. Surprisingly only 35% and 20% cases reported familiarity with SSRI's and TCA's, respectively. Benzodiazepines were reported as a first choice medication for treatment of depression by 52% (n=185) physicians. This was followed by SSRIs, suggested by 31% (n=112) physicians. Benzodiazepines were also a preferred medication group for treatment of generalized anxiety disorder, panic disorder, bipolar affective disorder and somatization disorder as suggested by 50%, 30%, 37% and 34% GPs, respectively. There was an alarming predilection for BDZ prescription. It was concerning to note that 70% physicians thought they are providing effective care to patients with mental disorders. General practitioners (82%) reported lack of consultation-time as one of the main barriers to care. Majority (90%) of physicians reported patients' financial constraints to be a major impediment to specialized psychiatric service referral. A significant majority (70%) of general practitioners had not attended any continuous medical education program during last three years. However, half of all the interviewed GPs showed interest in doing so, if given an option. *Conclusion:* There were substantial gaps in the physicians' knowledge regarding the recognition and management of mental disorders in primary care. This has implications on the rational use of psychotropic medications in the primary care.

Keywords: Primary Care, Mental Disorders, Psychotropic Medications

9.35 SEXUAL ADDICTION LEADING TO MENTAL ILLNESS

Karishma Lalani¹, Hizbullah Khan², Saira Amiral², Zohra Bhagat²
¹Alumni, ²Nursing Education Services, Aga Khan University, Karachi

Objective: Sexual addiction is a term used to describe the behavior of a person who has an unusually intense sex drive. It is the same as drug or alcohol addiction i.e. in sexual addiction the sex acts like the drug which the addict uses as his obsession. Sexual addiction is occurring when sexual experience has become the driving force of people's lives to the sacrifice of their health, family, friends and jobs. (Front Range Counseling Centre, 2007). The purpose of writing this paper is to: Define sexual addiction and its causes, explain how it leads to mental illness, review the significance of this issue in developing countries and discuss some strategies to resolve it.

Method: An integrated review of theoretical journals. *Results:* Sexuality is the expression and experience of the self as sexual being. People view sexuality through a paradigm made up of religious values and stereotypical myths. Especially in the societies of developing world sexuality has always remained a taboo and consequently it has been considered bad to talk about it. Thus most of the time lack of knowledge about sexuality or getting knowledge about it from

inappropriate and misleading sources leads to sexual addiction. Literature supports that a person with sexual addiction is in constant mental disequilibrium and if he doesn't get immediate and therapeutic treatment this addiction can lead to mental illness.

Conclusion: Several efforts can be done to deal with this issue. Strategies like giving sex education to the children from very beginning, arranging workshops and seminars, treating sexual addiction in the same way as we treat drug and other forms of addiction and being supportive with the people who are affected will really help. Genuine efforts are required from the patient, family, health care staff and the community to deal with this serious issue.

Keywords: Sexuality, Mental Illness, Sex Education

9.36 IMPACT OF INFERTILITY ON MENTAL HEALTH OF WOMEN

Ambreen Rashid, Asif Rashid Khan, Riaz Ahmad
Department of Family Medicine, Aga Khan University, Karachi

Objective: The present study was aimed to explore the impact of infertility on mental health (depression, anxiety and stress) of women. After detailed literature review following hypothesis were formulated: (1) Infertile women would score high on depression as compared to fertile women. (2) Infertile women would score high on anxiety as compared to fertile women. (3) Infertile women would score high on stress as compared to fertile women.

Method: The sample of the study consisted of 60 women (30 infertile women & 30 fertile women).. The age of the participants was from 20 to 40 years and their educational level was at least primary. The marriage duration of the infertile women was minimum 1 year or above. Purposive sampling technique was used. The research measure included: Depression Anxiety Stress Scale (DASS) along with informed consent and demographic form. t-test was computed to assess the differences in the level of depression, anxiety and stress among infertile and fertile women.

Results: Results indicate that infertile women scored significantly high on depression (t=4.10, df=58, p>.05), anxiety (t=2.94, df=58, p>.05), and stress (t=2.94, df=58, p>.05) as compared to fertile women.

Conclusion: In conclusion, the present study implies that infertility is itself a stressful event and alone is enough to predispose women towards psychological vulnerability but the social and medical consequences of infertility are additional factors that can further damage the mental health of women. Thus, future researchers should also focus on other intervening variable.

Keywords: Infertility, Mental Health, Married Women

9.37 PREHOSPITAL DELAY IN STROKE PRESENTATION

*Maria Khan, Ayeesha Kamal, Muhammad Wasay
Department of Medicine, Aga Khan University, Karachi*

Objective: Intravenous recombinant tissue plasminogen activator is now the standard of treatment for ischemic stroke patients but due to delayed hospital presentations only a small proportion of patients are eligible for it. Our objective was to determine the proportion of patients presenting late and the reasons behind their delayed presentation.

Method: Patients presenting to the AKUH emergency room with signs and symptoms of acute stroke within 24 hours of onset, and confirmed by radiological means were selected over a six month period. After informed consent, data was collected from each patient or their relatives. Data was analyzed using SPSS 11.5. $p < 0.05$ was considered significant.

Results: Of the 333 acute stroke patients presenting to our emergency room over a six month period, 200 were entered into the study. The rest did not present in the 24 hour period after stroke onset. The mean age of the patients was 61.64 ± 13.17 years. Of these 116 were males. 14% of patients arrived within 1.5 hours of symptom onset, 27.5% within three hours, 37.5% within 4.5 hours and 45% within 6 hours. Multivariate logistic regression analysis showed that longer pre hospital delay was associated with less severe strokes, progressive onset of symptoms, patient's ignorance of stroke signs and symptoms and contacting other physicians instead of the emergency room.

Conclusion: The present study shows that a large number of acute stroke patients do not arrive in the hospital in time for reperfusion therapy. However, the proportions of patients who are eligible for reperfusion therapy are comparable with international data. Improving public awareness regarding stroke signs and symptoms, and approaching the emergency room directly are important modifiable factors that can reduce the delay time.

Keywords: Recombinant Tissue Plasminogen Activator, Pre Hospital Delay, Acute Stroke

9.40 MICRODISCECTOMY FOR LUMBOSACRAL DISC HERNIATION & FAILED DISC SURGERY: THE PAKISTANI PERSPECTIVE

*Muhammad Shahzad Shamim¹, Maria Adnan Parekh²,
Muhammad Ehsan Bari¹, Syed Ather Enam¹, Syed Faraz
Khurshed¹
Department of ¹Surgery and ²Medical College, Aga Khan
University, Karachi*

Objective: Microdiscectomy for lumbosacral disc herniations is one of the most commonly performed neurosurgical procedures. The patient demographics, symptomatology and recovery are highly variable and surgical outcomes depend upon several factors including patient demographics. Failed

disc surgery (FDS) refers to failure of improvement in patient's symptoms following microdiscectomy, and has been observed to occur in up to 40% of patients. To date no study from Pakistan has looked into patient demographics and FDS rates within local context. The aim of this study was to review the demographics of patient population presenting for surgical treatment of lumbosacral disc herniations and to review our results of lumbosacral microdiscectomy at a university hospital in Pakistan.

Method: This is retrospective analysis of all adult patients admitted from January 2003 to January 2008 for symptomatic lumbosacral disc herniation requiring microdiscectomy, at the Aga Khan University Hospital, Karachi. Data was collected through our medical records, on a standardized proforma. Basic information about the patient population, disease process, modes of non-surgical treatment, details regarding surgery and post-operative course were recorded and analyzed using SPSS.

Results: Five hundred and one patients were studied, based on inclusion criteria. The mean age was 41.2 years, 347 (69%) patients were male and 154 (31%) female. Mean body mass index (BMI) of the population was 26, and was higher in females. All patients primarily presented with radiculopathy and mean duration of these symptoms was 438 days. Mean duration of non-operative management was 53 weeks. Fifty one patients (10.2%) had previously undergone spine surgery. 442 (88%) patients were operated at single disc level, the rest at two levels. 66 (13%) patients were operated for upper lumbar disc herniations. Mean operative time was 94 minutes and most common complication was dural tear. Mean length of hospital stay was five days (2-12 days). Mean follow up was 48.3 weeks (4 weeks to 14 years). Complete resolution of symptoms was seen in 360 (71.9%) patients and FDS was diagnosed in 42 (8.4%) patients. 26 patients (5.2%) were reoperated upon, with gradual improvement. The authors report an overall failed back surgery rate of 8.38%.

Conclusion: Overall our results were comparable to published international literature. However, the authors observed significant differences in demographics, especially in terms of age, gender distribution and mean BMI of patient population, as well as frequency of involvement of upper lumbar discs.

Keywords: Failed Disc Surgery, Microdiscectomy, Disc Herniation

9.41 NON KETOTIC HYPERGLYCEMIA IN TWO CHILDREN PRESENTING WITH SEIZURES

*Shahnaz Ibrahim¹, Shabina Ariff²
¹Department of Paediatrics & Child Health, Aga Khan
University, Karachi and ²Aga Khan Health Service, Pakistan*

Introduction: Inborn error of metabolism may present with a diverse spectrum of presentations varying from episodes of hypoglycemia, lethargy to full blown sepsis. Rarely may they present with subtle or obvious neurological manifestations ranging from seizure activity to encephalopathy. We report

two cases of Nonketotic Hyperglycinemia in infants who were born with an uneventful antenatal, perinatal course and developed lethargy, respiratory difficulty and seizures. Both infants had history of one sibling death in the early neonatal period. Biochemical markers were normal. Neuroimaging was normal in both cases while one infant had pathological EEG suggestive of hypsarrhythmia and infantile spasm. Urine for organic acidemias was negative, while glycine levels in the plasma and CSF of both infants were high, with very high ratios conclusive of Nonketotic Hyperglycinemia Both the infants are alive at 2 years of age, on antiepileptic medications along with sodium benzoate for elevated levels of glycine Both the children have significant global developmental delay with microcephaly

Keywords: Nonketotic, Seizures, Global Delay

9.42

MURPHY-MOLLER-WELLNESS MODEL: A HOPE FOR POST-TRAUMATIC-STRESS-DISORDER

Shireen Arif¹, Sana Karim², Aynnah Mevawala², Rozeena Gillani², Natasha Jumani²

¹Alumni, Nursing Education Services, Aga Khan University and ²Baqai Medical University, Karachi

Introduction: Since the time of Stone Age, human beings are tied up with the ropes of different emotional feelings. God has given the capacity to human minds to adapt and survive with these feelings. Yet, there are some unresolved traumatic feelings which can alter an individual's health, behavior and interpersonal relationships.

Objectives: • To understand the concept of Post Traumatic Stress Disorder (PTSD). • To discuss Murphy-Moller-Wellness model as an interventional program for PTSD patients.

Method: Systemic review of the literature from 10 articles gathered through print and electronic media device published between years 2000 and 2009

Results: PTSD is an anxiety disorder that can develop after exposure to a terrifying event. It is an ongoing reaction towards a threatened psychological trauma. The event mostly involves a real or potential severe injury or threat to death. Common sign and symptoms of PTSD are hyper arousal, re-experiencing the aspects of stressful event and avoidance of reminders. Specific medication includes Selective Serotonin Reuptake Inhibitors that help patients in improving their anxiety. The other kind of treatment is psychotherapy, which is of help along with medication. Murphy-Moller-Wellness model (2006) talks about a specific coping program, after trauma in recognition of the role of bio-psycho-social-spiritual process, in promoting recovery and subsequent health. It works on four domains of wellness: health, attitudes and behaviors, environment and interpersonal relationships, and spirituality. *Conclusion:* Disorders like PTSD could be prevented if Government and health care personnel work in collaboration in identification and treatment of disease, so we could have more healthy population.

Keywords: Post-Traumatic-Stress-Disorder, Murphy-Moller-Wellness Model, Psychotherapy

9.43

PRIMARY CENTRAL NERVOUS SYSTEM LYMPHOMA CAUSING MULTIPLE SPINAL CORD COMPRESSION AND CARCINOMATOUS MENINGITIS IN A 6-YEAR-OLD: A CASE REPORT

SA Quadri¹, Zain Sobani², Syed Ather Enam¹, Kishwar Enam³, Shamvil Arshad

Departments of ¹Surgery, ²Medical College, and ³Paediatrics & Child Health, Aga Khan Unviersity, Karachi

Objective: Primary central nervous system lymphoma (PCNSL) is an uncommon form of non-Hodgkin lymphoma affecting the brain, spinal cord, leptomeninges and eyes. Carcinomatous meningitis and Spinal Cord Compression (SCC) in PCNSL are very rare usually present in advanced stages of the disease; initial presentation of PCNSL with spinal cord compression is a rarity requiring early diagnosis and timely treatment to avoid permanent neurological deficits. The untreated survival time of a CM patient is about 4-6 weeks, which may be extended to about 4-6 months with treatment. Here we present a case of carcinomatous meningitis and spinal cord compression by multiple PCNSL in a 6 year old girl, who has survived 2 years post-treatment with no recurrence.

Method: On MRI her spinal cord showed post contrast enhancement of the intradural structures on the spinal canal at levels C3-C6 and L1-L5 and along with the intracranial leptomeninges. Histopathological examination of the neoplastic tissue from cauda equina revealed B-cell non Hodgkin lymphoma. After Chemo therapy her disease regressed and MRI showed no evidence of recurrence or residual disease

Conclusion: When dealing with spinal cord compression PCNSL should be kept in consideration. Although rare, PCNSL in children may present as leptomeningeal carcinomatosis and spinal cord compression; highlighting the importance of a prompt diagnosis through high-resolution imaging and confirmation of suspected lesions. In our experience the response to chemotherapy was remarkable and recommend that aggressive tumor resection strategies should be reserved for cases with severe signs of spinal compression.

Keywords: Carcinomatous Meningitis, Primary Central Nervous System Lymphoma, Multiple Spinal Cord Compression

9.44

BURNS: PSYCHOLOGICAL EFFECTS ON PATIENT'S LIFE

Rozeena Gillani¹, Safin Tharani²

¹Alumni, Aga Khan University and ²Baqai Medical University, Karachi

Introduction: Burns represents devastating effects on all aspects of patient life, from physical to psychological at all ages. With the increasing rates of burns incident in developing countries, new researches are now more focusing on psychological challenges which encountered by patient after injuries.

Objectives: • To explore the psychological consequences associated with burn injuries. • To identify some interventions for psychological rehabilitation of burned patient.
Method: Systematic review of literature from 10 research articles from 2000-2008 was conducted.

Results: Burn injury and its rehabilitation are painful experiences for the person who encounters it. Usually patients present psychological signs as anger, guilt, low self-esteem, depression, anxiety, sleep disruption and Post traumatic Stress Disorder (PTSD). Moreover, feeling of ugliness also leads to altered body image which is more common in adolescent and early adulthood age. Fear of death and re-experiencing of incidences are also verbalized by patient in many researches of PTSD. These patients usually face several challenges regarding adjustment in their life and their work as 66% of patients returned to work within six months of their injury, and 81% had returned by one year which effects on their productivity. Ventilation of fear and feelings regarding society's attitude toward burns patients can be beneficial for burn survivors in counseling session. Support groups are one of the strategies to fulfill psychological demand in rehabilitation period.

Conclusion: The battle of burn survival is not limited with physical injuries and disability. In-fact their invisible psychological scars are more prolonged and tearful. However, if patient gets proper treatment with psychological support timely, positive difference can be observed in patient's recovery.

Keywords: Burn Injury, Psychological Effect, Rehabilitation

9.45 SPINAL MUSCULAR ATROPHY IN CHILDREN: AN EXPERIENCE FROM DEVELOPING WORLD

Ali Faisal Saleem, Shahnaz Hamid Ibrahim
Department of Paediatrics & Child Health, Aga Khan University, Karachi

Objectives: • To determine the common presentation of SMA in children • To identify the common gene deletion for SMA
Method: We performed a retrospective chart review of all patients who either were inpatients (with discharge diagnosis of SMA), or outpatients (had molecular analysis of SMA gene and nerve conduction studies) during the period of 8 years (2001 – 2008).

Results: 64 patients fulfilled the criteria. More than half (n=34; 53%) were infants. Male to female ratio was equal. Developmental delay (n=30; 46%) was found the main presentation followed by lethargy, weakness, hypotonia, respiratory difficulty. 40% of children were severely malnourished. High consanguinity in parents were noticed (n=36, 70%). At the time of birth the perinatal depression was found in 38%. Family history of developmental delay found in 16 patients, while early deaths were found in 19 patients. Nerve conduction studies done in 61 patients, and all were consistent with Spinal muscular atrophy (89% EMG/NC studies were consistent with SMA type I). Gene analysis was done in 16 patients (14 positive for SMA gene). Deletion in exon 7 and exon 8 in SMN1 gene alone was present in 6/14 patients, while exon 5 deletion of NAIP gene

along with SMN1 gene deletion was found in 8/14 patients. Out of 20 hospitalized patients six patients died.
Conclusion: Spinal muscular atrophy is a rare genetic disorder. Molecular analysis can confirm the diagnosis in infants with suspected SMA by detection of deletions of exon. It is also helpful in diagnosis carrier testing in parents or siblings of affected patients. Exon 7 and 8 deletion in SMN1 gene is the most common deletion in our patients.

Keywords: Spinal Muscular Atrophy, Genetic Mutation Analysis, Children

9.46 THE CONSTANT THREAT OF TERRORISM: STRESS LEVELS AND COPING STRATEGIES AMONGST UNIVERSITY STUDENTS OF KARACHI.

Komal Masood¹, Ayesha Ejaz¹, Haider Imam¹, Ghawar Khan¹, Usman Burlass¹, Sohni Vicky Dean¹, Tanzila Shakir¹, Farid ul Hasnain², Imad Saeed Khan¹, Hussain Ibrahim¹
¹Medical College and ²Department of Community Health Sciences, Aga Khan University, Karachi

Objective: To assess the ways in which university students of Karachi are exposed to the increasing threat of terrorism, and how this affects their stress levels. Also, to determine their resilience and use of basic coping strategies
Method: A descriptive, cross sectional study was conducted on undergraduate students from four universities of Karachi. Self-administered questionnaires were filled out by 291 students. Pearson Chi-Square test was used to assess associations between stress levels and different variables at a level of significance of 0.05%.

Results: 65.8% of the students had mild stress levels. 91.5% of university students were exposed to terrorism through television, while only 26.5% students reported personal exposure to terrorism. 67.4% students were forbidden by their parents to go out (p=0.002). Most of those who had self exposure to an attack were the ones whose parents forbade them from going out (p=0.00). Most commonly used coping strategy was increased faith in religion. Irritability was the most common stress symptom.

Conclusion: A majority of students studying in universities of Karachi had mild stress levels due to the constant threat of terrorism whereas a minority had severe stress levels. Possible reasons could be the history of Karachi's internal conflicts and its prolonged duration of being exposed to terrorism. This could have lead to resilience. These students who are positive for stress need to be targeted for counseling. Almost all of the students used basic coping mechanisms, social sharing and avoidance to deal with their stress. More extensive research is needed in this area.

Keywords: Mental Health, Terrorism, Coping Mechanisms

9.47**VOGT-KOYANAGI-HARADA SYNDROME A RARE MULTISYSTEM DISEASE**

Rameez Ul Hassan¹, Maryam Baqir², Anam Waheed Akbar², Shaheryar Ahmed Siddiqui³, Dr Mughees Sherani²
Departments of ¹Surgery, ²Medical College, and ³Medicine, Aga Khan University, Karachi

Introduction: Vogt-Koyanagi-Harada Syndrome (VKH) is a rare idiopathic systemic disorder with granulomatous inflammation. VKH is characterized by usually a severe panuveitis with an acute onset. It is also characterized by alterations of the auditory, ocular, integumentary and central nervous system involvement. This is manifested, clinically, as uveitis, poliosis, headache, fever, vitiligo, alopecia, and can be seen in any age group. **Method:** A retrospective cross-sectional study was conducted by reviewing medical record maintained since 1988. Five patients who were diagnosed with VKH syndrome were admitted to the hospital for investigations and treatment. History and the clinical symptoms each patient presented with, along with the management, and its success, was reviewed.

Results: Three out of the 5 patients were females, with all the 5 falling in the age group of 25-45. The first patient had uveitis, vitiligo poliosis, alopecia areata, partial blindness and sensory deafness. The second patient presented with blurring of vision and headache, with no other associated diagnosis. The third patient presented with sensorineural hearing loss, seizures, pain in both eyes off and on, recurrent episodes of uveitis and a depressive disorder. The fourth patient presented with uveitis, reduced vision and multitude of other symptoms. The fifth patient was a physician who had uveitis, severe headaches and vision loss. High dose steroids were used to improve their vision loss and uveitis. Majority of them required long term treatment with steroids and immunosuppressive agents with good outcome. **Conclusion:** VKH is a rare but important disease that usually presents with ophthalmological complains, mainly panuveitis, but if not treated, progress to neurological and other systemic manifestations. Early recognition is important to prevent progression of the disease and vision loss.

Keywords: Vogt-Koyanagi-Harada Syndrome (VKH, granulomatous inflammation, vision loss)

9.48**TRIGEMINAL NEURALGIA; A RETROSPECTIVE REVIEW OF MEDICAL AND SURGICAL MANAGEMENT IN A TERTIARY CARE HOSPITAL**

Rameez Ul Hassan¹, Rushna Ali², Umer Aziz Bhatti², Furkan Bin Irfan², Mohammad Islam³, Sarah Saleem³, Ather Enam¹
Department of ¹Surgery, ²Medical College, and ³Community Health Sciences, Aga Khan University, Karachi

Objective: Trigeminal neuralgia (TN) is a syndrome characterized by recurrent paroxysms of severe, lancinating bouts of pain restricted to the distribution of the trigeminal nerve. Several issues regarding the treatment of TN are

currently unsettled and no local data exists for developing a treatment protocol applicable to the Pakistani population. This study was done to determine the pattern of presentation of TN in the Pakistani population and to evaluate the efficacy of medical and surgical treatment options.

Method: A retrospective review of 104 patients who presented with trigeminal neuralgia to the Aga Khan University Hospital Karachi (AKUH) between 1988 and 2008 was done. Patients underwent medical (n= 95) and/ or surgical (n=61) treatment. Three pharmacological regimes were given.

Results: Carbamazepine only therapy (n=73) was effective in 30 (41%) of patients with a mean pain free interval 53 months. Gabapentin only therapy (n=22) was effective in 20 (91%) patient with a mean pain free interval of 43 months, while combination therapy i.e carbamazepine and gabapentin (n=9) was effective for 9 patients (100%) with a mean pain free interval of 54 months. Refractory patients underwent one of two surgical interventions. Micro-vascular decompression (MVD) was done in 33 and glycerine rhizotomy (GR) in 28 patients. MVD was effective in 85% of patients with a mean pain free interval 66 months versus 61% and 41 months for GR.

Conclusion: We found combination therapy to be the most effective medical management strategy with a negligible side-effect profile and microvascular decompression to be superior to glycerine rhizotomy as a surgical intervention

Keywords: Trigeminal Neuralgia, Microvascular Decompression, Medical Management

9.49**ROLE OF EXTERNAL DECOMPRESSIVE CRANIECTOMY IN MALIGNANT CEREBRAL VENOUS SINUS THROMBOSIS**

Rameez Ul Hassan¹, Syed Ather Enam¹, Furqan Bin Irfan², Rajesh Kumar¹
Department of ¹Surgery, ²Medical College, Aga Khan University, Karachi

Objective: Cerebral venous and sinus thrombosis (CVST) is an under diagnosed life threatening condition. However an early diagnosis and prompt management can yield promising results. Owing to its capricious nature it may at times take a malignant course thus making the management even more challenging. Under these circumstances aggressive and appropriate neurosurgical options should be considered. This study was conducted in order to evaluate and appraise the outcome of patients who had undergone the decompressive craniectomy for malignant CVST.

Method: Clinical presentation: We are reporting two females, who presented with headache, high grade fever, seizures, hemi paresis, low Glasgow Coma Scale (GCS) on arrival and pupillary signs of transtentorial herniation.

Results: Technique: The Diagnosis was confirmed by Computed topographic scan (CT), Magnetic resonance imaging (MRI) and venography (MRV). Indications for surgery included a rapidly deteriorating consciousness level, anisocoria, unresponsiveness to medical management and conventional intensive care. An emergent decompressive craniotomy with

duraplasty was performed within 60 minutes after developing signs of herniation. Within 24 to 48 hours, both the patients showed good signs of recovery. Decompressive hemi craniectomy was defined as an external type and was done in a standard fashion. Cranioplasty was carried out once the cerebral swelling had subsided. Follow up was conducted at 3 and 6 months after discharge. Outcome was based according to modified Rankin scale (mRS; 0= complete recovery, 6= Death).

Conclusion: Our study indicates that a prompt and aggressive neurosurgical intervention in malignant CVST can result in excellent recovery with negligible or minor reversible disabilities.

Keywords: Cvst, Herniation, Anemia

9.51

CRANIOCEREBRAL GUNSHOT INJURIES IN PRESCHOOLERS

Furqan B. Irfan¹, Rameez Ul Hassan², Rajesh Kumar², Zain Ali Bhutta¹, Ehsan Bari¹

¹Medical College, ²Department of Surgery, Aga Khan University, Karachi

Objective: Gunshot wounds (GSW) to the head are the most lethal form of trauma; unfortunately, the frequency of children being involved in such form of trauma is increasing at an alarming rate worldwide. We present our experience with four children from 2 to 3 years of age with craniocerebral GSW admitted to the neurosurgery service at a tertiary care hospital.

Method: For this study, four children, 2 to 3 years old, injured solely from bullet injuries to the head were selected. Their history, arrival Glasgow Coma Scale (GCS), clinical presentation at the time of arrival in ER, radiological findings, management, and follow-up reviewed.

Results: Out of four children, only one did not survive. The bullet entrance wound was in the parietal region in robbery-related incidences, and, in three cases, the injury was bihemispheric. The time taken to reach the emergency department was less than 2 h for all patients except one. Of four patients, three presented with GCS between 3 and 5 while 1 presented with GCS well above ten.

Conclusion: Our results show that even in children presenting with low GCS < 5, an early act of aggressive surgical intervention can prove to be a life-saving measure.

Keywords: Cerebral Gunshots, Preschoolers, Outcome

9.53

PRIMARY AMOEBIC MENINGOENCEPHALITIS: AN OUT BREAK IN PAKISTAN

Rameez Ul Hassan¹, Najiha Bilal farooqi², Mehar hoda², Sarosh Ahmed Khan², Syed Asad Zaidi², Ayesha Shaheryar², Mughees Sheerani³
Departments of ¹Surgery, ²Medical College, and ³Medicine, Aga Khan University, Karachi

Background: Primary Amoebic Meningoencephalitis is a very rare but lethal disease caused by the free living *Naegleria fowleri*. The organism is found in warm and fresh water bodies. A possible mode of infection is inhalation of the infected water while swimming or other activities. The pathogen gains access to brain parenchyma through the cribriform plate. **Method:** we are reporting 7 cases of Primary Amoebic Meningoencephalitis admitted in our institution. The records were reviewed from 1988-2009. However, the aforementioned cases were reported in between 2008-'09. The patients were in the age group of 16-30 years with the exception of one elderly patient, 60 years of age. The patients presented with high grade fever, nausea, vomiting along with history of seizures. Further examination revealed neck rigidity, drowsiness and low GCS. Provisional diagnosis of acute pyogenic meningitis was made and the patients were treated accordingly. CSF findings failed to show growth of fungal or bacterial pathogen., therefore a wet mount cytology of CSF was subsequently carried out which showed moving trophozoites of *Naegleria fowleri*. **RESULTS:** The plan of treatment was then changed to Amphotericin B, Fluconazole and Rifampicin. Unfortunately, none of them could survive the disease. **Conclusion:** Pam is a rare disease with poor prognosis partially due to delayed presentation and diagnosis. Patients present with Pyogenic meningitis without evidence of bacteria should be subjected to CSF cytology of wet mount. Identification of source, early detection, and prompt management may improve chances of survival. Facilities should be available at each level of health care since its out break in Pakistan.

Keywords: Primary Amoebic Meningoencephalitis, Asia, Amphotericin B

10.1**EDUCATIONAL INTERVENTION AMONG BARBERS ABOUT LIVER CANCER INDUCING VIRUSES: A PILOT STUDY FROM A DEVELOPING COUNTRY**

Mukesh Kumar Krishanani, Waris Qidwai, Badar Sabir Ali, Ali Khan Khuwaja
Department of Family Medicine, Aga Khan University, Karachi

Objective: Liver cancer is among the most prevalent cancers in the world is mainly related to Hepatitis-B Virus (HBV) and Hepatitis-C Virus (HCV). This study evaluated the effectiveness of educational intervention on knowledge and practices regarding Hepatitis-B and Hepatitis-C among barbers.

Method: After completion of base-line interviews of 70 barbers in Karachi Pakistan, 30 minutes educational session was conducted. The same sessions were repeated twice for all barbers at an interval of one month each for reinforcement. Post-intervention interviews were conducted after one month of last session

Results: Before intervention only 11.4% of the study participants had scored 'good' about the knowledge of HBV which improved to 74.3% after intervention ($p < 0.001$). Similarly, for HCV significant improvement was observed after intervention. Regarding the safe practices to prevent HBV and HCV infections, less than 2% had scored to the level of 'good' at base-line which improved to 48.6% after intervention ($p < 0.001$).

Conclusion: We identified big gaps of knowledge and practices about these viruses among barbers in Karachi. Educational interventions to prevent cancer induced viruses are highly effective even in illiterate/low-educated people.

Keywords: Hepatitis B and Hepatitis C, Barbers, Educational Intervention

10.2**ARSENIC LEVELS IN DRINKING GROUNDWATER, PREVALENCE OF SKIN LESIONS AND MITIGATION INTERVENTIONS IN TWO UNION COUNCILS OF DISTRICT KHAIRPUR, PROVINCE OF SINDH, PAKISTAN**

Mubashir Ahmed, Zafar Fatmi, Naseem Parvez Ali
Department of Community Health Sciences, Aga Khan University, Karachi

Objective: Arsenic contamination in drinking groundwater is an emerging water quality issue in Pakistan. The objective of this pilot study was to determine the arsenic levels in drinking groundwater, its burden on health and the mitigation intervention taken in two arsenic affected union council of taluka Gambat, district Khairpur, province of Sindh, Pakistan.

Method: An intervention survey was conducted from August 2008 to January 2009. Arsenic levels were determined in all the drinking groundwater sources of 15 villages through using field test kits. Trained doctor examined all individuals in the 110 high risk households (exposed to As at = 100 ppb) for

characteristic skin lesions (melanosis/Keratosis). Affected water sources (had As = 50 ppb) were red painted, awareness materials (arsenic brochure) were disseminated and health education sessions were taken. Behavior change (switching of well) was observed.

Results: Total 707 water sources were analyzed, 576 (81.5%) were above 10 ppb, 271 (38%) had arsenic = 50 ppb and 124 (17.5%) were = 100 ppb. All 555 individuals (both children and adult) were screened for arsenicosis in high risk households. Total 81 (14.6%) suspected cases (melanosis and/or Keratosis) of arsenicosis were identified. Switching of wells on safe water sources were observed in 15% households.

Conclusion: Study population was exposed to arsenic above unsafe level through drinking groundwater and developing arsenicosis. Mass health education campaign was needed to prevent the community in the affected villages from the toxic effects of arsenic.

Keywords: Arsenic, Groundwater, Intervention

10.3**USING INTEGRATED METHODS (GEOGRAPHIC INFORMATION SYSTEM & HOUSEHOLD SURVEY) TO ASSESS INFANT EPI VACCINE COVERAGE AND RISK FACTORS FOR IMMUNIZATION FAILURE IN A RURAL DISTRICT OF MATIARI SINDH, PAKISTAN**

Asif, Asher Feroze, Arjumand Rizvi, Anita Zaidi
Department of Paediatrics & Child Health, Aga Khan University, Karachi

Objective: Control of vaccine preventable diseases depends on high immunization coverage, however, conventional methods used provides inconsistent estimates, which forms the basis for using spatial database, in conjunction with the demographic and vaccine dataset, to obtain an integrated, comprehensive and accurate coverage estimates. Objectives: To assess infant EPI coverage from district to the lowest level of its operation (Union Councils); comparing information along with population socio-economic characteristics, spatial reference to EPI centers and reasons for immunization failure.

Method: This study consisted of three integrated methods; GIS mapping of EPI centers to generate reference point for distance; district population census data to obtain socio-demographic information; and primary household vaccine coverage survey of 2400 families using probability proportion to size, was conducted between April to June 2008. Test of proportions was applied on each antigen coverage, Chi square of independence was calculated for categorical data; and spatial analysis performed to generate coverage maps and graphs.

Results: Primary survey revealed < 2 % immunization adherent to EPI schedule. The untimely fully immunized children were 76% (verbal plus card); with only 9% conformed by card. The coverage varied from 58% to 85% in rural to urban UCs; and 60 % to 80% in lower to higher income quartiles. There was a significant association between distance (>2KM) and fully immunization (p -value: <0.001). Factors

such as lack of information, lack of motivation and obstacles related to in-laws resistance and child illness were significant (p-values 0.01, 0.03 and <0.001) to immunization failure.

Conclusion: This study utilized a unique interdisciplinary approach to merge geographic, epidemiological, and biostatistical basis for assessing accurate coverage estimates. Spatial heterogeneity is an important factor to be considered for future coverage surveys.

Keywords: Integrated Technique, EPI Infant Coverage, Vaccine Coverage

10.4

CHILD ABUSE IN PAKISTAN: PREVENTIVE STRATEGIES TO REDUCE THE CASES

Rozeena Gillani

Alumni, Aga Khan University, Karachi

Introduction: In spite of getting more attention and concern from society, children are still more prone to unintentional injuries and abuse. According to WHO's Global Burden of Disease data, around 875,000 children and adolescents under the age of 18 years died as a result of an injury or violence in 2002. Nearly 2,000 newspaper reports on child sex abuse cases were published in Pakistan during 2003. These injuries include child maltreatment, shaken baby syndrome, sexual abuse or physical abuse and many more.

Objective: To explore the concept of child abuse or violence. To identify preventive strategies to reduce incidence of child abuse.

Method: Systematic review of literature from 15 research articles from 2000-2008 was conducted through electronic medium by using google, pubmed, Black-well synergy search engines.

Results: Population of Pakistan is 160 million, of which children aged 5-14 years form about 40 million of the child population. According to The Daily Times, one thousand cases of physical abuse and 826 cases of sexual abuse against children were reported to the police in 2003. The cases included 623 child murders, 383 rapes, 277 sodomy rapes, 254 severe injuries, 110 attempted rape or sodomy cases and 55 torture incidents. The Centers for Disease Control and Prevention (CDC) defines child abuse as any act or series of acts or commission or omission by a parent or other caregiver that results in harm, potential for harm, or threat of harm to a child. There are some preventive measures which can reduce the incidences of child abuse in Pakistan. Anyhow, child abuse prevention is a complex which requires long term planning to introduce some changes in the society. Correct information regarding sexuality plays important role in saving adolescence from a big tragedy. Dissemination of knowledge about child rights convention should be a topic for seminars, debates, conferences on mass media to cover the gap of knowledge in general public.

Conclusion: Powerful reporting system, National child protection policies, societies view and practices and children's own empowerment are the elements which enable countries, communities and families to prevent and respond to violence,

and abuse. Through proper precautions, eradication of this threat from its root can be possible for care givers.

Keywords: Child Abuse, Preventive Measures, Child Abuse Program

10.5

SMOKING CESSATION IS THE BEST ALTERNATIVE: A SYSTEMATIC REVIEW TO MAKE THE COMMUNITY QUIT THIS HAZARDOUS HABIT

Iram S. Farrukh

Alumni, Aga Khan University, Karachi

Background: WHO has published recommendations to take action against tobacco smoking. The public Health white paper in the UK called 'smoking kills', has produced increased coverage of antismoking campaigns and better stop smoking services. However the effectiveness of brief interventions need to be sharpened to make sure they narrow health inequalities. Behavioural therapy, counselling, self-help strategies, pharmacotherapy especially NRT forms the mainstay of smoking cessation strategies.

Methods: 8 Qualitative English speaking countries' articles were chosen after searching Medline, Embase, Psych Info and CINNAHL as well as the google search engine was used. Articles were looked at which were published between 2009-2000. Words like smoking cessation, interventions, and randomised controlled trials were entered as the search criteria. *Results and conclusions:* Have not yet been formulated.

Keywords: Qualitative, Systematic, Review

10.6

DROPPING OUT OF SCHOOL AMONG ADOLESCENT BOYS AND GIRLS: IMPLICATIONS FOR ECONOMIC DEVELOPMENT AND HEALTH AMONG YOUNGER POPULATION

Syed Farid-ul-Hasnain

Department of Community Health Sciences, Aga Khan University, Karachi

Introduction: Younger generation in Pakistan face unique problems of lack of education and awareness about health, which hinders economic prosperity and development and may also translate into poor knowledge about sexually transmitted diseases (STDs).

Objectives: To assess the risk factors leading to involuntarily school/college dropouts among late adolescent girls and boys (17-21 years) in Karachi, and investigate associations with knowledge level on STDs.

Methodology: Cross-sectional study of 1650 male and female adolescents aged 17-21 years in Karachi was conducted using a structured questionnaire. Multi-staged cluster sampling design was used to collect data representative of general population.

Results: Among boys, dropping out of school was associated with migrant residential status (AOR=95% confidence interval,

3.66; 2.53, 5.30), living in extended family type (AOR=2.87; 1.48, 5.56) and low SES (AOR=3.35; 2.19, 5.12) Among girls, these factors were, being married (AOR=8.28; 4.57, 15.03), migrant residential status (AOR=1.77; 1.28, 2.44), low SES (AOR=2.29; 1.66, 3.18) and living in extended family type (AOR=1.38; 0.98, 1.93). It was further found that boys who dropped out were less likely to have heard of STDs (COR=4.18; 2.15, 8.14), HIV/AIDS (COR=2.53; 1.78, 3.59) and have poor knowledge about STDs (COR=2.90; 1.23, 6.83).

Conclusion: Adolescents from poor families are at increased risk of dropping out of school. Furthermore, boys were of an apparent risk of being ignorant on STDs. We recommend measures to increase school enrolment by parental counselling and provision of cost-effective and quality education where basics on sexual and reproductive health are included in the curriculum.

Keywords: Adolescent, Dropouts, STDs

10.7

A QUALITATIVE STUDY ON PAUCITY OF LAWS REGULATING PRIVATE HEALTH CARE SECTOR IN PAKISTAN

Haseeb Ahmed Siddiqui¹, Rashid Iqbal Khan³, Rozina Karmaliani²

¹Alumni, ²School of Nursing and ³Department of Community Health Sciences Aga Khan University, Karachi

Objective: Almost all developed countries and most developing countries have legislation to regulate the private healthcare sector. In Pakistan, however no worthwhile steps have been taken to regulate this sector although private health sector provides the bulk of healthcare needs of the population (as much as 70-80%). World Bank mentioned rendition of poor quality of care by private health care providers is as the main problem area in Pakistan's health system. In the key area 7 of National Health Policy 2001: it is mentioned that a draft for the regularization of the private health sector is being circulated to the provincial governments and that would eventually be presented in the cabinet, but as yet no progress has been made (except in the case of Balochistan where reasons for making regulations were different).
Method: The study was based on the qualitative study design; this study design has been chosen as it allows an in depth understanding of issues involved. Such qualitative study designs are being used more and more in health care settings as narrative and observational techniques can lead to collection or more facts than is possible with other methods. Key informant interviews were conducted because key informants are those who have the comprehension of the topic and have the inside information. Since there are no laws for the regularization of the private health sector; there is no information or inkling why this sector is not regularized? The study is designed to find out the gaps for non regularization of the private health sector and to know whether the gaps are at the federal or provincial level. The awareness about the key area 7 of the National Health Policy 2001; reasons and obstacles if any with respect to this key area identified in the

perception of the key stake holders. The perception of the key stake holders about the decentralization of the health care system are recorded and the role of the district governments for the formulation & implementation of laws for regularization, control and better functioning of the private health sector were solicited. The information gathered from the key informants was helpful in developing the main themes for the analysis of the data.

Results: There is poor governance in health sector, need for introducing a participatory approach in formulation and implementation (and evaluation of implementation) of regulations for the health sector, implications of regulations, absence of standards, ethical and equity issues. The main stakeholders in the private health sector have surprisingly been identified as the public sector doctors as they constitute the mainstay of the private health sector according to 80% of the key informants.

Conclusion: The study recommends steps in developing the networks among different stakeholders; platforms for formulation and implementation of laws and regulations; developing the standards for the health sector (irrespective of private or public); constitution of an independent body to oversee the health sector in the country; need for another cadre to augment health manpower; strategic planning for health manpower growth and for institutional practice; and stress the importance of awareness and of uniformity of laws.

Keywords: Private Healthcare, Perceptions, Public Healthcare

10.8

BIRTHING PRACTICES AND FEASIBILITY OF CONDUCTING A RANDOMIZED CONTROLLED TRIAL IN A COMMUNITY-BASED SETTING IN CHITRAL, NWFP, PAKISTAN: FOCUS GROUP DISCUSSIONS

Naushaba Mobeen¹, Juanita Hatcher¹, Jennifer Blum², Jill Droucher², Zafar Ahmed

¹Department of Community Health Sciences, Aga Khan University, Karachi and ²Gynuity Health Projects, New York, USA

Objective: A community-based clinical trial of misoprostol for the prevention of PPH was planned for Chitral, Pakistan. To understand local birthing practices and to assess the feasibility of such a trial in this setting, focus groups were conducted with community women and health providers. Objectives This study investigated local women's and healthcare providers' perspectives with relation to local delivery practices and whether the community will participate in this clinical trial.

Method: Focus group discussions (FGD) were conducted in Chitral in May 2005. Each discussion was led by trained local health staff at Aga Khan Health Services, Pakistan using a FGD guide. In total, eight FGDs were held: 4 with community women, 2 with trained traditional birth attendants (TBAs) and 2 with health-center based LHVs/CHNs. The FGDs were conducted in Khawar, tape recorded and later transcribed into Urdu. Analysis started in the debriefing sessions and was completed manually.

Results: Delivery practices in Chitral are similar to those in other parts of Pakistan. The usual place of delivery is woman's home; and the preferred care provider is a TBA. Women usually deliver in the dorsal position; which is the preferred position for trained TBAs. Common birthing problems are obstructed labor and retained placenta and the TBAs are well-trained to identify, manage or refer. The community responded enthusiastically to participate in the trial.

Conclusion: Birthing practices among women in Chitral are similar to those in the rest of Pakistan. It seems that a clinical trial on PPH prevention can be conducted successfully in this area.

Keywords: Birthing Practices, Community's Research Related Readiness, Postpartum Hemorrhage

10.9

USE OF MISOPROSTOL BY TRAINED TRADITIONAL BIRTH ATTENDANTS TO PREVENT POSTPARTUM HAEMORRHAGE DURING HOME DELIVERIES IN PAKISTAN: A RANDOMISED PLACEBO-CONTROLLED TRIAL

Naushaba Mobeen¹, Jill Durocher², Nadeem F. Zuberi³, Nusrat Jahan⁴, Jennifer Blum², Saba Wasim¹, Gijs Walraven¹, Juanita Hatcher¹

Departments of ¹Community Health Sciences and ³Obstetrics & Gynaecology Aga Khan University, Karachi, ²Gynuity Health Projects, New York, USA and ⁴Aga Khan Health Services, Chitral, Pakistan

Objective: The contribution of postpartum haemorrhage (PPH) to maternal deaths is disproportionately higher in developing countries, where homebirths are common and routine use of injectable oxytocin for PPH prevention is not always feasible. This study aimed to determine if misoprostol is safe and efficacious in preventing PPH when administered by trained traditional birth attendants (TBA) at home deliveries. **Method:** A double-blind, randomised-controlled trial was conducted in Chitral, North-West Frontier Province, Pakistan to determine whether 600 mcg oral misoprostol reduced the incidence of PPH (=500 mL). From October 2005 to June 2008, 1,395 consenting women delivering at home were randomised to misoprostol (n=717) or placebo (n=678) after delivery. The primary outcomes were measured blood loss =500 mL after delivery and drop in Hb >2 g/dL pre- to post-delivery. This trial is registered at clinicaltrials.gov (NCT00120237).

Results: Oral misoprostol was associated with a significant reduction in the rate of PPH (=500 mL) (16.5% vs. 21.9%; relative risk 0.76 95% CI 0.59-0.97; p=0.016). Fewer women in the misoprostol group had a drop in Hb >2 g/dL, compared to placebo (18.5% vs. 22.6%; relative risk 0.82 95% CI 0.67-1.01; p=0.032). Shivering and chills were significantly more common with misoprostol. There were no maternal deaths among study participants.

Conclusion: Postpartum administration of 600 mcg oral misoprostol by trained TBAs at home deliveries reduces the rate of PPH by 24%. Given its ease of use and low cost, misoprostol could reduce the burden of PPH in community

settings where universal oxytocin prophylaxis is not always feasible.

Keywords: Misoprostol, Postpartum Haemorrhage, Community-Based Trial

10.10

A PARADIGM CHANGE: TRAINING OF ELITE WOMEN AS VOLUNTARY COMMUNITY MENTAL HEALTH WORKERS FOR UNDERPRIVILEGED COMMUNITIES OF KARACHI, PAKISTAN

Badar Sabir Ali¹, Hamida Farazdaq²
Departments of ¹Family Medicine and ²Community Health Centre, Aga Khan University, Karachi

Background: The established paradigm is that voluntary community health workers should be from the same community, but our earlier experience has shown that it is hard for women of underprivileged communities to provide voluntary service; so a pilot study was conducted to see if elite women could be trained as community mental health workers.

Methods: A 10 half day workshop facilitated by 6 Family Physicians, a psychologist and a psychiatrist was conducted in July 2009. Twenty one women belonging to high socioeconomic class volunteered for training. The only inclusion criterion was that after training they would be ethically bound to counsel patients referred by the Sina Health Care Systems' doctors. Initially awareness was created about the causes, manifestations, methods of prevention/treatment of common mental disorders, principles of communication and counseling. Followed by role plays by facilitators demonstrating communication and counseling skills, finally the participants practiced the required skills in dyads alternating as client and counselor.

Results: Mean age of participants was 47 years. Two had done 'A' levels, the rest were graduates and postgraduates, 11 were professionals, 17 were married, average monthly income was Rs. 2 lakhs. There were no dropouts, 2 evaluated the training as extremely well, 12 as very well and 5 as moderately well done; 14 out of 21 trained are currently counseling.

Conclusion: Elite women can be motivated and trained as mental health counselors for working in underprivileged communities. The effectiveness and sustainability of the intervention is being monitored and will be reported later.

Keywords: Elite Women, Voluntary Mental Health Workers, Underprivileged Communities

10.11 DOMESTIC VIOLENCE AND ITS CORRELATES AMONG MARRIED WOMEN VISITING FAMILY PRACTICE CLINICS IN KARACHI PAKISTAN

*Nilofer Sultan Ali, Ali Khan Khuwaja, Farzana Nawaz Ali
Department of Family Medicine, Aga Khan University, Karachi*

Background/Objective: Domestic violence (DV) against women is a major preventable public health issue. It imparts hazardous effects on the physical, mental and social well-being of women who experiences it and children who witnesses it. The objective of this study was to assess the proportion of DV and its correlates in married women seeking services at family practice clinics in Karachi.

Method: A cross-sectional survey was conducted on married women attending family practice clinics at four different sites in Karachi, affiliated with a private sector teaching hospital. A pre-tested, structured questionnaire was implemented to collect information from 400 married women aged between 16 and 60 years, who agreed to participate in the study. Out of the total, 379 questionnaires were found to be complete for analysis. Multivariate logistic regression with 95% CI was used to identify the correlates of DV.

Results: In all, 135 (35%) women reported being ever violated by their husbands. Multivariate analysis disclosed significant associations between experiences of violence and women's illiteracy (AOR = 5.9; 95% CI: 1.4-25.1), husband's illiteracy (AOR = 3.9; 95% CI: 1.2-12.5), husband being smoker (AOR = 3.4; 95% CI: 1.2-9.4) and being substance user (AOR = 3.4; 95% CI: 1.8-6.6).

Conclusion: Prevention of DV against women demands high priority along-with other preventable health issues. This study has revealed a significantly high burden of DV in married women in Karachi for which interventional strategies are urgently required to prevent its devastating consequences on women's health.

Keywords: Domestic violence, Women's health, Public health

10.12 NEUROLOGICAL AND DEVELOPMENTAL OUTCOMES AFTER PURULENT MENINGITIS AMONG CHILDREN IN PAKISTAN

Asif Raza Khowaja¹, Syed Mohiuddin¹, Ahmed Khalid¹, Nargis Asad², Mustafa Khan, Farnaz Naqvi³, Anita Zaidi¹, Saad Shafiqat⁴

Departments of ¹Paediatrics & Child Health, ²Phychiatry, ³Community Health Sciences and ⁴Medicine, Aga Khan University, Karachi

Introduction: Bacterial meningitis is a serious, life-threatening illness that continues to extract significant disability and mortality worldwide. Several studies conducted in both developed and developing countries have reported that patients with acute purulent meningitis remain at substantial risk of neurological and developmental sequelae, even despite timely antibiotic treatment. The burden of childhood meningitis and

related neuro-developmental sequelae is unclear in Pakistan. We are undertaking a surveillance study to estimate these parameters. Objectives: The primary objective is to measure neurological and developmental deficits after 6 months of an episode of purulent meningitis. A secondary objective is to determine the frequency of neuro-developmental sequelae across the three etiologic groups of purulent meningitis – H. influenzae type b, S. pneumoniae, and non-Hib non-pneumococcal. Methodology: Prospective sentinel surveillance is in place since July 2008 to-date at selective public and private hospitals (with lab/technical facilities for CSF analysis) at Karachi and district Matiari. A case-control study with 100 meningitis cases aged 2-59 months, and 200 age-matched community controls, is underway starting July 2009 through December 2010. Cases are children directly reporting or referred to sentinel sites who are confirmed as purulent meningitis (with etiologic classification) as per the WHO standard case definition. Community controls are randomly enrolled from the neighborhood of an index case. Cases and controls are pre-scheduled for detailed neuro-developmental assessment at 6 months, including neurological examination, hearing test (auditory evoked potentials), and cognitive and developmental assessment (Denver II and Bailey scale of infant development). Data will be analyzed using SPSS version 16.0, and primary analysis will determine frequencies of motor, visual, cranial nerve, auditory and developmental impairments in all cases of purulent meningitis, in comparison with controls. Secondary analyses will compare frequencies of these impairments across the three etiologic groups using parametric as well as non-parametric methods. **Results/Conclusion:** Study in progress

Keywords: Bacterial Meningitis, Neurodevelopmental Outcomes after Meningitis, Post Meningitis Sequelae

10.13 TRANSITION TOWARDS HEALTH PROMOTING HOSPITALS: USING A GLOBAL FRAMEWORK WITH LOCAL PRIORITIES AND STRATEGIES IN PAKISTAN

Asif Raza Khowaja¹, Rozina Mistry², Ajmal Agha³, Rozina Karmaliani⁴

Departments of ¹Paediatrics & Child Health, ³Community Health Sciences, ⁴School of Nursing, Aga Khan University, Karachi and ²Aga Khan Health Services, Pakistan

Objective: The WHO encourages hospitals to respond to the recent transition of thinking away from disease and illness oriented care towards more holistic healthcare, as Health Promoting Hospital (HPH). Literature review suggested paucity of information and nonexistence of accredited HPH settings in Pakistan. This study aimed to explore perceptions of healthcare stakeholders' about health promoting hospitals, public health priorities; and potential strategies to strengthen advocacy efforts for HPH settings in Pakistan. **Method:** A qualitative exploratory study was conducted between July-August 2007. The data was collected through key-informant (KI) interviews and focus group discussions (FGD) with purposively selected hospital administrators, healthcare providers, health policy makers, and UN-donor

agency representatives. The thematic analysis was done using QSR NVivo 2.0; and nodes representing themes were generated.

Results: The study participants perceived health promotion, a concept synonymous to health education. Those participants with public health background were better able to relate their perceptions to a more holistic view of health promotion; than those without public health background. The participants had unanimous consensus upon implementation of generic strategies as of the global WHO's framework for HPH, however, structural and policy reforms were considered of immense need to make hospitals more health promoting for patients, care-takers, and staff respectively. The priority actions differed from current HPH emphasis as in the developed countries, than in the context of developing world. This included struggling for basic needs such as clean environment and drinking water, decreasing unnecessary patient length of stay at hospital, preventing sufferings from frequent electricity failure, safety-security of hospital staff, and incentive oriented approach. The public health priority included mass community awareness, and health promoting activities to change mindset from cure to care that ultimately translates demand for health promotion.

Conclusion: This study concluded that HPH settings would bring positive change in the healthcare delivery system, by empowering patients and local community. Technical trainings on health promotion for healthcare providers, constant policy dialogue, political will and support from community stakeholders will further strengthen the scope of health promoting hospitals in Pakistan.

Keywords: Health Promoting Hospitals in Pakistan, Local strategies for HPH, HPH in Pakistan

10.15 BETEL NUTS AS MEAT TENDERIZERS: A PILOT STUDY

*Nazish Farhad, Shehla Khan, Fatima Kubra
Nursing Education Services, Aga Khan University, Karachi*

Objective/Introduction: It is a common observation in household practices that in order to hasten the cooking of meat people use different kinds of substances like betel nuts, raw papaya, vinegar and onions. However, some people prefer to add betel nuts as they consider it as the fastest meat tenderizer. Therefore, to test whether betel nuts accelerate the cooking of meat as compared to papaya, vinegar and onion or not a pilot study was carried out.

Method: Overall 34 observations were made using various types of substances used as meat tenderizer. 200g of raw meat were put with similar amount of meat tenderizer and then cooked. Then after every 5 mins each meat sample was observed by checking the tenderness with the help of a knife. After that the final time that each meat piece took to get cooked was recorded. The experiment was repeated 6-8 times for each of the meat tenderizer used.

Results: Betel nuts and Papaya took 8 minutes while vinegar and onion took 10 and 12 minutes respectively

Conclusion: Tenderizing of meat was fastest with betel nuts and then with raw papaya. However, further studies

are required with larger sample size to verify these results.

Keywords: Tenderizer, Betel nuts, Meat

10.17 ASSESSMENT OF COST OF CARE FOR CHILDREN WITH BACTERIAL MENINGITIS: A CASE-CONTROL STUDY, IN PAKISTAN

*Asif Raza¹, Aatekah Owais¹, Syed Mohiuddin¹, Ahmed Khalid², Nargis Asad², Mustafa Khan³, Farnaz Naqvi⁴, Salim Allana¹, Saad Shafiqat⁴, Anita Zaidi¹
Departments of ¹Paediatrics & Child Health, ²Psychiatry, Clinical Neurophysiology Lab³, ⁴Community Health Sciences & ⁴Medicine, Aga Khan University, Karachi*

Introduction: The long-term economic costs of caring for children with disabilities related to bacterial meningitis represent a substantial financial burden on their families. The loss of these children's future productivity and income also exacts a significant social burden. Reports from both developed and developing countries underscore the importance of formally estimating these economic liabilities and factoring them into advocacy efforts. The recent nationwide introduction of the Hib vaccine in Pakistan has created an impetus for conducting an evaluation of cost of care for children with bacterial meningitis. This will underscore advocacy efforts for the sustainability of the Hib vaccine, as well as the introduction of the pneumococcal vaccine in Pakistan.

Objectives: To obtain data on economic costs associated with lost productivity and long-term care of children with neurological and developmental disabilities related to bacterial meningitis. **Methodology:** A case control study with 100 meningitis cases aged 2-59 months, and 200 age-matched community controls is underway from July 2009 until December 2010. Cases are children directly reporting or referred to sentinel sites, and who are confirmed as purulent meningitis (with etiologic classification) as per the WHO standard case definition. Community controls are randomly enrolled from the neighborhood of an index case. Information regarding the cost of care associated with meningitis and related sequelae for cases, and generic healthcare-seeking associated costs for controls, is being collected through a structured questionnaire, administered to parents of the cases and controls on the day of their respective neuro-developmental assessment. The data will be analyzed using SPSS version 16.0. Primary analysis will determine estimates for out-of-pocket expenditures by families, costs to healthcare facilities, and lost productivity specific to neuro-developmental deficits among cases.

Results/Conclusion: Study in progress

Keywords: Cost Of Care Meningitis, Economic Burden Post Meningitis Sequelae, Cost of Care Post Meningitis Sequelae

10.18**ASSOCIATION OF MULTIVITAMIN USE AND WEIGHT IN OLD AGE PEOPLE***Shirin Mirza¹, Khurram Siddique²**¹Department of Community Health Sciences, Aga Khan University and ²William Harvey Hospital, Kent, United Kingdom*

Objective: To determine the association of weight and multivitamin use in old age people (>60 yrs).
Method: Secondary analysis in the form of multiple linear regressions (MLR) was conducted on data collected from nursing home residents in USA in 1995. Taking multivitamin (MV) use as main exposure, weight in kg as the outcome, gender, age and Vitamin D level in serum as co-variables, descriptive statistics was computed and assumption of MLR checked. Interaction and confounding were checked and the main effect model explaining the total variation in weight by MLR of MV use, age, gender and Vitamin D level in serum was computed.

Results: 124 participants of the study consisted of 72.58% males with mean age 88.85± 6.23 yrs and mean weight 60.3 ± 13.7 kg .62.9% used MV. Mean Vitamin D level in serum was found to be 19.48 ± 9.94 nmol/L. All the assumptions of MLR were fulfilled. Total variation in weight explained by Simple linear regression model of MV use was found to be 2.5%. No interaction and confounding were detected. Total variation in weight explained MLR model of gender, age, MV use, and vit D level in serum is 30.2% and there is moderate positive association of these independent variables with weight (R=0.549)

Conclusion: Weight is found to have very strong positive association with MV use (Eta: 0.811). With MV use weight will increase by 1.46 kg compared to no use when adjusted for age, gender and vitamin D level in serum.

Keywords: Multivitamin Intake, Weight, Old Age

10.19**MOLECULAR CHARACTERIZATION OF G6PD DEFICIENCY IN PAKISTANI POPULATION***Bushra Moiz¹, Amna Nasir², Tariq Moatter¹, Zulfiqar A Naqvi¹, Mohammad Khurshid¹**Departments of ¹Pathology & Microbiology and ²Radiology, Aga Khan University, Karachi*

Objective: G6PD deficiency is the commonest red cell enzymopathy effecting some 400 million people world wide. The reported incidence from Pakistan varies between 1.8-8.6%. However the molecular basis of this molecule mainly remain unknown. The present study was undertaken to characterize mutations underlying G6PD deficiency in Pakistan.

Method: All subjects including both genders and all age groups who were evaluated for G6PD deficiency during 2006-2008 were enrolled in a prospective study. This was approved by institutional ERC. During initial years, quantitative screening assay was used but later as quantitative test was introduced

in clinical lab in 2008, the latter was utilized. The same EDTA sample was saved for performing PCR studies for mutation identification. The results were confirmed through gene sequencing. Their hemoglobin, bilirubin and G6PD levels were also assessed.

Results: During the study period, 4013 samples (3223M/781F/9Unknown) were analyzed for G6PD enzymopathy. Of these G6PD deficiency was found in 461 (11.4%) patients (401M/59F/1 U). Three hundred samples (258M/42F) were evaluated for various mutations previously reported from South Asia. We found 563C-T mutation as commonest which was observed in 214 subjects (a gene frequency of 0.72) while 1003 A-G (Chatham) and 131 C-G (Orissa) were observed in 13 (0.43) and two (0.7) subjects respectively. Additionally, associated 1311 T and 93C were observed in 65 (0.22) and seven (0.23) G6PD deficient individuals respectively. G6PD mutations remained unidentified in 45 (15%) cases while 26 samples cannot be analyzed further owing to insufficient DNA. Hemoglobin, total bilirubin and G6PD levels in evaluated subjects respectively were 12.2g/dl (±3.5), 13.1mg/dl (±7.49) and 1.32U/GHb (±1.25).

Conclusion: G6PD Mediterranean (563 C-T) mutation associated with 1311T was identified to be widely prevalent in Pakistani population while G6PD Chatham and Orissa were found to be less common in our set up.

Keywords: G6PD, Neonates, Mutations

10.20**NURSING CASE STUDY: DOCUMENT REVIEW TO EXPLORE THE CONCEPT OF EMPOWERMENT***Salma Amin Rattani¹, Zeenat Ayaz, Asif Raza², Rozina Karmaliani¹, Nasreen Sulaiman¹, Saleema Gulzar¹, Shaneela Khowaja¹, Ayesha Aziz², Kausar S. Khan²**¹School of Nursing and ²Department of Community Health Sciences, Aga Khan University, Karachi*

Background: In Muslim context, the concept of nursing is present from the beginning of the religious practices and in nursing the concept of empowerment is very valuable. Therefore, as a part of the research project titled "Women Empowerment in Muslim Context (WEMC): Gender, Poverty and Democratization from Inside out", nursing was taken as case study in which there are multiple phases. In phase-I certain documents were reviewed and this paper is an output of those reviews. Purpose of the study: Purpose of the study was to review nursing documents to understand the concept of the empowerment and to know the role of Aga Khan University School of Nursing (AKU-SON) in empowering nurses in their personal and professional lives.
Methodology: Case study research design was used. In which AKUSON was taken as a case and nursing was considered as the unit of analysis. Thus AKUSON contribution in nurses' personal and professional lives at micro, meso and macro levels was the focus of analysis. Four sets of documents; Aga Khan University Chancellor's speeches, Pakistan Nursing Council (PNC), Pakistan Nurses' Federation (PNF) document, thesis of AKUSON graduates of MScN Programme and AKU-

SON reports of Board of Trustees were reviewed. *Results:* Having certain characteristics within self and at different levels of surrounding was identified to be important to be empowered. It was also identified that one should not be stagnant but through using the potentials should move forward. It was interesting to note that empowerment could also be achieved through empowering others. On the other hand unavailability or limited resources, and obstructions in the system were found to be the impeding factors for the process of empowerment. Thus if empowerment is achieved then gains may be beneficial to individuals and to a group of the people and may result in self satisfaction, motivation, enhancement in leadership qualities and participation in policy dialogue. This all will impact on image of the individuals and profession.

Conclusion: AKU-SON documents were reviewed to understand the concept of the empowerment. Findings suggest that certain characteristics are required to be empowered.

Keywords: Women Empowerment, Muslim Context, Document review

10.21 VALIDATION OF SUNLIGHT EXPOSURE MEASUREMENT QUESTIONNAIRE (SEM-Q) USING ULTRA VIOLET DOSIMETER

Quratulain Humayun, Romaina Iqbal
Department of Community Health Sciences, Aga Khan
University, Karachi

Background: Vitamin D deficiency has become a major public health issue worldwide. Sunlight is the main source for vitamin D and has an important role in growth and development and fighting against various diseases. We want to assess whether people are attaining sufficient levels of exposure for adequate vitamin D synthesis. *Objectives:* To develop a long term and a short term sunlight exposure measurement questionnaire (SEM-Q) and validate it using UV dosimeter for sunlight exposure assessment of adult population of Karachi. Correlation between short term SEM-Q and serum vitamin D will also be assessed. *Methods:* A long term and short term SEM-Q will be developed. Convenient sampling stratified for exposure will be used to select 203 healthy adults. The subjects will be stratified according to exposure (occupation) into high (gardeners/guards etc), moderate (students/physicians etc) and low exposure group (house wives/indoor workers etc). Long term SEM-Q will be administered at the start of the study and a blood sample for serum vitamin D levels will be taken after obtaining informed consent. Participants will then be given UV dosimeters and short term SEM-Q and they will be requested to wear the dosimeter on upper right side of the chest and fill the short term SEM-Q daily for 4 consecutive days. *Potential benefits:* A tool for assessment of sunlight exposure will be validated which has the potential to promote vitamin D research in the general population leading to more conclusive evidence regarding the burden of the problem and in designing and assessing interventions to counter this problem.

Keywords: Vitamin D, UV Dosimeter, sunlight

10.22 EMERGENCY AND TRAUMA CARE QUALITY IN SINDH PROVINCE, PAKISTAN: A COMPREHENSIVE ASSESSMENT

*Junaid A Razzak¹, Uzma Rahim Khan¹, David Heller²,
Syed Muhammad Baqir¹*
¹Department of Medicine, Aga Khan University Karachi and
²Johns Hopkins University, USA

Background: Trauma and other medical emergencies are a substantial component of the burden of preventable morbidity and mortality in developing countries. However, no comprehensive evaluation of the quality of emergency medical care in any area of Pakistan has yet been done. We evaluate the availability of emergency medical equipment/ medicines across four districts; (Urban: Sukkur and Larkana; Rural: Matiari and Jamshoro) Sindh Province, Pakistan.

Method: We selected 93 out of 121 known public health facilities by stratified random sampling. These included a total of 67 BHUs, 14 RHCs, 12 public referral-level hospitals (including three district and nine taluka hospitals). We have selected 12 private tertiary care hospitals by convenience sampling. The instrument for assessment of trauma and emergency equipment was derived directly from the WHO Guidelines for Essential Trauma Care.

Results: Overall, 105 health care facilities were surveyed. Many inexpensive and vital supplies were widely lacking, such as epinephrine (found in 30% of basic health unit facilities) and slings and splints (found in 18% of these facilities). Only one of 67 BHU facilities surveyed had an oral or nasal airway, compared to 11 of 12 private hospitals. Acetylsalicylic acid (aspirin) was available in only 67% of public referral hospitals and private hospitals; and an even smaller proportion of RHCs and BHU facilities.

Conclusion: Wider distribution of a handful of low-cost supplies could substantially decrease morbidity and mortality from emergencies and trauma in the province.

Keywords: Emergency, Trauma, Pakistan

10.23 A REVIEW ON SCHOOL INJURIES: TIME TO CONCENTRATE ON PREVENTION

*Uzma Rahim Khan, Asma Ansari, Ammad Fahim,
Junaid A Razzak*
Department of Medicine, Aga Khan University, Karachi

Introduction: Child injury is a growing public health issue and a leading cause of child death and ill-health in low-income and middle-income countries. According to Pakistan Demographic and Health Survey 2006-2007, injuries and accidents is the number 3 killer of Pakistani children. 3 Children spend 22 to 27% of their waking hours at school. Recent surveillance in 4 low income countries showed that almost 7% of injuries took place in schools.

Objective: The objective of this review is to see the school injury patterns, determinants and prevention programs. *Methods:* Different databases were searched using the key

words school injury. A total of 55 articles were reviewed and summarized.

Results: Injuries in school can be intentional, unintentional and self inflicted. More injuries occurred during the noon hour and the morning than afternoon or before or after school. Falls are the most common cause of school injuries and playground the most hazardous place for injuries to happen. Most frequent types on injuries are bruises, contusions, and sprains. Most frequent parts of body injured are upper extremities lower extremities and head. Some injury prevention programs in the developed countries were implemented. It also included WHO international safe school guide through which a significant number of international schools have taken advantage to convert schools to "safe schools".

Conclusion: The epidemiological pattern of school injuries is known in high income countries. However, there is paucity of data in low and middle income countries. Additional studies are needed to see verify the applicability of the International Safe Schools Designation Guide and Program.

Keywords: School Injuries, Injury Prevention, Pakistan

10.24

ASSESSMENT OF KNOWLEDGE OF PHYSICIANS ABOUT TRAUMA/EMERGENCY CARE IN PUBLIC AND PRIVATE SECTORS IN FOUR DISTRICTS OF SINDH, PAKISTAN

Syed Muhammad Baqir¹, Junaid A Razzak¹, Uzma Rahim Khan¹, David Heller²

¹Department of Emergency Medicine, Aga Khan University, Karachi and ²Johns Hopkins University, USA

Background/Objective: In Pakistan, there is only one academic department of Emergency Medicine currently which is also offering postgraduate residency training program. Doctors from other specialities manage emergencies. Pakistan is also vulnerable to natural and man made emergencies. Therefore, our objective was to evaluate the emergency care knowledge of physicians across four districts (Urban: Sukkur and Larkana; Rural: Matiari and Jamshoro) of Sind, Pakistan

Method: It was a cross-sectional study conducted between January and February 2009. The study included a convenience sample of 141 physicians staffing public and private sector health system. We developed a 35-item physician knowledge test derived from the Advanced Cardiac Life Support curriculum. The instrument was validated through pilot testing on 23 senior students at the Aga Khan University Medical College.

Results: Scores were uniformly poor, across all levels of physician training (p 0.34), tiers of care provided (0.74), public versus private (p 0.6) and districts (p 0.055) surveyed. The overall mean score was 11(SD 5) of 35, and not one of the 141 physicians surveyed achieved a score above 20. Scores were low on several fill-in questions, such as on basic treatments for acute myocardial infarction (9% of respondents answered correctly), interpretation of electrocardiograms (3%) and the steps in basic life support (8%).

Conclusion: The knowledge deficit was severe, that likely compromise the ability of health facilities to use their available supplies most effectively. Better physician training would

likely be the single most cost-effective way to ensure the optimal use of existing resources for emergency care in Sindh.

Keywords: Emergency Care, Physicians' Knowledge, Pakistan

10.25

BEHAVIORAL PROBLEMS AMONG CHILDREN LIVING IN ORPHANAGE FACILITIES OF KARACHI, PAKISTAN: COMPARISON OF CHILDREN IN AN SOS VILLAGE WITH CHILDREN IN CONVENTIONAL ORPHANAGES

Zohra S Lassi¹, Sadia Mahmud², Ehsan Ullah Syed³, Naveed Z Janjua⁴

Departments of ¹Paediatrics & Child Health, ²Community Health Sciences, ³Psychiatry, Aga Khan University, Karachi and ⁴Centre for Disease Control Vancouver, British Columbia, Canada

Objective: This study compared the behavioral problems between children living in an SOS village that attempts to provide a family set-up for its children, with those living in conventional orphanages.

Method: We conducted a cross-sectional survey of 330 children, aged 4–16 years living either in an SOS or other conventional orphanages of Karachi, and assessed their behavioral problems using Strengths and Difficulty Questionnaire (SDQ). Behavioral problems on composite SDQ and sub-scales, rated by foster-mothers, were compared between children in two groups using chi-square test of independence. Multivariable models were built, using Generalized Estimating Equations (GEE) regression approach, to identify factors independently associated with behavioral problems.

Results: Overall prevalence of behavioral problems was 33%. On univariate comparison, we found that groups were not different on their overall behavioral problems, while they were significantly different on peer problem scale (P=0.026). The model for composite SDQ behavioral problems identified five factors; wasting, < 5 years of length-of-stay with the facility, foster-mother's depression, facility type and sex of the child being part of a significant interaction. Foster-mother depression, child's malnourishment and fewer years of length of stay at the facility were associated with conduct problems, with child's sex, facility type and child's parental-living-status being part of two interactions.

Conclusion: We found high burden of behavioral problems among children living in orphanages of Karachi, Pakistan. Foster-mothers depression and child's nutritional-status that were associated with behavioral problems can be target of interventions to reduce behavioral problems among children living in orphanage.

Keywords: Behavioral Problem, Mental Health, Orphanages in Karachi

10.26

FOLIC ACID AND VITAMIN B6 DEFICIENCIES RELATED HYPERHOMOCYSTEINEMIA IN APPARENTLY HEALTHY PAKISTANI ADULTS

Mohammad Perwaiz Iqbal¹, Bo S. Lindblad², Naseema Mehboobali¹, Farzana A. Yusuf⁴, Abrar H. Khan¹, Saleem Perwaiz Iqbal²

Departments of ¹Biological & Biomedical Sciences, ²Paediatrics & Child Health, Aga Khan University, Karachi, and ³Karolinska Institute, Stockholm, Sweden

Objective: To determine the plasma/serum levels of homocysteine, and vitamins folate, B6 and B12, in Pakistani healthy adults.

Method: Fasting levels of plasma/serum folic acid, pyridoxal phosphate (PLP; a coenzymic form of vitamin B6), vitamin B12 and homocysteine were determined in 290 apparently healthy hospital personnel from institutions in two cities of Pakistan (Islamabad and Karachi). Spearman correlation test and linear regression analysis were carried out.

Results: There were 219 males and 71 females with mean age of 46±10.5 years and mean body mass index of 23.5±3.8. Mean plasma homocysteine levels in Pakistani normal adults were found to be 17.95±8.4 mol/l. Mean concentrations of plasma/serum folate, vitamin B12 and PLP were found to be 5±3.9 ng/ml, 522±296 pg/ml and 21.6±14 nmol/l, respectively. Serum/plasma levels of folate, vitamin B12 and PLP were negatively correlated with plasma homocysteine (rho coefficient=-0.367, p<0.001; -0.173, p=0.004; -0.185, p=0.002, respectively). Serum folate and plasma PLP levels were inversely related with plasma homocysteine, adjusted for gender, age, smoking and body mass index (p<0.001 and p=0.003, respectively). Percent deficiency values of folate, vitamin B6 and vitamin B12 were 39.7%, 52.8% and 6.6% respectively.

Conclusion: The high levels of plasma homocysteine due to high deficiencies of folate and vitamin B6 could indicate a reason for mass micronutrient supplementation to prevent the high incidence of cardiovascular disease observed in Pakistani population.

Keywords: Folate Deficiency, Homocysteine, Hyperhomocysteinemia

10.27

DIETARY HABITS OF PATIENTS ADMITTED IN KARACHI INSTITUTE OF HEART DISEASES (KIHD), KARACHI

Javed Ismail¹, Abdus Samad², Hasan Nawaz Tahir², Owais Ahmad³, Mustaqeem Ur Rehman, Salman Hashmi⁴, Junaid Ansari²

¹Alumni, Aga Khan University, Karachi, ²Karachi Institute of Heart Diseases, ³Baqai Medical University, ⁴Dow University of Health Sciences, Karachi

Introduction: The aim of our ongoing study is to find out the dietary habits of patients admitted in KIHD. Study is an ongoing hospital based cross sectional study. All noncritical

responsive patients were included in the study. The questionnaire contains a detailed section on food frequency to find out the dietary pattern of the patients for the last three months before the event. Till 25th Sep. 2009, 212 patients interviewed. Interim analysis was done on these 212 subjects. Descriptive statistics used to detect frequencies, central tendencies and standard deviation. Till now 212 subjects were interviewed, 76% were male. The mean age of males 56 yrs, females 58 years. Majority, 63% had formal education, parents of 44% had consanguineous marriage. Majority had hypertension, 148 (70%), DM 98 (46.2%), and CKD 27 (12.7%). current smokers were 18.9%, and 33.5% former smoker. More than 18% eat 1 to 3 eggs daily, 28.3% eat 1 to 3 paratha daily. One to three servings of Halwa puri by 21% in a month, 1 to 3 serving of dessert, by 21.6% in a week. One to three servings per month, of outdoor katta kat etc., by 23%. Beef by 35%, 1 - 3 times in a week. Fruits by 18%, 1-3 servings per day. Cooked vegetables by 30.2%, 1-3 servings per day. Daily Extra salt by 31%, and Majority uses oil, 186 (87.7%), in cooking their meal. our study subjects had unhealthy dietary patterns Community health educational programs and health promotional strategies are urgently required.

Keywords: Diet, Cardiovascular Diseases, Karachi

10.29

TO FIND OUT THE PREVALENCE OF RISK FACTORS OF HEART DISEASE AMONG INDIVIDUALS ATTENDING ANNUAL PUBLIC AWARENESS PROGRAM AT KARACHI INSTITUTE OF HEART DISEASES (KIHD).

Javed Ismail¹, Maryum Khan², Ayesha Abbasi², Danish Bawa², Umer Anwar Qazi, Mustaqeem Ur Rehman¹, Farhan ul Haq¹, Mustah uddin Kalar², Junaid Ansari¹

¹Alumni, Aga Khan University, ¹Karachi Institute of Heart Diseases, ²Karachi Medical & Dental College, ³Baqai Medical University, Karachi

Objective: Globally, cardiovascular diseases (CVD) are the first cause of mortality. In Pakistan, CVD results in more than 100,000 deaths per year. Risk factors for heart disease are related to lifestyle and environmental factors. The aim of our study was to find out the risk factors of heart diseases among individuals, attending the public awareness program at KIHD.

Method: A community based cross sectional study was carried out at KIHD using convenient sampling. The targeted population belongs to middle class urban locality of Federal B. Area Karachi, who attended the public awareness program, part of annual symposium, in February 2009. After obtaining consent from the study subjects, a standardized questionnaire was administered. Automated machines were used to measure random blood sugar, cholesterol, and Micro albumin was measured through urine analysis. Bathroom scale was used to measure weight. Descriptive statistics was used to detect frequencies, central tendencies and standard deviation. **Results:** Seventy seven subjects were interviewed among them 51 (66.2%) were male. Mean age of individuals was

48.14 (\pm SD 14.44). Majority of the individuals were educated 74 (94%). Fifty seven (74%) were employed and majority of them had a desk job (36.4%). There were 16 (20.8%) who were current smokers. Fifty nine (76.6%) were not engaged in exercise. There were 26 (33.8%) self-reported hypertensive. There were 20 (26.6%) self-reported patients of diabetes mellitus. Seventeen (22.1%) had hypercholesterolemia. There were 71 (92.2%) individuals who used oil in cooking. At least one of the parents of the 33 (42.9%) individuals was patient of heart diseases and 21 (27.3%) of the individual's siblings suffered from heart diseases. Blood investigations showed that mean random blood sugar was 146.62 (\pm SD 73.10), mean cholesterol was 191.23 (\pm SD 37.53), mean weight was 70.89 (\pm SD 7.67), and mean urinary micro albumin was 19.40 (\pm SD 36.72).

Conclusion: Most of the subjects had hypertension and not engaged in any physical exercise routine. Ninety percent of people were using oils in their diet and had white meat as their major source of diet. One of the major risk factors for CVD found was cholesterol level which was high normal. These decode to inadequate protective behavior patterns. Community health educational programs and health promotional strategies urgently needed to improve understanding of risk factors of CVD in the Pakistani population and promote positive lifestyle.

Keywords: Prevalance, Cardiovascular, Risk Factors

10.30

BEHAVIORS AND TRAFFIC CONDITIONS RELATED TO MOTORBIKE ACCIDENTS

Arif Ali¹, Jaishri Mehraj², Sajid Mahmood³

²Department of Community Health Sciences, Aga Khan University, Karachi & ¹Dow University of Health Sciences, Karachi

Objective: To determine the behaviors and road traffic conditions related to motorbike accidents **Methods:** Study Design: Descriptive Cross-sectional study. Study Setting: The study was carried out in the two tertiary care hospitals including Civil Hospital Karachi and Jinnah Postgraduate Medical Center Karachi, Pakistan. These hospitals deal with a major bulk of accident cases in Karachi.

Study Population: All male motorbike accident victims presented to the emergency department of the selected hospitals were included. Males under age 15 were excluded. Data was collected through a pretested questionnaire.

Results: A total of 127 accident cases were included in the study. All of the participants were male and most of the accident cases (64%) were younger than 30 years. 49% of the participants were using bikes without any license. 72% never used any helmet. 29% use tobacco during bike riding. 61% of the accidents occurred in the evening. Speed at the time of the accident was more than 50 km/hour in 43%. 72% of the accidents occurred on the main roads. Bone was injured in 45% of the cases. 34% injuries were severe. Lower extremity was involved in 36% of cases and 38 % were in depressed moods.

Conclusion: Younger age group motorbike drivers, and those with habits of diverting attention during riding like smoking

while riding motorbike and those who drive motorbike without license are at greatest risk of motorbike accidents.

Keywords: Motorbike Accident, Road Traffic Accident, Accidents in Pakistan

10.31

DETERMINANTS OF HEALTH SEEKING BEHAVIOR AMONG FAMILIES OF SICK YOUNG INFANTS IN A COMMUNITY SETTING IN KARACHI

Aatekah Owais¹, Shazia Sultana¹, Aryeh D. Stein², Nasira H. Bashir¹, Razia Awalddad¹, Anita K. M. Zaidi¹
Department of ¹Paediatrics & Child Health, Aga Khan University, Karachi & ²Emory University, U.S.A

Introduction: Infants < 2 months-old are at high risk of developing life-threatening illness, requiring hospital care. Despite provision of transport and free care at a major pediatric hospital, 70-90% of families in low-income urban and peri-urban areas of Karachi refuse hospitalized care for their sick children.

Methods: A cohort study was conducted to identify determinants of health-seeking behavior among families of sick infants in these areas. Mothers/care-providers of 540 infants, 0-59 days-old, diagnosed with a serious illness at local clinics during January 1 – December 31, 2007, were interviewed within one month of referral. A structured questionnaire was used to collect data. Logistic regression was used to identify socio-demographic, behavioral and/or clinical predictors of acceptance of referral.

Results: Only 24.2% of families accepted referral for tertiary care. The strongest predictors of acceptance were recognition of child's illness by mother (OR=12.7; 95% CI=4.6–35.2), husband/father's concern for his family (OR=2.0; 95% CI=1.0–4.3), grunting in the sick infant (OR=3.3; 95% CI=1.2–9.0), and baby's weight being < 2.0 kg (OR=2.7; 95% CI=1.6–4.5). Gender of the child did not affect a family's decision (OR=1.0; 95% CI=0.6–1.5). The mortality rate was 6% for the entire cohort. **CONCLUSION:** Over 75% of families of sick infants refused referrals. Referrals were more likely to be accepted if the family recognized the severity of the child's illness, if the husband/father was concerned for his family's health, or if certain clinical signs were present. These finding may provide possible avenues for interventions aimed at encouraging health-seeking behavior in communities similar to our study population.

Keywords: Young Infants, Health-Seeking Behavior, Karachi

10.32

OUT OF POCKET MEDICAL COST OF ROAD TRAFFIC INJURIES IN KARACHI

Junaid A. Bhatti, Uzma R. Khan, Junaid A. Razzak
Department of Medicine, Aga Khan University, Karachi

Objective: Each year, over two million road traffic injuries (RTI) are expected to occur in Pakistan. In Karachi, each year over 35,000 RTIs and 1,100 road fatalities are reported. This

study assessed out of pocket expenses of RTIs in Karachi. *Method:* Cross sectional study design was used. Randomly selected participants reporting a RTI in one of the five teaching hospitals over a one year period were contacted by phone regarding the outpatient and inpatient expenses. Means of out of pocket money spent function to injury severity (as per new injury severity score) were computed. Such expenses for RTIs in Karachi were estimated for year 2007.

Results: Out of 341 RTI victims, 88% were aged 18-45 years and were men (95%). Among them, 12 died as a result of their injuries whereas 50 were admitted. For each mild (65%), moderate (20%), and severe injury (15%), on average US\$ 18 (SD=127), US\$. 245 (SD=295), US\$. 395 (SD=394) were spent respectively as out of pocket expenses. While considering injury severity in 2007 (N=35,608), nearly 4.7 million US\$ were spent as out of pocket expenses by the victims/relatives.

Conclusion: In Karachi where approximately 2.7 million persons earn less a dollar a day and 11.7 earn less than US\$ 2 a day, prevention of RTIs should be a given a high priority.

Keywords: Road Injury, Traffic, Economy

10.33 FREQUENCY OF CANNABINOIDS USE AMONG THE OIL TANKERS AND TRUCK DRIVERS

Farooq Ghani¹, Jawaid Jabbar³, Imran Siddiqui¹, Aysha Habib Khan¹, Tehseen Kazmi²
Departments of ¹Pathology & Microbiology, ³Alumni and ²Community Health Sciences, Aga Khan University, Karachi

Objective: The use of cannabis is widespread throughout the world, and in many countries is increasing. After alcohol, the most frequently found psychoactive substance in the blood of motorists involved in traffic crashes is cannabis. The very high costs, in human and financial terms, of road traffic crashes underscores the need for a clear understanding of the contribution of cannabis use to the incidence of such crashes. If cannabis were demonstrated to be an independent risk factor for such crashes, then efforts to prevent driving after recent cannabis use could be justified. Because in third world countries most of the commercial drivers are doing their jobs for 24 to 36 hours with out proper rest so that they usually use some drug to eliminate the feeling of unrest. On the basis of their habitual drug usage we would like to find the frequency of those drivers, who use drugs during their duty hours so that the necessary action will be taken accordingly. *Objective:* Frequency of Cannabinoids use among the oil tankers and Truck drivers in Karachi

Method: A cross sectional, study was done from July 2004 to October 2004 in the Section of Chemical Pathology at Aga Khan University. Data of urinary Cannabinoids of selected group, which were drivers of private and local companies were retrieved and reviewed done at the Clinical Laboratory of AKUH. The drivers were hired by the private oil (international) companies who follow the international rules for the selection of these drivers and also follow-up by monitoring these individuals. Also included in the group were the truck and oil tankers drivers of local private companies

who do not have any protocols of selection and monitoring their drivers.

Results: Among 267 drivers, 165 professional truck/oil tankers drivers of private (international) companies and 102 were drivers of private local companies. Mean age of non-professional/local companies drivers were 33.37±15.02 years while the professional Private (international) company drivers were in an age range of 21-60 years (the mean age was not calculated as the companies did not provide the names and ages of their drivers for confidentiality reasons). Out of 165 of private international companies truck/oil tankers drivers, 18 (10.99 %) patients were positive for urinary Cannabinoids and 12 (11.76 %) drivers were positive for urinary Cannabinoids among 102 drivers of local companies

Conclusion: Frequency of cannabinoids use among the truck and oil tankers drivers is significantly correlated with the international data. So it is suggested that all the professional drivers should be screened on monthly basis for the use of these drugs by snap checking.

Keywords: Cannabinoids, Road Traffic Accidents, Oil Tankers & Truck Drivers

10.34 TO ASSESS THE IMPACT OF ZERO TOLERANCE POLICING ON SEAT-BELT AND HELMET USE ON KARACHI-HYDERABAD HIGHWAY

Walliullah Dal¹, Kiran Ejaz², Israr Ali Tunio¹, Junaid A. Bhatti², Junaid A. Razzak²
¹National Highway & Motorway Police, ²Department of Emergency Medicine, Aga Khan University, Karachi

Introduction: Background data regarding seat-belt wearing has not been collected in 73 out of 156 countries. Similarly in Pakistan, there has been no such survey being conducted on highways where these laws are implemented by National Highway & Motorway Police.

Objective: The objectives of this study are to assess: 1-seat-belt wearing rate in drivers and front seat passengers, 2-difference in these rates after implementation of a zero tolerance policy toward seat-belt wearing on selected highways in Sindh, Pakistan.

Methods: A controlled before and after study design will be used. Study setting will be Karachi-Hyderabad road section. Seat-belt and helmet wearing rates in driver and passenger/pillion rider are being observed on these two highways at toll plazas near to Karachi. Zero tolerance policy will be implemented on Karachi-Hyderabad road section. A weekly schedule of one hour each day will be made to observe these rates in before and after periods. Percentage change in these rates of this ongoing study will be computed and its variation with respect to age, sex, and vehicle type will be assessed. *Expected results:* This survey will provide the basic information on these behaviors and can be further used to assess the impact of zero tolerance policies in this part of country. Moreover, vehicular, age, and sex trends will guide policy makers to define focus population of their awareness campaigns in future.

Keywords: Karachi-Hyderabad Highway, Seat Belt, Helmet

10.35**UNINTENTIONAL CHILDHOOD INJURY SURVEILLANCE IN KARACHI, PAKISTAN**

*Junaid A Razzak, Nukhba Zia, Uzma Rahim Khan
Department of Medicine, Aga Khan University, Karachi*

Introduction: Unintentional injuries are a leading cause of death among children and young adults. Over 875000 children = 18 years of age die annually in the world as a result of injuries, mostly in low- and middle-income countries.

Objective: To study the demographic features, types and outcome of pediatric unintentional injuries in Karachi.

Methods: This surveillance was conducted in the Emergency departments of five major hospitals of Karachi, from February and March 2007. Care takers of children less than 12 years of age were interviewed regarding falls, traffic injuries, poisoning, burns, and animal bites amongst others.

Results: This surveillance included 600 children out of which 63.3% were male. About 56.5% were between the ages of 5-11 years. Most of the children were brought by private transport (32.2%) and by their fathers (23.3%). About 45.7% of the injuries occurred at home during recreation time. Fall (47.8%) was the commonest mechanism of injury. About 77.3% of them were directly discharged from the ER with short term disability (24.7%). There were 4 expiries. Only 2.3% and 1.5% of care takers used seatbelts and car seats for children, respectively.

Conclusion: Our Surveillance showed that children between ages 5-11 years were frequently injured. Falls at home was found to be the most frequent mechanism of injury. Most of them were discharged from ER with some degree of disability.

Keywords: Childhood Injuries, Surveillance, Pakistan

10.36**SUBSTANCE ABUSE**

*Shirin Badruddin
Alumni, Aga Khan University, Karachi*

Objective: Sindhipara community people are abusing substances that include gutka, cigarette, beri, pan and chalia." This community is located in Golimar # 1, Karachi 75400, Pakistan. The assessment tool is Windshield Survey Guide.

Objectives: Share some literature, identify the planning phase and discuss the implementation with modification at field level. Integrate the principles of PHC and Incorporate MIS. Discuss strategies used for sustainability.

Analyze pre and post test results: Project is divided into four cycles: (Assessment, Implementation, Priority setting, and Evaluation). We randomly selected 55 families and assessed them. In this way, we identify their problems and took out their percentage. By doing priority setting, we selected substance abuse. The planned strategies are: Teaching to community volunteers and Galleries walk.

Pre Test Result: Out of 55 families: 74.5% females and 24.5% males are substance abusers. 39.8% were aware and 60.20% are not aware about complications. 49.1% wish and 50.9%

don't want to quit. 65.50 have extent of motivation towards quitting. POST TEST RESULT: 92.7% were aware about complications. 63.6% wish to quit. 81.8 were motivated towards quitting

Conclusion: The project followed a systemic approach. To conclude, this project does not end here, but start on the journey. We can hypothetically predict that whenever there is increase in knowledge, attitude and behavior there is a change in the practice. On the basis of evidences, we can hypothesize that volunteer's will be able to conduct sessions and identify clients suffering from withdrawal signs and send them to the near health facility.

Keywords: Substance Abuse, Community, Quit

10.37**UNSAFE WATER: AWARENESS REGARDING UNSAFE WATER IN HOME SCHOOL AT AN URBAN HEALTH SQUATTER SETTLEMENT**

Fahmida Khowaja, Yousuf Memon, Agha Ajmal, Shagufta Iqbal, Fauzia Arif, Parveen Benjamin, Sultan Baig, Parvez Alam

Department of Community Health Sciences, Aga Khan University, Karachi

Introduction: Sultanabad is one of the squatter settlements of Karachi Since 1985; Department of Community Health Sciences, Aga Khan University is working in the squatter settlements since 1996 Karachi through its Urban Health Program (UHP) using Primary Health Care approach as a strategy. As a strategy to enhance literacy at Sultanabad, UHP has established two community-based home schools. The objective of home schools is to attract un-enrolled children in communities for free primary education.

Objectives: To create awareness about importance of safe water among home school students

Methods: To increase awareness regarding importance and use of safe water, UHP involved various stakeholders: general communities, parents of children, members of community based organizations and school teachers. Members from general communities and CBO were called to conduct preliminary meetings. Teachers were involved in delivering sessions. Parents were also called at schools for health education sessions on safe water. School management was informed about the importance of providing boiled water at school. The session were made more interesting by adding charts, play cards, pictures, poems, stories, role plays and games. Focus Group Discussions (FGD) were conducted at the end of intervention to capture the increase in knowledge and change in practices.

Results: The post intervention FDGs showed increase in awareness among teachers and parents. Both the schools are now providing boiled water to students. Some of the parents informed that they provide boiled water to all family members at home.

Conclusion: School could be a good venue for health education using participatory intervention approach.

Keywords: Health Education, Safe Water, Knowledge

10.38

ELEMENTS LEVEL IN THALASSEMIC CHILDRENS METHOD SECTION IS WEEK SEND BACK FOR REPHRASING

Syed Muneeb Younus¹, Pervez Ali²

¹Department of Paediatrics & Child Health, Aga Khan University, and ²Jinnah Postgraduate Medical Centre, Karachi

Objective: To evaluate the levels of some essential elements in thalassemic patients in Thalassemia centre in Badin Sindh, Pakistan.

Method: Fifty thalassemic blood transfusion dependent children, 2.5-18 years of age attending Thalassemic centre in Badin during 2008, were used in this study. Twenty five healthy subjects served as a control group. Patients were allocated in a non-randomized prospective cross-sectional study. Essential elements levels were estimated. The mean, standard deviation, correlation coefficient, and z-test were used. P-values <0.05 were considered statistically significant.

Results: Low serum zinc, and magnesium, and high serum copper, and potassium levels were found among the 50 thalassemic patients compared to the 25 controls. Levels of calcium, phosphate, and sodium were within normal limits. **Conclusion:** Fluctuations in the essential elements levels seem to be related to the different complications associated with the disease. Zinc deficiency may be attributed to hyperzincuria resulted from the release of Zn from hemolyzed red cells. Hypercupremia occurs in acute and chronic infections and hemochromatosis, which is a principal complication of thalassemia. Increased Na levels may be due to renal damage. Hypomagnesemia may occur due to hypoparathyroidism.

Keywords: Thalassemia, Blood Transfusion, Badin Sindh

10.40

WHY DOES A PAKISTANI SMOKE: AN ANALYSIS OF SOCIAL FACTORS

Sobia Nizami¹, Zain Sobani¹, Emmon Raza¹, Noor ul Ain Baloch¹, Javaid A. Khan²

¹Medical College, and ²Department of Medicine, Aga Khan University, Karachi

Objective: Tobacco is a well established risk factor for various diseases including lung cancer, cardiovascular disease and lung disease. Despite its health risks, the use of tobacco is common throughout the world, especially in developing countries like Pakistan. Many causes have been attributed to the initiation of smoking, such as stress, peer pressure, and also the addictive nature of nicotine in cigarettes. Before any large-scale smoking cessation programs are initiated, we need comprehensive data that provides a thorough understanding of the smokers' psyche and the reasons motivating people towards smoking. This study is aimed to determine the reasons motivating people to smoke in Pakistan.

Method: Consenting participants (n=170) were administered a questionnaire and asked to use their own experience and opinion to rate each of 7 given factors on a scale of 1 to 5

regarding its importance as a causative factor in the initiation and propagation of smoking.

Results: Ungrouped analysis revealed occupational stress relief as the most important factor contributing to smoking with a mean score of 3.25 ± 1.32 . Peer pressure ranked second (Score 3.20 ± 1.42). Domestic stress relief ranked third with a score of 3.19 ± 1.32 .

Conclusion: Even though the addictive power of nicotine or stress may appear as a factor in middle aged smokers, the root of their habit lies in the initiation due to peer pressure. The authors of this study recommend that any interventional strategy to prevent smoking should have a primary component targeting peer groups and adolescents with secondary components to cessation and support programs.

Keywords: Smoking, Social Factors of Smoking

10.41

AN ESTIMATE AND EQUITY ANALYSIS OF OUT-OF- POCKET HEALTH EXPENDITURE IN PAKISTAN

Ashar M Malik, Iqbal Azam

Department of Community Health Sciences, Aga Khan University, Karachi

Background: In the South Asian region Pakistan spends least on healthcare. Moreover out of pocket expenditure is 75% of total expenditure on healthcare. We estimated private out-of-pocket expenditure on healthcare and concentration index to analyze equity of healthcare in Pakistan.

Methods: We analyzed Pakistan Standard of living measurement survey (PSLM) data of 2004-05. PSLM is a national survey with a sample size of 14708 household. We estimated out of pocket expenditure on healthcare by the household and estimated OOP expenditure burden ratio. We further developed regression model on socio- economic determinants of household OOP expenditure on healthcare such as household capacity to pay (net total expenditure less food), education level of head and Spouse, life style, availability of appropriate sanitation and safe drinking water, number of household members with age less than 5 years and more than 60 years, time required to reach a basic health unit. **Results:** We estimated Pak Rs. 686 per capita OOP health expenditure during 2004-05. The poverty line is estimated at Rs. 9800 per capita Rs.54600 per household. 30% of the sample population is living below poverty line. On average household OOP health expenditure is 12 % of mean household Capacity to pay. The regression model fitted with adjusted R² 0.366 revealed capacity to pay as the most significant indicator for determining household OOP health expenditure followed traditional life style. All the independent variables were found significant except distance from health facilities. More results will follow.

Conclusion: The analysis of household OOP expenditure on health care confirms with earlier finding of strong correlation between income and health spending. However in developing countries this also predicts that a people below poverty line are prone to catastrophic expenditure or denied healthcare need.

Keywords: Out of Pocket Health Expenditure, Catastrophic Expenditure, Equity

10.42**HEPATITIS B AND C: VACCINATION STATUS AND EXPOSURE TO RISK FACTORS AMONG PRIMARY SCHOOL TEACHERS IN KARACHI**

Muhammad Ayaz Mustafa¹, Sobiya Mohiuddin Omar²,
Ashfaque Ahmed Memon², Sadia Nasim²
¹Medical College, ²Clinical Research Unit, Aga Khan
University, and ³Pakistan Medical Research Council, Karachi

Objective: To determine hepatitis B vaccination status and assess the exposure of risk factors of hepatitis B and C among Primary school teachers in Karachi.

Method: The study was conducted in 30 randomly selected primary schools of Karachi from January 2008 to June 2008. Two hundred school teachers participated in the study after giving informed verbal consent. An anonymous, self-administered questionnaire was filled by the teachers from randomly selected both public and private schools located in Karachi. The variables were assessed their exposure and knowledge of the disease, mode of transmission, and prevention. Further more percentage of vaccinated and non-vaccinated teachers was also estimated.

Results: Two hundred filled responses from school teachers were obtained from 30 randomly selected primary schools of Karachi. Majority of respondents were female (133) and (67) were male teachers. Majority of the subjects 64% (128) were below age of 30 years while 11.5 % (23) subjects were above 40 years of age. Only about 36.5% (73) of respondents were found HBV vaccinated. Around 9% (17) of teachers used more than 10 therapeutic injections while about 56% (101) took between 5-10 injections per annum. More than 8% (15) teachers confirmed that they have been injected with re-used syringes. More than 8 % (17) of family members of participants were suffering in hepatitis B or C, while 10 % (20) of family members were already died in liver diseases without any known history. More than 13% (27) of participants were still sharing their razors, brushes, cigarettes and hukah. In comparison, statistically significant difference was observed in associated risk factors of hepatitis B and C between male and female subjects.

Conclusion: Hepatitis B vaccination among school teachers of Karachi was around 37% with a high use of therapeutic injections and syringe reuse. Massive health awareness programs and educational workshops need to be done for teachers who can later educate the children.

Keywords: Hepatitis, Vaccination, School Teachers

10.43**COMMUNICABLE DISEASE SURVEILLANCE: THE FOUNDATION TO EFFECTIVE CONTROL OF INFECTIOUS DISEASES IN PAKISTAN**

Mirza Amir Baig, Babar T. Shaikh
Department of Community Health Sciences, Aga Khan
University, Karachi

Background: In Pakistan, the absence of a nationwide surveillance mechanism and strategy is the main reason for failure of effective control of communicable diseases. The seasonal outbreaks of various infectious diseases every year

call for an integrated surveillance system on a national level for planning effective preventive strategies.

Methods: A comprehensive literature review was carried out using Medline, Google Scholar; and various government/WHO reports were consulted.

Results: Success stories related to use of Disease Early Warning System provide strong evidence that there is a clear opportunity to adopt a tested and tried model exists at this time in terms of the 'Disease Early Warning System' set up by World Health Organization in conflict affected districts of Pakistan. Such system once put in place has the potential to decrease morbidity and mortality through early detection and prompt control of outbreaks; to facilitate effective financial, human resource and materials management at the district level; and generate evidence to act as a guide for the policy makers and the managers to ensure responsiveness in the health system at the local level.

Discussion: Replicating this system in other districts of Pakistan is both practical and feasible as technical support is readily available through the World Health Organization. Although the challenges involved would be complex but commitment and resilience to overcome them will bear fruit.

Conclusion: This paper is an attempt to discuss the potentials and implications of replicating such a surveillance system in other districts of Pakistan and will analyse the barriers and constraints en route. Moreover, possibility of integrating the individual surveillance systems implemented by various vertical programs into the national Health Management Information System (HMIS) of the country will also be discussed.

Keywords: Surveillance, Infectious Diseases, Health Systems

10.45**SOCIAL MARKETING FOR EARLY NEONATAL CARE: SAVING NEWBORN LIVES IN PAKISTAN**

Iram Ejaz, Babar Shaikh
Department of Community Health Sciences, Aga Khan
University, Karachi

Objective: Traditional practices and the conservative norms of the community affect the neonatal health outcomes drastically. Preventing cord from getting sepsis, keeping the baby in right temperature after birth and early initiation of exclusive breast feeding are three simple strategies or messages that need to be disseminated widely so as to prevent many neonatal mortalities and morbidities. Since these inappropriate practices in newborn handling are directed linked with persistent and unremitting behaviors which need to be changed among health providers and the community at large, we suggest doing robust 'social marketing' for saving newborn lives. The objective of the paper is to present a social marketing strategy and a marketing mix will help in addressing and surmounting the actual barriers and promoting the alternate behaviours in early neonatal care seeking. Moreover, this paper would attempt to make a case for social marketing to be used as the most versatile strategy to address this intricate issue and for promoting some key practices vital for neonate survival.

Method: A comprehensive literature review for understanding

the problem in global and local context was carried out. Reports of UN agencies such as UNICEF and WHO were consulted. To acquire the local data on child mortality, Pakistan Demographic Health Survey 2006-07 was consulted in particular. Papers narrating best practices on social marketing were quoted en route to build up a case for social marketing to address the problem of early neonatal mortality and morbidity.

Results: The social marketing campaign must recognize and involve the key decision makers at the household level i.e. mothers-in-law and husbands, who hold the finances as well. Traditional birth attendants involved and trained to promote key practices for improved peri natal care has also been documented. Last but not the least, skilled birth attendants would need a refresher training to reinforce the concepts of early neonatal care. In order to achieve the goal and objectives of the social marketing program for early neonatal care, the marketing mix must be conceptualized with utmost care and understanding. A watchfully designed marketing mix will help in addressing and surmounting the actual barriers and promoting the alternate behaviours in early neonatal care seeking.

Conclusion: In the multifarious and diversified societies such as Pakistan, social marketing through a profound understanding and an intelligently designed program can have impact on the circumstances that facilitate the adoption of health-oriented behaviors and practices particularly for saving newborn lives. This paper will serve as a guide for the policy makers and the program managers to come up with action plans for promoting key practices for saving neonatal lives. It will be encouraging to see such plans implemented and research studies published as a result.

Keywords: Early Neonatal Care, Newborn Lives, Social Marketing

10.46 INFECTION CONTROL MANAGEMENT AT CIVIL HOSPITAL KARACHI: A MANAGEMENT PERSPECTIVE

Shagufta Perveen
Department of Community Health Sciences, Aga Khan
University, Karachi

Objective: Over 1.5 million people worldwide are suffering from NCIs. In underdeveloped countries the risk of acquiring NCIs is 2 to 20 times higher than developed countries. Management functions play a central role in proper implementation of infection control practices at hospitals to decrease NCIs and occupational risks to health care providers. This study aims to understand the factors influencing infection control management at Civil Hospital Karachi (CHK) from the managers' perspective using 7S McKinsey framework. *Method:* This is Qualitative Case Study in which 20 in-depth interviews were done using a semi-structured questionnaire based on McKinsey 7S checklist.

Results: The study revealed that there is no well-established infection control policy present at CHK. The participants expressed lack of attention and lack of administrative will as the main reasons why CHK does not have proper IC policy.

As a result IC at CHK is managed in a fragmented and adhoc manner which is dependant upon the interest of head of the department of an individual ward. Infection control is considered to be important by the employees but it is not shared as a value among all the employees.

Conclusion: Improvement of infection control management at CHK is a pressing issue at present. The hospital lacks defined strategy for infection control and adhocism is prevailing for the management of infection control at individual ward level at CHK.

Keywords: Infection Control Management, 7S McKinsey, Civil Hospital Karachi

10.47 BURDEN OF WATER BORNE DISEASE ON LOW SOCIO ECONOMIC FAMILIES DUE TO LACK OF KNOWLEDGE AND RESOURCES

Shazia Meraj Ali, Sehrish Mumir
Hemodialysis Unit, Nursing Education Services, Aga Khan
University, Karachi

Objective: To educate patient's family visiting the pediatric ward of national institute of child health regarding water borne disease mainly acute gastro enteritis care and management Background: Water-borne diseases are "dirty-water" disease, those caused by water that has been contaminated by human, animal or chemical wastes. Diarrheal disease, is the major water-borne disease, is common in many countries where sewage treatment is inadequate. Therefore, there is need to create awareness and education about the importance of hand washing in order to reduce incidences of diarrhea in children. Worldwide, it is estimated that over 230,000 children die a year because of water-borne diseases, such as diarrhea (WHO, 2007).

Method: A cross sectional survey was conducted through a validated questionnaire to find out the knowledge, attitudes and practices of patients family coming to the pediatric ward of National Institute of Child Health regarding use of clean water for drinking and cooking. After assessing the KAP, educational material was provided and session was conducted to emphasize on the areas identified by the KAP survey. *Result:* After compilation of data on use of clean water for drinking and cooking, we identified 15% families using filter water, 5% using mineral water, 0% using medication to clean water, 15% families are not practicing anything to make water safer to drink and only 65% families prefer boil water but there were malpractice about boiling water .

Conclusion: Thus overall aim of the study was to change the malpractice adapted by the patient's family for the improper use of water for drinking and to educate them about the water borne diseases prevention and their management.

Keywords: Health, Water Born Diseases, Childrens

10.48**EFFECT OF MULTIPLE MICRONUTRIENT SUPPLEMENTATION DURING PREGNANCY ON MATERNAL AND BIRTH OUTCOMES**

Batool Azra Haider¹, Mohammad Yawar Yakoob², Zulfiqar A. Bhutta²

¹Alumni, ²Department of Paediatrics & Child Health, Aga Khan University, Karachi

Background: Given the widespread prevalence of micronutrient deficiencies in developing countries, supplementation with multiple micronutrients rather than iron-folate alone, could be of potential benefit to the mother and the fetus. These benefits could relate to prevention of maternal complications and reduction in other adverse pregnancy outcomes such as small-for-gestational age (SGA) births, low birth weight, stillbirths, perinatal and neonatal mortality. This review evaluates the evidence of the impact of multiple micronutrient supplements during pregnancy, in comparison with standard iron-folate supplements, on specific maternal and pregnancy outcomes of relevance to the LiST tool.

Method: A systematic review of the published randomized controlled trials was conducted. Search engines used were PubMed, the Cochrane Library, the WHO regional databases and hand search of bibliographies. A standardized data abstraction and standard ChERG grading system were used and meta-analyses performed to calculate summary estimates of utility to the LiST tool for the specified outcome of incidence of SGA births. We also evaluated the potential impact of multiple micronutrients on neonatal mortality according to the proportion of deliveries occurring in facilities (using a threshold of 60% to indicate functionality of health systems for skilled births).

Results: We included 17 studies for detailed data abstraction. There was no significant benefit of multiple micronutrients as compared to iron folate on maternal anemia in third trimester [RR = 1.03; 95% CI: 0.87 – 1.22 (random model)]. Our analysis, however, showed a significant reduction in SGA by 9% [RR = 0.91; 95% CI: 0.86 – 0.96 (fixed model)]. In the fixed model, the SGA outcome remained significant only in women with mean body mass index (BMI) = 22 kg/m². There was an increased risk of neonatal mortality in studies with majority of births at home [RR = 1.47, 95% CI: 1.13-1.92]; such an effect was not evident where = 60% of births occurred in facility settings [RR = 0.94, 95% CI: 0.81-1.09]. Overall there was no increase in the risk of neonatal mortality [RR = 1.05, 95% CI: 0.92 – 1.19 (fixed model)].

Conclusion: This review provides evidence of a significant benefit of MMN supplementation during pregnancy on reducing SGA births as compared to iron-folate, with no significant increase in the risk of neonatal mortality in populations where skilled birth care is available and majority of births take place in facilities. Given comparability of impacts on maternal anemia, the decision to replace iron-folate with multiple micronutrients during pregnancy may be taken in the context of available services in health systems and birth outcomes monitored.

Keywords: Multiple Micronutrients, Pregnancy, Small-For-Gestational Age

10.49**THE TRAUMA OF ONGOING CONFLICT AND DISPLACEMENT: HUMAN RIGHTS VIOLATIONS AND PSYCHIATRIC MORBIDITIES AMONG INTERNALLY DISPLACED WOMEN OF NORTHWEST PAKISTAN**

Hassan Mehmood Khan¹, Kausar S. Khan¹, Abdul Wahab Yousafzai²

Departments of ¹Community Health Sciences and ²Psychiatry, Aga Khan University, Karachi

Background: Millions of people are displaced each year due to conflicts and human rights violations worldwide, majority of them being displaced internally in their own countries. The number of Internally Displaced People (IDPs) is two times that of refugees. Due to the ongoing war on terror millions of people are displaced internally in Northwest Pakistan including women and children and there are press reports of human rights violations and psychiatric morbidities among them. There is a need of research on human rights violations and psychiatric morbidities among these internally displaced women to inform policy makers, humanitarian agencies, human rights and women rights organizations to protect the rights of these women and avoid a major humanitarian crisis.

Objective: To estimate the psychiatric morbidities among the internally displaced women of Northwest Pakistan and to identify the human rights violations of these women.

Method: A sequential explanatory design of mixed method inquiry was used for this study. In the quantitative phase data was collected for psychiatric morbidities using a screening tool GHQ 28 and for human rights violations and physical health related needs of the internally displaced women through a semi structured questionnaire from 308 adult displaced women. In the qualitative phase data was collected for the human rights violations through in-depth interviews with 10 adult displaced women and 5 adult displaced men.

Results/Quantitative Phase: For the human Rights status, out of the 308 adult displaced women, 88.6% had not enough food stock for the family, 83.1% had not enough clothes for the family, 31.1% of the women were not allowed to move freely at their will in the camp, and 73% of the women were not able to carry out the daily life activities like cooking, washing clothes, taking a bath and feeding their children properly in the camp. According to 69.4% of the women there were not enough washrooms/toilets in the camp for them to access. 47.7% of the women had a family member killed in the conflict, 41.5% of the women witnessed killings while 41.8% witnessed torture/abuse during the conflict and almost 86% were not satisfied with living in the camp. Electricity was found to be their greatest need in the camp and 95.4% of the participants wanted to return to their homes but 92.5% had no idea of their future. For the psychiatric morbidities it was found that 99.7% of the 308 adult displaced women were achieving the score of psychiatric morbidity and every one of them could be considered to be suffering from ill health.

Conclusion: The study reveals that almost all of the 308 women could be considered to be suffering from psychiatric morbidities and their human rights and the rights as citizens of a country have been violated and the UN guiding principles on internal displacement are not being followed. The policy makers, national and international humanitarian agencies

should look into the matter by providing them all the basic necessities of life including food, water and privacy and protection of their honor, which were found to be lacking in the camp; and also long term programs are needed to take care of their mental health and rehabilitation as soon as possible.

Keywords: Internal Displacement, Psychiatric Morbidities, Human Rights

10.50 IMPROVED RECOGNITION OF AND RESPONSE TO PROLONG LABOR AND BIRTH ASPHYXIA

*Farhana Tabassum, Aida Irfan, Naghma, Nabiha Irfan
Department of Paediatrics & Child Health, Aga Khan
University, Karachi*

Background: Globally one of the main direct causes of neonatal death is asphyxia 23%. In Pakistan 90% of women give birth at home, with 84% assisted by unskilled attendants. The deaths could be avoided by improved antenatal, intrapartum, and postnatal care.

Objective: The objectives of the study were to describe cultural norms, health beliefs, and experience of respondents with PL and BA.

Method: Study settings Matiari, Karachi & Pind Dadan Khan Study Subjects Women of reproductive age, Family elders & Traditional birth attendants Phases Semi structured interview, structured interview & Group interview.

Results: Result of the Phase 1 In the urban area people thought that baby should born within 12 to 24 hours whereas the rural respondents' belief that baby should born within 12 hours. The two major reasons of prolong labor were delay in dilation of the uterus and the weakness in mother. Regarding birth asphyxia, people considered the presence of amniotic fluid in to baby's mouth and nose as its cause. Mostly respondents thought deaths as the cause of prolong labor and birth asphyxia. Care practices for PL and BA involved the medical, traditional and spiritual treatments.

Conclusion: Even though they understand that the doctor can better identify the problems regarding delivery but didn't go to them due to constraint financial conditions and their norms. Different traditional and biological concepts were prevalent regarding the recognition, causes and consequences of the PL and BA Key words Birth asphyxia, prolong labor, antenatal care Key words Birth asphyxia, prolong labor, antenatal care

Keywords: Birth Asphyxia, Prolong Labour, Antenatal Care

10.51 PREVALENCE AND RISK FACTORS FOR STUNTING AMONG CHILDREN UNDER 5 YEARS: A COMMUNITY BASED STUDY FROM JHANGARA TOWN, DADU SINDH.

*Syed Farid-ul-Hasnain¹, Raafay Soofie²
¹Department of Community Health Sciences and ²Medical
College, Aga Khan University, Karachi*

Objective: Malnutrition is a common problem worldwide, especially in low income countries and therefore is not merely one of the greatest public health problems in the world today; it is both a result and cause of social and economic under development. The objective of this cross sectional study was to assess the prevalence and the associated risk factors for stunting in rural Sindh.

Methods: A cross-sectional survey was conducted in Jhangara Town, located in district Dadu, rural Sindh. 800 children less than 5 years of age were enrolled. A questionnaire was used to elicit required information and anthropometric measurements were made.

Results: The overall prevalence for stunting was 61% in the study population, which was higher than the prevalence reported by PDHS 1990/91. In multivariate analysis various risk factor for stunting were ethnicity (OR = 2.1, 95% CI 1.27- 3.57) and birth interval < two years (OR = 1.5, 95% CI 1.09 - 1.99).

Conclusion: Effective strategies to encourage birth interval of more than two years should be incorporated while designing control strategies to reduce morbidity and mortality due to malnutrition in children less than 5 years of age. Further investigation is needed to explore the feeding practices amongst different ethnic groups so that practical interventions and local solutions can be sought.

Keywords: Stunting, Birth Interval <2 Years, Children <5 Years

10.52 SCHOOLS AS A POTENTIAL VACCINATION VENUE FOR VACCINES OUTSIDE REGULAR EPI SCHEDULE IN PAKISTAN

*Abdul Razzaq Lasi¹, Zamir Suhag¹, Sajid Bashir Soofi¹,
Inam Ul Haq¹, Muhammad Bilal Siddiqui¹, Mushtaq Mirani¹,
Muhammad Imran Khan², R. Leon Ochial², Michael Favorov²,
Zulfiqar A. Bhutta¹
¹Department of Paediatrics & Child Health, Aga Khan
University, Karachi & ²International Vaccine Institute, Seoul*

Objective: Revisiting the usefulness of school immunization programs in Pakistan. Baseline information on school system in two townships of Karachi was collected through school visits for use in the planning of a typhoid vaccination program.

Method: Data was collected by using Personal Digital Assistants (PDA) like Information on school fee, enrollment,

past history of any vaccination campaign and willingness of parents to participate in any vaccination campaign. *Results:* 304,836 students were enrolled in 1096 public, private and Madrasah's of the two towns. Five percent schools refused to participate in the school census. Twenty-seven percent schools had a total enrolment of less than 100 students whereas only 3% had more than 1,000 students. Health education program was available in less than 1% of public schools, 20% of private schools and 8% of Madrasah. One third public schools, 47% of private schools, and 63% of Madrasah had participated in a vaccination campaign. Polio was the most frequent vaccination campaign at school level. Price and side-effects of the vaccine and lack of information were highlighted as important limiting factors by the school administration for a school based immunization. Permission from parents, appropriateness of vaccine related information and involvement of teachers were considered important in improving school participation.

Conclusion: School health programmes are not part of regular curriculum. Many schools in the surveyed townships had participated in immunization activities but were not carried out regularly. In the wake of a low immunization coverage in Pakistan, schools can be used a potential venue for vaccination other than EPI.

Keywords: School, Vaccination, EPI

10.53

THE NEED FOR VACCINATION INFORMATION: FORMATIVE RESEARCH RESULTS OF VI PS TYPHOID VACCINE INTRODUCTION IN KARACHI, PAKISTAN

Ghurnata Tabbusum¹, Alfred Pach², Zamir Suhag, Ejaz Hussain¹, Uzma Mumtaz¹, Inam ul Haq¹, Amjad Mirani¹, Aisha Yousafzai¹, John D Clemens², Zulfiqar A Bhutta¹
¹Department of Paediatrics & Child Health, Aga Khan University, Karachi and ²International Vaccine Institute, Seoul

Objective: We conducted a qualitative study to understand the modes of communication related to implementing a school-based vaccination program in Karachi.

Method: Fourteen focus group discussions and 13 in-depth interviews were conducted with the target audience that included, parents of school-going children, teachers and heads of schools, health care providers, religious and political leaders of the community.

Results: Typhoid fever was considered a serious illness for all ages. Knowledge of preventive methods was very low among participants. In the case of immunizing their children, the parents said they will consult their family doctor. Face-to-face sessions on health awareness were considered the best source of information followed by the use of mass media. Teachers and heads of schools considered consent from the parents as a key to increase vaccination coverage. Price was an important factor for parents in the decision-making process vaccination in schools. Parents showed reservations for vaccination of their children in the absence of comprehensive information; however, if enough information is provided on adverse events, duration of protection and cost of vaccine,

they showed willingness for participation in a school-based vaccination program.

Conclusion: Awareness in the community of typhoid fever and its prevention through vaccination can be increased through a comprehensive program that focuses on its safety, duration of protection and cost to users. The increased awareness in turn will affect typhoid fever vaccination acceptance and hence increased coverage in schools.

Keywords: Vi PS, Formative Research, School Vaccination

10.54

PREVALENCE OF DEPRESSION AND ITS RELATIONSHIP WITH INTELLIGENT QUOTIENT (I.Q.) IN CHILDREN AGED 13-15 YRS OF GOVERNMENT AND PRIVATE SCHOOLS.

Farhat Jafri¹, Shahan Waheed², Rooshana Batool¹, Javeria Maqsood¹, Nida Shahid, Maryum Asif¹, Beenish Zahid¹, Ammad Fahim², Kalar Musleh uddin², Todd Lessley³

²Department of Community Health Sciences, Aga Khan University, ¹Karachi Medical & Dental Council, ³Front Range Community College, Colorado, USA

Objective: Depression is one of the leading causes of poor school performance in young people. As evidenced by cognitive epidemiology, intelligent quotient, an indicator of cognition is inversely related to risk of psychiatric illness. Children with low I.Q. have more persistent depression. Lower cognitive reserve, as reflected by childhood I.Q, is an antecedent of several common psychiatric disorders. 1. To determine the prevalence of depression in government and private school children aged 13-15 years. 2. To determine the intelligent quotient (I.Q.) of government and private school children aged 13-15 years.

Method: The study conducted on school children selected from class 8 of government and private school and students were selected on the basis of non probability convenient sampling.

Results: Private school children were 72% normal having 18% mild depression, 8% moderate depression and 2% severe depression. Government school children were 50% normal having 32% mild depression, 12% moderate depression and 6% severe depression. The mean I.Q. of government school children was border line 56.0 ± 0.12 . The mean I.Q. of private school children was lower average 86.0 ± 0.06 .

Conclusion: Depression is a major factor in affecting intelligent quotient (I.Q.) and school performance.

Keywords: Depression, Intelligent Quotient, Child Health

10.55

PATTERN OF PHYSICAL ACTIVITY AND ITS DIFFERENCES AMONG SCHOOL GIRLS AND BOYS IN PAKISTAN

Ali Khan Khuwaja¹, Adeel Akbar Khoja², Komal Motwani³, Saleem Khawaja³

¹Department of Family Medicine, Aga Khan University, ²Sind Medical College and ³Dow University of Health Sciences, Karachi

Objective: Obesity among school going children is one of the major global health challenge. The purpose of this study was to identify the pattern of physical activity and its difference among adolescent girls and boys

Method: A cross-sectional, questionnaire based survey was conducted in five inner city secondary schools serving predominantly middle and lower socioeconomic class in Karachi and Quetta. In all, 314 adolescents (13 to 17 years) were completely responded to the questionnaire. All the data was collected and managed by trained medical graduates. Chi-square test was used to calculate the differences of physical activity pattern among girls and boys.

Results: Questionnaire was administered to 159 boys (50.6%) and 155 girls (49.4%). Large majority (83.7%) of adolescents were using vehicle to and from school and over half (55.1%) of respondents spend three hours and more on watching television, playing computer games or doing other sitting activities. Only 20.1% of adolescents were involved in vigorous activities; more boys compared to girls (34.0% vs. 5.9%; $p < 0.001$). Similarly, boys were found to be more physically active for at least thirty minutes per day as compared to girls (27.7% vs. 16.8%; $p = 0.01$). Less than half of the study participants were taught about physical education and only 1.3% of them had accessibility of play ground in their schools.

Conclusion: Substantially large proportion of adolescents particularly girls were physically inactive in this study. There is a need for those with responsibility for adolescent's health, including parents, schools, and community health providers, to consider and address the need for effective interventions to encourage increased physical activity level among adolescents.

Keywords: Physical Activity, Adolescents, Pakistan

10.56

CHILDREN LIVING IN POOR HYGIENE AND SANITATION CONDITIONS: WHY DOES IT MATTER?

Sanober Nadeem, Bilal Iqbal Avan

Department of Community Health Sciences, Aga Khan University, Karachi

Objective: It is estimated that at least 200 million children, mostly from developing countries, suffer from developmental delays. Poor hygiene and sanitation conditions are known to influence growth faltering and increased risk of morbidity and mortality, yet little is known about role of these conditions on child growth and development. The study aims to contribute

to an understanding of the relationship between family hygiene, sanitary conditions and psychomotor development in the first three years of life.

Method: A cross sectional household survey was conducted in urban and rural Sindh, Pakistan, by trained personnel. Children aged less than 3 ($n = 1,244$) were assessed at home visits using 1) Bayley's Infant Developmental Scale for psychomotor development; 2) anthropometric status, and 3) socio-economic, hygiene and sanitation conditions via maternal interview. Socioeconomic, hygiene and sanitation indices are created using principal component analyses.

Results: Rural areas are highly correlated with hygiene index (HI) and sanitation index (SI), as compared to their urban counterparts. Age and sex adjusted SI is highly correlated with socioeconomic index (SEI). Multilevel modelling analysis showed that SI is significantly associated with child's delayed development, stunting and being underweight; while HI is associated with underweight and stunting status of children, independent of SEI and rural-urban neighbourhood.

Conclusion: Due to a strong association between hygiene and sanitation conditions and development, recognition should be given to the growth and developmental needs of children living in such conditions.

Keywords: Hygiene Index, Sanitation Index, Psychomotor Development

10.57

DOES MOTHER REPORT MATTER IN CHILD ASSESSMENT?

Sanober Nadeem, Iqbal Azam, Ghazala Rafique, Anjum Yameen

Department of Community Health Sciences, Aga Khan University, Karachi

Objective: Developmental assessment of children is very important for the identification of delays and disability hence parent report is an essential source of information about child development. However there is no conclusive scientific evidence on parents report. Studies have shown that mother report is a reliable, accurate and validated tool to assess child development; other researches have conclude that direct observation with trained person is a more reliable predictor of developmental screening than mother report. Aga Khan University- Human Development Programme has developed a "Care for Development Appraisal (CDA) Tool for assessment and advice of growth and development during the first three years of life" for use by community based Early Child Development Worker (ECDWs). This study looks at the inter-rater reliability of mother report and the CDA when used by trained community workers and experts (psychologist).

Method: A cross sectional survey was conducted in the HDP field site in Tando Jam, Sindh to assess child development on 277 children < 3 years of age using CDA by trained community ECDWs. For inter-observers reliability measures, each ECDWs pair and one expert assessed children independently in the home setting, on completion of assessment mothers report about each domain was taken by the experts

Results: Strong agreement was observed and there is no

significance difference in the distribution of mean difference (95% CI) among the experts, ECDWs observer rating and mother report for all developmental domains of the CDA. Very high inter rater correlation was observed in the three groups respectively ($r = .951$ to $.998$, $p < .001$) on all developmental domains of the CDA: gross motor, fine motor, language, cognitive and social emotional.

Conclusion: This study shows that mother report is an important and reliable instrument for use in community settings for assessing child development.

Keywords: Mother Report, Reliability, Developmental Screening

10.58

DETERMINANTS OF CHILDHOOD AND ADOLESCENT OVERWEIGHT AND OBESITY IN SCHOOL GOING CHILDREN IN KARACHI

Azra Rizwan¹, Juanita Hatcher², Jaweed Akhter¹, Tazeen Jafar²
Departments of ¹Medicine & ²Community Health Sciences, Aga Khan University, Karachi

Objective: Obesity during childhood tracks into adulthood and is associated with risk of type 2 diabetes and cardiovascular disease. Prevalence of childhood obesity has risen in many developing nations. Information is required about the factors associated with this trend in developing countries to combat this smoldering epidemic. *Objectives:* To determine the risk factors for overweight and obesity in school going children, with emphasis on canteen food consumption. *Method:* In 2007, we surveyed four private and two public schools. Data on the childrens' sociodemographic variables, dietary habits and physical activity patterns at the school, home and elsewhere were recorded, as well as their physical measurements (height, weight, anthropometry). Multiple logistic regression was applied to assess the significance of each risk factor for primary outcome of overweight or obesity.

Results: Of the total of 530 children approached, 434 consented to enroll, of whom 14.1% were overweight or obese using the International Obesity Task Force Criteria: 13.8% boys and 14.4% girls (p value=0.84). Children bringing lunch and soft drinks from the canteen had significantly greater odds of overweight or obesity ([OR] 1.84, 95% [CI] 1.21, 3.45). Snacking while watching television and fast food visits more frequently than twice a week raised the odds of overweight or obesity by more than threefold ([OR] 3.32, 95% [CI] 3.23,4.79) and ([OR] 3.14, 95%[CI] 2.42,11.25], respectively. The duration of activity of < 30 minutes versus > 30 minutes per physical education [PE] class placed the child at greater odds of overweight or obesity ([OR] 2.84, 95% [CI] 1.27, 3.01), whereas the weekly frequency of PE classes did not achieve significance.

Conclusion: The school is well spotted to initiate public health measures to prevent the epidemic of overweight and obesity in children that has evolved in the West. Efforts are required to educate children and their families about potentially

modifiable high-risk behaviors, such as canteen food, eating during television watching, and engaging in physical activity at home and school, associated with overweight and obesity.

Keywords: Determinants, Obesity, Canteen

10.59

PREVALENCE OF URINARY INCONTINENCE AND ASSOCIATED FACTORS WITH IMPACT ON WOMEN'S LIFE IN RURAL PAKISTAN

Abdul Hakeem Jokhio¹, Raheela Mohsin Rizvi², Christine MacArthur, Javed Rizvi²

Departments of ¹Community Health Sciences and ²Obstetrics & Gynaecology, Aga Khan University, Karachi

Objective/Background: Urinary incontinence (UI) is a major worldwide public health problem affecting younger and as well as older women across different cultures and races. Prevalence studies in general population are rare and the impact of urinary incontinence on quality of life has not been addressed in developing countries. *Objectives:* The primary aim of the study was to ascertain the prevalence and associated factors of UI in women in rural Pakistan. The secondary aim was to assess their effects on quality of life.

Methods: In a cross-sectional multistage random sampling study an interview based structured questionnaire was used to collect data of 558 women, verified by physical examination. Subjects were aged 15-60 years living in the catchment population of the two public health centres selected over 4 months. The main outcome measures were urinary incontinence and variables that affecting women life such as leakage botheration; leakage interference and doctor consulting. *Results:* The prevalence of UI was found 15.4%. Cases 3.6% were identified along with utero-vaginal prolapsed. The majority of cases (83.7%) of UI were found in women of the age between 31-35 years and the highest prevalence (39.5%) was in women with Para 1-5 children. Cases 14% with UI were unmarried and overall 80% of cases never bothered to get check-up by a doctor.

Conclusion: Our findings have shown that UI is a major health problem in women in rural Pakistan. Further investigation is required with special focus on unmarried women. Appropriate measures are required to prevent and treat disabling condition meeting health needs of women.

Keywords: Urinary Incontinence, Associated Factors, Impact on Women's Life

10.60

A CHILD AND PARENT PERSPECTIVE FOR DETERMINANTS OF CHILDHOOD OVERWEIGHT OR OBESITY IN SCHOOL GOING CHILDREN IN KARACHI

Azra Rizwan¹, Juanita Hatcher², Jaweed Akhter¹, Tazeen Jafar²
Departments of ¹Medicine & ²Community Health Sciences,
Aga Khan University, Karachi

Objective: Under nutrition in children, though remaining a major concern in developing nations is being slowly overtaken by the overweight and obese state, which is associated with the risk of type 2 diabetes and cardiovascular disease in the young. Inquiry into the determinants of the condition is necessary to counter the rising trend. **Objectives:** To analyze the risk factors for overweight or obesity in school children from both child and parent perspective.

Method: In 2007, we surveyed four private and two public schools. Data on the childrens' sociodemographic variables, dietary habits and physical activity patterns at the school, home and elsewhere were recorded for both parent and child. Physical measurements (height, weight) of both parent and child were taken. Multiple logistic regression was applied to assess the significance of each risk factor for overweight or obesity. Mc Nemar was used for child and parent comparison.

Results: For both parent and child, bringing lunch from the canteen: (OR [1.72] CI 1.14,4.83) and ([OR [1.84], 95% CI 1.21,3.45); greater frequency of snacking while watching television: (OR [3.95], 95% CI 3.42,5.26) and (OR [3.32], 95%CI 3.23,4.79) and a greater frequency of fast food visits: (OR [2.83], 95%CI 1.65,12.14) and (OR [3.14], 95%CI 2.42,11.25) were associated with greater odds of overweight or obesity. Of the children, 60% stated having some form of fruit or vegetable on a daily basis, whereas only 39% parents of these children verified this (p value<0.05). A greater proportion of children participated in more sedentary activity than what the parents were aware of (p value<0.05). Conversely, a greater proportion of parents stated a greater frequency of fast food visits and television snacking by their child, as compared to what the child had stated (p value<0.05).

Conclusion: To curtail the menace of childhood obesity, a multidisciplinary approach needs to be adopted, with modification of parental behavior and the school environment. Education to the family on the provision of home food, as opposed to canteen food, may provide a healthier alternative to the child as well as a re emphasis on more fruit and vegetable consumption by the child.

Keywords: Children, Parents, Obesity

10.63

COMMUNICATION CAN BE REGARDED AS AN ATTRIBUTE OF GOOD QUALITY CARE: A SYSTEMIC REVIEW

Sehrish Thanewala
Alumni, Aga Khan University, Karachi

Objective: To identify benefits of setting an environment that helps everyone to share their experience to live a quality life.

Methodology: It is a systemic review comprised of the review of related 20 research articles.

Results/Findings: Support groups provide a setting in which patients can talk about their disease process with others patients who may be having similar experiences. The literature review showed that the support groups have number of benefits. The group will provide a place of support and acceptance for all patients. The group will design to meet the needs of not only the patient, but also the people who care for them and help them through their treatment .A researcher from the University College London says that many support groups are not listed which make finding an appropriate group difficult. Even so, he does say that the medical community needs "to understand the use of personal experiences rather than an evidence-based approach." Nurses in today's time have brightest minds. Nursing extends to all care delivery settings where clients experiencing any disease will receive health care, education, and counseling for prevention, screening and detection. The practice of nursing in these support groups will encompasses the roles of direct caregiver, educator, consultant, administrator, and researcher.

Recommendations: As a nurse we can organize a support groups and can bring a change. In these group nurses can functions as a coordinator of care, collaborating with other team members to provide required care as effectively as possible and to achieve realistic healthcare goals for an individual or for an entire community.

Keywords: Communication, Quality Care, Nurses

10.64

A CROSS SECTIONAL SURVEY TO ASSESS HIB VACCINE COVERAGE AND HEALTH INFRASTRUCTURE IN EARTHQUAKE AFFECTED AREAS OF PAKISTAN

Gul Nawaz Khan, Aisha K. Yousafzai, Sajid Bashir Soofi,
Zulfiqar A. Bhutta
Department of Paediatrics & Child Health, Aga Khan
University, Karachi

Objective: Haemophilus influenzae type b (Hib) is an important cause of morbidity and mortality among infants and young children in developing countries due to pneumonia, meningitis and sepsis. Hib disease is preventable by immunizing all children under age 5 years with an approved Hib vaccine. The objective of this survey was to estimate the proportion of children who received Hib vaccine during a mass immunization campaign in earthquake affected areas of

Pakistan, and to evaluate the existing health care infrastructure in carrying out disease surveillance/patient enrolment activities for the forthcoming case control study to assess Hib effectiveness in reducing childhood pneumonia and meningitis.

Method: A cross sectional survey was conducted in two tehsils Bagh and Balakot of earthquake affected areas between July to August 2006. Two structured questionnaires were used to assess Hib vaccine coverage across 1000 households and health care infrastructure in study area.

Results: Coverage rate of Hib vaccine was 78% in the study area, of which 65% was verified from vaccine card and the Expanded Program for Immunization (EPI) logbooks. Eighty-four percent of the respondents were mothers of the children. Majority of the respondents about 85% had knowledge of Pneumonia, whereas only 33% had knowledge of Meningitis. Eleven percent of the children had Pneumonia in the last three months, and only 1% had Meningitis. All the health care facilities in the study area are maintaining an EPI record in logbooks and registers. There were only two public health care facilities in the vicinity for the diagnosis and management of Pneumonia and Meningitis.

Conclusion: Mass immunization campaign was effective and its record keeping was excellent for future surveillance.

Keywords: Hib vaccine, Pneumonia, Meningitis

10.65

MENSTRUAL KNOWLEDGE AND PRACTICES OF FEMALE ADOLESCENTS IN URBAN

Tazeen Saeed Ali¹, Syeda Naghma Rizvi²

¹Department of Community Health Sciences, and ²School of Nursing, Aga Khan University, Karachi

Objective: Menstruation is a normal physiological process that is managed differently according to various social and cultural understandings. This study has the purpose of identifying the menstrual conceptions of adolescent females among those going and not going to school, as well as related practices including social, religion, nutritional and hygienic practices. Finally, this study will compare the socioeconomic factors and practices of adolescent females who are going to government and private schools and those who are non-school-going

Method: Cross-sectional study was conducted to explore the menstrual practices among 1275 female adolescents of urban Karachi, Pakistan from April to October 2006 by using interviews. Data was entered and analyzed in Epi Info Version 9 and SPSS Version 10.

Results: Descriptive findings showed that 50% of the girls lacked an understanding of the origin of menstrual blood and those with a prior knowledge of menarche had gained it primarily through conversations with their mothers. Many reported having fear at the first experience of bleeding. Nearly 50% of the participants reported that they did not take baths during menstruation. In univariate analysis, factors of using unhygienic material, using washcloths, and not drying under sun were found to be significant in the Chi square test among those going and not going to schools.

Conclusion: This study concludes that there are unhygienic practices and misconceptions among girls requiring action by health care professionals.

Keywords: Menstruation, Menstrual Practices, Adolescent

10.66

QUEST FOR GOOD GOVERNANCE AND GOOD PRACTICES IN HEALTH SYSTEM OF PAKISTAN: THE ROAD MAP TO MILLENNIUM DEVELOPMENT GOALS.

Babar Tasneem Shaikh

Department of Community Health Sciences, Aga Khan University, Karachi

Introduction: Health system in Pakistan is confronted with numerous problems of inequity in access and distribution of health services, resource scarcity, uninspired human resource, gender insensitivity and structural mismanagement. Struggling with a precarious health status of the people and poor indicators of health in the region by and large, the overall picture lacks 'good governance' and more so 'good practices' in the system. This paper examines the state of affairs in the health system of Pakistan with these two lenses. The devolution initiative leading to formation of district health management teams perhaps carried the future of health of the nation. It is fundamental to strengthen the primary health care services at the district level catering to the 65% rural habitants of the country. Most pre-requisites ensuring good governance and reflecting good practices could have been fulfilled, given this system sustains and be allowed to thrive. A concerted effort is needed to institutionalise the health services at the district level. There ought to be political, attitudinal and cultural conditions conducive to let this system flourish. Among the good practices, foremost would be an enhance level of trust and harmonisation among the departments of health, population, planning and finance. This would be instrumental and crucial in defining the road map for achieving the millennium development goals by 2015.

Keywords: Good Governance, Health Systems, Millennium Development Goals

10.67

MOTHERS PERCEPTIONS TOWARDS CHILDREN WITH DISABILITIES

H. Arisha Qayyum, Seema Lasi, Ghazala Rafique

Department of Community Health Sciences, Aga Khan University, Karachi

Objective: Parental perceptions play an important role in predicting the treatment/rehabilitation outcomes of disabled children. The aim of this study was to explore the perceptions of mothers towards disability; its causes, awareness about available facilities for treatment/rehabilitation, and treatment seeking behavior for their disabled children.

Method: Study was conducted at Human Development Programme's field-site, Tandojam. A convenient sample of

08 mothers of disabled children participated in focus group discussion (FGD) followed by in-depth interviews. Interview guide and semi structured interview format was developed for FGD & in-depth interviews; explaining information on: perceptions of mothers about the child's disability, awareness about causes of disabilities, and resources of treatment/rehabilitation for disabled children. FGD was of 45 minutes and in depth interviews were of 2 hours each. Data were transcribed, content-analyzed and similar opinions were grouped and presented according to different themes.

Results: Many mothers recognized disability as physical phenomena, there is no concept of mental disability and felt that disabilities are from God (05) (Allah made them like this); mothers were unaware about the causes of disabilities, whereas self-blaming was prominent for child's disability (06). Disability was also recognized at a very late stage. Knowledge regarding available resources for treatment/rehabilitation was inadequate and majority was not aware of any such facility available in the vicinity (07).

Conclusion: There is lack of awareness amongst mothers regarding disabilities, and inadequate knowledge about facilities for treatment/rehabilitation. There is a need to raise their awareness and dissemination of accurate knowledge regarding disabilities.

Keywords: Mothers, Perceptions, Disabled Children

10.68

ABUSE AMONG SCHOOL GOING ADOLESCENTS: IS IT ASSOCIATED WITH SCHOOL PERFORMANCES AND MOOD DISORDERS

Ali Khan Khuwaja¹, Saleem Khawaja², Adeel Akbar Khoja², Komal Motwani²

¹Department of Family Medicine, Aga Khan University and Dow University of Health Sciences, Karachi,

Objective: Abuse is a major public health problem among adolescents, globally. Adolescent's mental and physical health, general well-being, and ability to become a productive adult, all are being affected by exposure to abuse. The objectives of this study were to assess the proportion of various types of abuses and their association with school performances and persistent sadness among adolescents in Pakistan. **Method:** This was an analytical cross-sectional school survey of 314 adolescent students (age 13 to 17 years) conducted in four schools of Karachi and Quetta, Pakistan. Data was collected using the self-administered and pre-tested structured questionnaire. All the data was collected and managed by trained medical students. Chi-square test was used to calculate the association of various types of abuses with poor school performances and persistent sadness.

Results: In all, 30.9% participants were physically abused and 50.0% participants were verbally abused during the last 12 months. Over half of study participants (55.1%) were involved in physical fight and 45.5% adolescents had suffered with injury during the preceding year. Adolescents being bullied were 37.3% during the same period. Verbal abuse

($p=0.05$), physical fight ($p=0.05$) and bullying ($p<0.001$) were significantly associated with poor school performances among adolescents. While physical abuse ($p=0.05$), verbal abuse ($p=0.003$), injury ($p=0.02$) and bullying ($p<0.001$) were significantly associated with persistent sadness among adolescents.

Conclusion: In this study, various types of abuse were quite prevalent in adolescents which are significantly associated with poor school performances and persistent sad mood. Further research is warranted to identify the causes of abuse among adolescents. Interventions at various levels are also recommended to prevent abuse among adolescents.

Keywords: Abuse, Adolescents, Pakistan

10.69

DIETARY HABITS AMONG ADOLESCENTS BOYS AND GIRLS OF PAKISTAN: RESULTS OF A SCHOOL-BASED SURVEY

Ali Khan Khuwaja¹, Komal Motwani², Saleem Khawaja², Adeel Akbar Khoja²

¹Department of Family Medicine, Aga Khan University and ²Dow University of Health Sciences, Karachi

Objective: Globally, the consumption of unhealthy diet among adolescents is constantly on the rise, posing a high risk of obesity, diabetes, cardiovascular diseases and other non-communicable diseases including cancers. Our study aimed to assess the dietary habits among adolescents of Pakistan. **Method:** A cross-sectional analytical study was conducted among 314 students aged 13 to 17 years studying in different schools of Karachi and Quetta, Pakistan in 2009. Patterns of dietary intake were assessed by a structured, self-administered and pre-tested questionnaire among adolescents after taking consent of the related school administration. All the data was managed by medical students who were trained prior for this task.

Results: Among all, 65.0% and 65.7% boys and girls were found to consume fruits and vegetables less than twice a week respectively. Majority (58.9%) of adolescents were eating out at a restaurant/party more than twice, more boys than girls ($p<0.01$; OR=1.82; 95% CI=1.16-2.87). Similarly higher proportion of boys (73.6%) were consuming soft drinks more than 4 times in a month compared to girls (56.1%), ($p<0.01$; OR=2.18; 95% CI=1.36-3.49). About half of the adolescents were missing breakfast regularly, more girls than boys ($p<0.01$; OR=1.74; 95% CI=1.11-2.72) while about one-fourth of the boys and girls were found escaping their day meals.

Conclusion: Overall, a huge proportion of adolescents have poor dietary habits in this study. Interventions are required at various levels to optimize appropriate dietary habits. Parents, teachers and concerned authorities at schools as well as media; all have a role to play in promoting nutrition awareness and practices among the adolescents. More research is recommended to explore this important issue at larger scale.

Keywords: Dietary Habits, Adolescents, Pakistan

10.71**SCREENING OF HEPATITIS B AND C AMONG HIGH RISK PEOPLE VISITED GENERAL PRACTICE CLINICS IN RURAL DISTRICT OF SINDH, PAKISTAN**

Ammet Kumar¹, Saima Lalani², Zahra Samani², Ali Khan Khuwaja³

¹Dow University of Health Sciences, Karachi, ²Medical College and ³Department of Family Medicine, Aga Khan University, Karachi

Objective: Hepatitis B (HB), Hepatitis C (HC) and their risk factors are amongst the major health problems in developing countries including Pakistan. This study aimed to screen for HB and HC among high risk people who visited General Practice clinics in a rural district of Sindh, Pakistan. **Method:** This was a retrospective study conducted in Tando Muhammad Khan city, one of the rural districts of Sindh. All together we reviewed 5989 laboratory reports of high risk people for hepatitis B and C on consecutive basis from two laboratories. A pre-designed and structured form was used to collect the required information. Statistical Package for Social Sciences (SPSS) version 16 was used to enter and analyze the data.

Results: Over one-fourth of reports were positive for at least one entity while alone 8% and 17% of reviewed reports of adults (> 18 years and above) were screened positive for HB and HC respectively. Positive screened tests were higher among men compared to women (HB: men = 67.0 vs. women = 33.0; $p = 0.06$; OR = 1.2) and (HC: men = 62.0 vs. women = 38.0; $p = 0.05$; OR = 1.3).

Conclusion: A large proportion of people were screened positive for HB and HC in this study. Prevention and screening are suggested at larger scale for urgent planning and implementation of intervention strategies in this regard. Further research is also recommended to explore this important health issue at large scale.

Keywords: Screening, Hepatitis, General practice

10.72**PATTERN OF MOTORBIKE RELATED INJURIES IN KARACHI**

Arif Ali¹, Jaishri Mehraj², Sajid Mahmood¹
¹Dow University of Health Sciences and ²Department of Pathology & Microbiology, Aga Khan University, Karachi

Objective: To determine the pattern of motorbike related injuries. **Methods:** Descriptive study was carried out in the two tertiary care hospitals which include Civil Hospital Karachi and Jinnah Postgraduate Medical Center Karachi, Pakistan. These hospitals deal with a major bulk of the accident cases in Karachi. All motorbike accident victims presented to the emergency department of the selected hospitals were included, only male injured patients, willing to give consent were included. Patients under age 15 years and don't understand Urdu language were excluded. All information was collected through a pretested questionnaire. Total 127 subjects were included in the study.

Results: A total of 127 accident cases were analyzed. All of the participants were male and most of the accident cases 76% were younger than 33 years. Forty-nine percent of the participants were using bikes without any license. Forty-three percent never used any helmet while riding. Twenty-one percent were chewing tobacco during bike riding. Seventy-one percent of the accidents occurred on the working days and 61% of the accidents happened in the evening time. Speed at the time of the accident was more than 50 km/hour in 43% of the accident cases. Sixty-nine percent were riding alone on the bike at the time of the accident. Seventy-two percent of the accidents occurred on the main roads. Bone was injured in 45% of the cases. Thirty-four percent injuries were severe. Lower extremity was involved in 36% of cases and 38% were in depressed moods while riding bike.

Conclusion: Young motorbike drivers, and those with habits of diverting attention during riding like smoking while riding motorbike and those who drive motorbike without license are at greatest risk of motorbike accidents.

Keywords: Motorbike Accident, Accidents in Pakistan, Road Traffic Accident

10.73**IMPACT OF CHILD REARING PRACTICES ON ILLNESS FREQUENCY OF CHILDREN OF AGES 2 YEARS AND BELOW IN A PRIMARY HEALTH CARE SETTING**

Farzeen Khalid Hashmi, Amina Adil, Anum Malik, Asif Jafferani, Faraz Kazmi, Zahir Hussain, Mansoor Ahmed, Syed Khurram Owais Shah, Maria Mahboob
Medical College, Aga Khan University, Karachi

Objective: Child rearing practices are thought to have a significant role in determining nutritional status of children and their vulnerability to infectious diseases. This study was conducted to investigate the impact of child rearing practices on the frequency of developing common illness in children of ages 2 years and below, in a primary health care (PHC) setting.

Methods: A cross-sectional questionnaire based study was carried out over a one-week period to interview mothers of 50 children who presented to the PHC center at Bilal Colony. Data was analysed using SPSS and univariate and multivariate analysis of sociodemographic and other child rearing factors was carried out

Results: Maternal infection during antenatal period and appropriateness of total duration of breast feeding were the strongest independent predictors of illness frequency per year (OR 11.323 and 0.29, respectively). Other significant associations with illness frequency per year were delivery setting, first diet of child and development appropriate for age ($p < .05$). Also illness frequency per year was strongly correlated with frequency of seeking medical care ($\tau .846$, $p < 0.01$).

Conclusion: The best predictors for childhood illness frequency are maternal illness during pregnancy and appropriateness of total breast feeding duration. Children delivered in health centers, those who have complete immunization against preventable childhood illnesses and those who receive proper

nutrition, especially breastfeed, are less likely to suffer from frequent illnesses. Maternal education and counseling are the most important areas where focus of health care providers is needed.

Keywords: Child Rearing Practices, Childhood Illnesses, Primary Healthcare

10.74

KNOWLEDGE, ATTITUDE AND PRACTISES OF PAKISTANI DRIVERS: CURRENT STANDING AND FUTURE RECOMMENDATIONS

Mohsin Durrani², Hunniya Waseem¹, Rizwan Naseer²
¹Alumni, Aga Khan University, Karachi and ²Punjab
Emergency Services

Objective: The economic cost of RTI's is estimated to be 1% of GNP in a low income country like Pakistan. Applying the Haddon matrix, assessment of human factors which contribute to RTI's is needed. Indirectly, the enforcement of road laws was also assessed. The personnel of Rescue 1122 who are the first responders in RTI's in Lahore conducted this survey.

Method: Convenience sampling was done. Verbal consent was taken from over 4000 drivers. Questionnaires were distributed at different Rescue 1122 stations testing them on road safety, driving licences and violation of traffic rules. This study was conducted in Lahore in duration May-Aug 2006.

Results: All drivers were males between the ages of 14-50. 5% of the drivers were legally underage. More than 33.81% did not have a valid driving license. 31.9% of the holders accepted that they have never taken any driving test. 71.22% of them had been challenged once most commonly for violation of traffic rules. 66.51% had offered bribe to police personnel.

Conclusion: High level of irresponsible attitudes was observed along with discrepancy in issuance of valid licenses. Bribery was high and issuance of one challan did not warrant a change in the practise of the drivers.

Keywords: Road Traffic, Injuries, Drivers

10.75

SWOT ANALYSIS OF SLUM AREA IN KARACHI FOR AN ONGOING SOCIAL MARKETING CAMPAIGN OF WATER DISINFECTANT PRODUCT PUR™

Nadiya Alnoor, Naushaba Mobeen, Mubina Agboatwala
Department of Community Health Sciences, Aga Khan
University, Karachi

Objective: Large part of Pakistan's population obtains water from underground sources (68%), which are not as safe as tap-water (25%), leading to increased risk of water-borne diseases and mortality. Combating this P&G proposed Point-Of-Use Model and PuR™ Purifier of Water with 99.9% effectiveness as compared to products of chlorine alone (60% effective). Now it is socially marketed by HOPE which is a local NGO registered in Pakistan. We reviewed this social

marketing operation as scholarly undertaking to comprehend existing methods, and to advocate novel and effective tactics for development of such programs.

Method: Direct field exposure, interaction with HOPE's staff concurrently with thorough literature search and brainstorming, gave a detailed SWOT analysis was done.

Results: PuR™ gives visible clarity to water, well known to children in Korangi, initial studies have shown its market penetration at 50%. However product coloration, smell and multi-steps, high non-monetary costs have led to the barriers. Opportunities for PuR™ to present it in gallons, unique selling points like factory laborers, ice-making, juice vendors and local restaurants, change slogan addressing perceptions. Countering this are strong competing behaviors (boiling, filtering water), insecurity in country and retrenchment of stakeholders.

Conclusion: Performance of HOPE as a community-based organization with strong social capital promises serving as a support for research-based promotion in communities whereby costs and benefits of products can be assessed together with use of alternate water treatments.

Keywords: Social Marketing, Safe Water, Slum Area

10.76

PERCEPTIONS OF CONTRIBUTORS TO CHILDHOOD OVERWEIGHT OR OBESITY: A PARENT AND CHILD VIEWPOINT THROUGH FOCUS GROUP DISCUSSIONS

Azra Rizwan¹, Juanita Hatcher², Jaweed Akhter¹, Tazeen Jafar²
Department of ¹Medicine and ²Community Health Sciences,
Aga Khan University, Karachi

Background: Overweight and obesity is becoming a huge public health issue across the globe. Our culture differs in many circumstances from that of the West. Focus group discussions (FGDs) provide an opportunity to gain a richer insight into the perceptions of determinants of obesity in the context of our traditions.

Objectives: To hold focus group discussions with both parent and child on issues leading to the overweight or obese state.

Method: Three groups of parents were purposively selected, each consisting of 6 individuals, from two private schools and a public school, respectively. The children of these parents were also grouped for a discussion held separate from the parents. The points of the discussion were transcribed onto Microsoft Word and divided into segments according to the emerging themes into analytic units. These meaningful segments were coded with descriptive words.

Results: Most participants voiced views equating an overweight child to a "healthy one" and a symbol of "good motherhood"; western junk food as a "status symbol" and provision of insufficient supervised physical activity at the school. Concerns were raised that activities for girls needed to be maximized at the school who, due to cultural norms, may be inhibited from participating in outdoor activity. The children's multitasking between television and internet, this being more "convenient" than any form of additional physical exertion, has resulted in them becoming "couch potatoes".

Conclusion: Themes from the FGDs revealed that the entire infrastructure of the community needs to be altered to counter the rising trend of obesity. Schools and parents are well spotted to bring about a positive change in this respect. This confirmed results obtained from the questionnaire-based studies done on the subject.

Keywords: Focus Group Discussions, Obesity, Traditions

10.77

PREVALENCE OF TOBACCO USE AMONG UNDERGRADUATE MEDICAL STUDENTS IN A DEVELOPING COUNTRY

Javaid A Khan, Muhammad Irfan, Ahmed S Haque, Hasan Arif
Department of Medicine, Aga Khan University, Karachi

Objective: To assess the prevalence of tobacco use among undergraduate medical students in Karachi Pakistan.
Method: A cross-sectional survey among medical students of Dow Medical College, Karachi Pakistan was conducted in the year 2004-2005. The data was collected by a modified version Global Health Professional Survey (GHPS) questionnaire.

Results: The total 768 students were included. 28% were male and 72% were female. Prevalence of smoking was calculated to be 18.7% in males and 2.5% in female. Of the total students 82.6% (635) had never smoked and majority of which were females 78% (495). 10% (79) admitted to having tried smoking at least once in their life time. 3% (29) had quit smoking and 3% (25) still smoke either regularly or occasionally. 44% (338) of current smokers have tried to abstain for at least 1 week. 40% of the same population was considering quitting in the next 6 months. With respect to tobacco containing products like hookah/ shisha 3% reported using them either occasionally or regularly. As regards Pan, 28.6% (220) medical students admitted its use with almost equal distribution between males and females. Chalia, gogo and betel nut usage was at an alarming number of 56.4% (433).

Conclusion: The prevalence of smoking and specially consumption of smoke less tobacco related products remains high among medical students. Formal education and training is essential in an attempt to reduce tobacco use among medical students.

Keywords: Tobacco, Prevalence, Medical students

10.78

TOBACCO SMOKE POLLUTION IN PAKISTANI HOSPITALITY VENUES: A MULTICENTRE ANALYSIS

Syed Mohammad Asad Zaidi¹, Omer Moin¹, Mark Travers², Javaid Khan³
¹Medical College, Department of³Medicine, Aga Khan University, Karachi, and ²Rosewell Park Cancer Institute

Objective: Secondhand Smoke (SHS) from tobacco products, is responsible for significant morbidity and mortality amongst non-smokers and is a risk factor for several diseases. The World Health Organization (WHO), has encouraged legislation that bans smoking in public areas and countries that have enforced such bans have seen up to a 33% reduction in the admission rates of patients with acute-coronary syndromes. However, such laws are not comprehensively enforced in Pakistan and data assessing the quality of indoor air at public venues is limited. The aim of this study is to measure mean concentrations of PM_{2.5} particles (a sensitive indicator of tobacco smoke) in hospitality venues in Pakistan. A value in excess of 250µg/m³ (0.25mg/ m³) is considered to be extremely hazardous for health.

Method: Data was collected discreetly from 40 indoor venues such as cafes, restaurants and shisha bars using the TSI SidePak AM510 Personal Aerosol Monitor, from four major cities of Pakistan.

Results: The overall mean PM_{2.5} particle concentration from the venues was 939.3µg/ m³ (SD +/-1.13.4). The mean PM_{2.5} particle concentration from shisha venues was 1745.4µg/ m³ (SD +/- 1356.9). The mean PM_{2.5} particle concentration from non-shisha smoking venues was 692.6µg/ m³ (SD +/- 783.5). The mean PM_{2.5} particle concentration from non-smoking venues was 187.2µg/ m³ (SD +/-214.1).

Conclusion: The presence of indoor smoking, in particular, that of shisha smoke represents a major public health burden in Pakistan. Appropriate legislation needs to be enacted to protect the health of those exposed to the hazards of second-hand tobacco smoke.

Keywords: Tobacco, Smoke, Pollution

10.79

A SURVEY TO ASSESS THE COMMON REASONS OF VISITING HOLY SHRINES BY DEVOTEES IN KARACHI, PAKISTAN

Zulfiqar Ali Shaikh, Fahmida Khatoon, Shajee Hussain
Medical College, Aga Khan University, Karachi

Background/Objective: The people from various beliefs and religions attribute supernatural and divine powers to the graves of their saints. Thousands of devotees visit the shrines regularly but unfortunately their sanctity is being violated by drug addicts and others. The shrines of these great people have all been built for the greater good of humanity and to honour for the great work they have done. But today one can see there druggies, prostitutes, abandoned children, homeless women,

and the list goes on. For all these people these shrines seem like a refuge or a place to carry out their illegal operations. This study surveyed the purpose of the visits of shrines, their beneficial effects, and also the sanctity violated by drug addicts and others.

Objectives: (1) To assess the common reasons of visiting holy shrines (2) To determine the use / misuse of these visits

Method/Methodology Study Design: Cross-sectional Place: One most commonly visited shrine in Karachi Duration of Study: 01-06-2008 to 30-07-2008 Sample size: 120 visitors Inclusion Criteria: Visitors of 20 years age or older, who consented to participate. Exclusion Criteria: Visitors of less than 20 years age or those who did not agree to participate. *Results:* Total number of study subjects was 120, with male to female ratio of 58:42. Their age varied from 20 to 80 years. They belonged to various socio-economic and ethnic groups with varying educational level. Majority of the visitors come frequently. The purpose of visits included reward (swab), poverty, domestic problems, infertility, ill health, in addition to see lovers, to have access to commercial sex workers and narcotics. Some devotees had a mishap during the visit. *Conclusion:* Most of the visitors come for mental healing and in hope of the solution of their problems; and a few use these sacred places for their wrong doings. People should be educated for real spirit and soul of these places. The authority should be vigilant and keep an eye on these criminals.

Keywords: Shrines, Visits, Devotees

10.80

MEDICATIONS USED BY THE PATIENTS WITH CHEST PAIN BEFORE REPORTING TO THE EMERGENCY ROOM AT NATIONAL INSTITUTE OF CARDIO-VASCULAR DISEASES, KARACHI.

*Zulfiqar Shaikh, Ghulam Ali Memon, Fahmeeda Khatoon
Medical College, Aga Khan University, Karachi*

Background: The medications used with cardiac emergency are crucial to decrease morbidity and mortality. Awareness of chest pain and its underlying causes is vital to deal the problem. This study was conducted to determine the knowledge and attitude of the patients and role of health care providers attending them before reporting to tertiary care cardiac hospital.

Objectives • To assess the medicines taken by the patients with chest pain reporting to the cardiac emergency room • To determine the role of patients and health care providers to deal with cardiac emergency

Method: Patients and Methods Study Design: Cross-sectional Place: National Institute of Cardio-Vascular Diseases (NICVD), Karachi Duration of study: June 01 to October 31, 2007 Sample size: 663

Results: The study subjects were with male to female ratio of 64:36, from various occupations and socio-economic strata. The medications were used by only 152 (22.9%), and 14 (9.2%) of these patients did not have the idea of the type of medicine taken by them. The patients who came by ambulance

were 100 (15%), and the rest of them used taxi, rickshaw, car, bus, motor cycle, etc. Time of the arrival at emergency room from 8.00 am to 4.00 pm was of 319 (48%) patients. This was the first visit to cardiac emergency of 403 (60.8%) patients; and 153 (23%) patients were referred, 67 (10.1%) transferred and 443 (66.8%) came directly to NICVD because of their symptoms.

Conclusion: The number of male patients with chest pain reporting to cardiac emergency was more; a vast majority did not have access to ambulance and did not take emergency measures. They preferred to come during morning hours. In majority of the cases, other health care providers did not advise to take some medicine in emergency. General awareness for chest pain, and medications used in emergency, needs to be improved.

Keywords: Cardiac, Emergency, Medicine

10.81

A COMMUNITY-BASED STUDY OF DEPRESSION IN MARRIED WOMEN IN A WESTERN HIMALAYAN VALLEY

*Mehboob Ali Shah, Ambreen Rashid
Department of Community Health Sciences, Aga Khan
University, Karachi*

Objective: To determine the prevalence and the correlates of depression among married women in Western Himalaya region of Pakistan.

Method: We selected 384 married women aged 18-80 years through stratified random sampling from villages having the number of women enrolled proportionate to the size of each village, in Astore, Pakistan. Trained investigators completed a maternal interview using Urdu translated version of 42-item DASS Depression, Anxiety and Stress Scale.

Results: Participants reported a mean score of 22.9 (95%CI, 22.4-23.3) for depression, 22.3 (95%ci, 21.8-22.8) for anxiety and 22.2 (95%CI, 21.7-22.7) for stress. Majority of women, 286 (74.5%) had depression. Women were more likely to be depressed if illiterate (Odds Ratio =2.30; 95%CI 1.25-4.23), had more than 5 children at home (OR=2.1, 95%CI 1.07-4.07) and in the age group of 45 years and over (OR=1.79, 95%CI, 1.03-3.08).

Conclusion: A substantial number of married women in Western Himalayan region of Pakistan had depression Women who had not been to a school, had large number of children (>5) and in middle age and over at risk of having depression.

Keywords: Depression, Married Women, Western Himalaya

10.82**FREQUENCY OF CANNABINOIDS USE AMONG THE OIL TANKERS AND TRUCK DRIVERS**

*Farooq Ghani¹, Jawaid Jabbar³, Imran Siddiqui¹,
Aysha H Khan¹, Tahseen Kazmi²*

*Departments of ¹Pathology & Microbiology, ³Alumni and
²Community Health Sciences, Aga Khan University, Karachi*

Objective: The use of cannabis is widespread throughout the world, and in many countries is increasing. After alcohol, the most frequently found psychoactive substance in the blood of motorists involved in traffic crashes is cannabis. The very high costs, in human and financial terms, of road traffic crashes underscores the need for a clear understanding of the contribution of cannabis use to the incidence of such crashes. If cannabis were demonstrated to be an independent risk factor for such crashes, then efforts to prevent driving after recent cannabis use could be justified. Because in third world countries most of the commercial drivers are doing their jobs for 24 to 36 hours with out proper rest so that they usually use some drug to eliminate the feeling of unrest. On the basis of their habitual drug usage we would like to find the frequency of those drivers, who use drugs during their duty hours so that the necessary action will be taken accordingly. **Objective:** Frequency of Cannabinoids use among the oil tankers and Truck drivers in Karachi

Method: A cross sectional, study was done from July 2004 to October 2004 in the Section of Chemical Pathology at Aga Khan University. Data of urinary Cannabinoids of selected group, which were drivers of private and local companies were retrieved and reviewed done at the Clinical Laboratory of AKUH. The drivers were hired by the private oil (international) companies who follow the international rules for the selection of these drivers and also follow-up by monitoring these individuals. Also included in the group were the truck and oil tankers drivers of local private companies who do not have any protocols of selection and monitoring their drivers

Results: Among 267 drivers, 165 professional truck/oil tankers drivers of private (international) companies and 102 were drivers of private local companies. Mean age of non-professional/local companies drivers were 33.37±15.02 years while the professional Private (international) company drivers were in an age range of 21-60 years (the mean age was not calculated as the companies did not provide the names and ages of their drivers for confidentiality reasons). Out of 165 of private international companies truck/oil tankers drivers, 18 (10.99 %) patients were positive for urinary Cannabinoids and 12 (11.76 %) drivers were positive for urinary Cannabinoids among 102 drivers of local companies

Conclusion: Frequency of cannabinoids use among the truck and oil tankers drivers is significantly correlated with the international data. So it is suggested that all the professional drivers should be screened on monthly basis for the use of these drugs by snap checking.

Keywords: Cannabinoids, Road traffic accidents, Oil tankers & truck drivers

10.83**DOES CHILD GENDER DETERMINE HOUSEHOLD DECISION FOR HEALTH CARE IN RURAL THATTA, PAKISTAN?**

*Rozina Nuruddin, WC Hadden, MR Peterson
Department of Community Health Sciences, Aga Khan
University, Karachi*

Objective: In South Asia, gender disparity in child mortality is highest in Pakistan. We examined influence of child gender on household decision regarding health care.

Method: Prevalence ratios were calculated for 3740 children aged 1-59 months from 92 randomly-selected villages of rural Pakistan with a cluster adjusted log-binomial model. Level-1 variables included child and household characteristics and level-2 included village characteristics.

Results: There were 25 more girl deaths than boy's per 1000 live births (95% C.I.: 13.9, 48.6) among post-neonates and 38 more among children aged 12-59 months (95% C.I.: 10.5, 65.5). However, on adjusted analysis, gender was not a significant predictor of illness reporting, visit to health facilities, choice of provider, hospitalization and health expenditure. Significant predictors of health care were child's age, illness characteristics, number of children in the family, household socio-economic status and absence of girls' school in the village.

Conclusion: Differential care seeking for boys and girls is not seen in Thatta despite clear mortality ratio differences. This calls for more creative research to identify pathways for gender differential in child mortality. Factors identified as influencing child health care and amenable to modification include poverty alleviation and girls' education.

Keywords: Gender, Child Health Care, Rural Pakistan

10.84**OBSTACLES AND PROBLEMS EFFECTING EMPOWERMENT OF CONSUMER & PATIENT HEALTHCARE IN PAKISTAN: THE ROLE OF LIBRARY**

*Syed Attaullah Shah¹, Humera Ilhaq²
¹King Saud Bin Abdul Aziz University for Health Sciences
Riyadh, Saudi Arabia and ²Health Sciences Library, Aga Khan
University, Karachi*

Introduction: The lack of awareness and empowerment of health consumers are major areas that can improve the community health situation. In Pakistan two different health setting exist of peoples from Urban and rural areas; they have different diseases; Due to varying life style and dissimilar environment. However, some problems and issues are similar for both the areas e.g. poor health literacy, health awareness and prevention strategies, availability of women, children and families health, disparities in health care, communication between patients and health professionals. Being an influenced, significant and respectable part of the community, the libraries can play an important role in coordinating and creating

empowerment of consumers health situation through literature and by providing specialized services to the community.

Keywords: Health Consumer, Pakistan Health Situation, Medical Library

10.85

CARE-SEEKING PRACTICES AND PREDICTORS OF ACCEPTANCE OF REFERRAL FOR HOSPITAL CARE AMONG FAMILIES OF SICK NEWBORNS AND YOUNG INFANTS IN A COMMUNITY SETTING IN KARACHI

Aatekah Owais, Shazia Sultana, Aryeh D. Stein, Nasira H. Bashir, Razia Awaldad, Anita K. M. Zaidi
Department of Paediatrics & Child Health, Aga Khan University, Karachi

Objective: To understand the care-seeking attitudes and practices of families with severely ill newborns and infants <59 days old, and to identify the predictors of acceptance of referral for hospital care among these families, in three low-income communities of Karachi, Pakistan. *Methods:* A cohort study was conducted to identify predictors of acceptance of referral in this population. Mothers/care-providers of 540 newborns and infants, diagnosed with a serious illness at local community clinics between January 1 and December 31, 2007, were interviewed within 1 month of serious illness requiring referral. Logistic regression was used to identify socio-demographic, behavioral and/or clinical predictors of acceptance of referral. *Findings:* Almost 70% of families believe home delivery by TBA is safe. Only 24.2% of families accepted referral for hospital care. The strongest predictors of acceptance were recognition of child's illness by mother (OR=12.7; 95% CI=4.6-35.2), ability to speak the dominant language at hospital (OR=2.0; 95% CI=1.3-3.1), grunting in the sick infant (OR=3.3; 95% CI=1.2-9.0), and temperature being < 35.5°C (OR=4.1; 95% CI=2.3-7.4). Gender of the child did not affect a family's decision (OR=1.0; 95% CI=0.6-1.5). The mortality rate was 6% for the entire cohort. *Conclusion:* Over 75% of families of sick infants refused referrals. Referrals were more likely to be accepted if the family recognized the severity of the child's illness, spoke the dominant language at referral hospital, or if certain clinical signs were present. These finding may provide possible avenues for interventions aimed at encouraging health-seeking behavior in communities similar to our study population.

Keywords: Care-Seeking, Newborns and Young Infants, Pakistan

10.86

A STUDY TO EXPLORE THE FACTORS THAT CONSTRAIN OR FACILITATE THE UTILIZATION OF MATERNAL AND NEONATAL HEALTH CARE IN PAKISTAN

Muhammad Atif Habib, Sajid Bashir Soofi
Department of Paediatrics & Child Health, Aga Khan University, Karachi

Background: It is evident from the literature that while developing the interventions and strategies for maternal health social, cultural and political factors effecting maternal mortality are largely ignored and the Cultural values and practices related to maternal and neonatal health have not been studied extensively. To increase utilization it is critical to understand the social and contextual determinants; the proposed study will explore the factors that constrain or facilitate the utilization of Maternal and Neonatal health care in Pakistan.

Methodology: A mixed-methods approach will be implemented to explore the factors that constrain or facilitate the utilization of maternal and neonatal health care services in the study area. Both qualitative and quantitative approaches are commonly used to explore the social context of an issue. For the qualitative component focus group discussions (FGDs) and in-depth interviews (IDIs) will be conducted while for the quantitative component a KAP survey will be conducted on a sampled population. The total study duration will be 12 months. First the qualitative component will be conducted and on the conclusions and results drawn from this component a Quantitative KAP questionnaire will be developed and data will be collected through a community based KAP survey. The sampling strategy will be purposive.

Results & Conclusion: The results of this study then could be utilized to depict the strategies that may be effective in supporting Maternal and neonatal health care service utilization in the face of identified factors not only in Pakistan but also in other countries of the region.

Keywords: Maternal & Neonatal Mortality, Factors, Health Care Utilization

10.87

ASSOCIATION OF DEPRESSION WITH NEWLY DIAGNOSED TYPE2 DIABETES AMONG ADULTS AGED 25 TO 60 YEARS IN KARACHI, PAKISTAN: A MATCHED CASE CONTROL STUDY

Shazia Perveen¹, Muhammad S Otho², Muhammad N Siddiqi³, Juanita Hatcher⁴, Ghazala Rafique⁴
Department of¹Surgery, Aga Khan University, Karachi,
²Global Funds for AIDS, TB and Malaria, Round 7
Directorate of Malaria, 1st Floor, Allergy Center Chak Shehzad, Islamabad, Departments of ³Psychiatry, & ⁴Community Health Sciences, Aga Khan University, Karachi

Objective: Combination of depression with Type2 Diabetes is a public health problem. If diabetes is managed in initial phase, the morbidity and mortality due to this mix may be prevented at early productive age. Therefore, we aimed to

determine the association of depression with newly diagnosed Type2 Diabetes among adults aged 25 to 60 years in Karachi, Pakistan.

Method: By convenient sampling, one month newly diagnosed cases of Type2 Diabetes (n=296) were recruited from Out Patient Department (OPD) of Civil Hospital, Karachi. They were matched on age and sex with non-diabetic controls (n=296) with symptoms of Type2 Diabetes and blood glucose level ≥ 200 mg/dl measured by Glucometer from medical OPD of same hospital. Depression was screened by Siddiqui Shah Depression Scale. Conditional logistic regression was applied to examine the association of independent variables with newly diagnosed Type 2 Diabetes at 95% C.I. and $P < 0.05$.

Results: The study comprised of 592 subjects with 432(73%) males and 160(27%) females. Depression was significantly associated with newly diagnosed Type2 Diabetes having mild level (mOR:3.86; 95%CI:2.22,6.71) and moderate to severe level (mOR:3.41; 95%CI:2.07,5.61). History of (h/o) gestational diabetes (mOR:2.83; 95%CI:2.22,6.71), family h/o diabetes (mOR:1.59; 95%CI:1.04,2.43), nuclear family (mOR:1.75; 95%CI:1.14,2.69), BMI (mOR:1.62; 95%CI:1.01,2.60 for obese and mOR:2.12; 95%CI:1.19,3.79 for overweight vs healthy to underweight) were also significantly associated with outcome, adjusting for other variables.

Conclusion: Diabetics should be screened simultaneously for depression and concomitant preventive strategies for gestational diabetes, family h/o diabetes, nuclear family and high BMI should also be made to prevent mortality/ morbidity in 25 to 60 years.

Keywords: Newly Diagnosed Type2 Diabetes, Depression, Public Health

10.88

FACING VIOLENCE IN THE COMMUNITY SETTING: RESEARCHERS' EXPERIENCES, REFLECTIONS AND CHALLENGES

Nasreen Sulaiman¹, Aziza Burfat², Ayesha Aziz²,
Kausar S Khan²

¹School of Nursing and ²Department of Community Health Sciences, Aga Khan University, Karachi

Objective: To share the experiences, and reflections of the researcher and its team facing violence and other unpredictable situations while working on the field sites

Method: The lived experiences of the research team facing various forms of violence in the field were used as a source of data collection.

Results: The lived experiences of the research team highlights the reactions from the community received on the first day of entry into the community which included the threatening welcome of the data collectors with the presence of Klushen Koffs, guns and bullets in the working space. During home visits also, these data collectors were often surrounded by people carrying various weapons. It was also observed that while interviewing community women, there was limited response and silence majority of time due to high influence

and imposed expectations from their woman community leader who had some political affiliations too. Lastly after working for a month, there was an episode of firing and termination of all the activities by the community leaders themselves; all of which raised the questions of safety, dignity and continuity of work in that particular community. *Conclusion:* This puts up a dilemma for the research team and the institution that in such situations what takes the priority; Is it the safety of the research team, health care professionals working in that particular community, or the benefit of the community, what comes first.

Keywords: Violence, Experiences, Community

10.89

MALNUTRITION AMONG CHILDREN BETWEEN AGES OF 5 AND 15 YEARS AT SULTANABAD COMMUNITY, KARACHI, PAKISTAN

Shireen Arif¹, Gulshan Sadruddin², Bibi Harir³
¹AKU Alumni and Baqai College of Nursing, Departments of
²Emergency Medicine and ³Community Health Sciences, Aga Khan University, Karachi

Objective: In prioritization activity in the Sultanabad community after community assessment malnutrition was one of the top most priority problems. According to UNICEF (2006), Malnutrition is a broad term commonly used as an alternative to under nutrition but technically it also refers to over nutrition. People are malnourished if their diet does not provide adequate calories and protein for growth and maintenance or they are unable to fully utilize the food they eat due to illness (under nutrition). They are also malnourished if they consume too many calories (over nutrition). In the community we have found children between the ages of 5 to 15 years were malnourished according to the definition of UNICEF i.e. underweight and over weight as well. Therefore we select malnutrition as our project for the children between the ages of 5 to 15 years of age.

Method: Quantitative Cross sectional study done to assess the malnutrition among school going children. 50 children between the ages of 5 to 15 years, selected as participants through purposive sampling from the sultanabad community, Karachi, Pakistan. Questionnaire was development to assess the Knowledge, attitude and practices regarding balance diet, unhealthy diet (junk food) and daily eating habits of participants. The questionnaire was developed after several focus group discussion and used after pilot testing. *Results:* From 50 participants, 30 filled the post evaluation form. Through which we identified that 95% had the knowledge of the balance diet. Ninety percent have these specific information regarding five major food groups.

Conclusion: The community was very much interested to participate and change their eating habits but there is more need to conduct such sessions on regular basis.

Keywords: Balance Diet, Malnutrtion, Poor Dietary Habits

10.90

ASSESSING THE KNOWLEDGE SKILLS, ABILITY AND PERFORMANCE OF PARAMEDICAL STAFF IN DELIVERING PRIMARY HEALTH CARE SERVICES: A CASE OF DISTRICT JAMSHORO SINDH PAKISTAN

*Sher Bahadur, Naushaba Mobeen, Rashid Iqbal Khan
Department of Community Health Sciences, Aga Khan
University, Karachi*

Objective: A significant proportion of Pakistan's population depends upon PHC level health facility to meet their health care needs. Paramedics are considered to be the backbone for delivery of effective health services at PHC level. They have a far greater role when they act individually in the rural areas where doctors are not present due to a variety of reasons. However, even if sufficient numbers of health personnel are available they alone cannot lead to the desired change in health outcome. A Commensurate level of knowledge, skills and ability among the PHC paramedics is essential for proper health care delivery. Measuring the competence level of PHC paramedics is therefore vital to determine their ability and readiness for service provision. It is also vital to determine factors influencing their competency and performance.

Method: The study was conducted in District Jamshoro Sindh, Pakistan from July to September 2009. It was a mixed method approach based on sequential explanatory design. The quantitative data was collected using a modified self administrated, 360 degree evaluation tool where the individual was ranked by her/himself, peer and supervisor with regard to his/her knowledge, skills, ability and performance. Using convenient sampling, survey was conducted with 64 paramedics including dispensers, medical technicians, LHVs/Midwives. Descriptive analysis was done and reliability between raters was confirmed by calculating Pearson correlation. Based on quantitative findings in-depth interview guidelines were developed. Using convenient and purposive sampling, nine interviews were conducted with paramedics and supervisors and analysis was done manually. *Results:* In the quantitative survey, majority of the paramedics have reported good knowledge, skills and ability in collaborative relationship. In area of communication about 50% reported lack of appropriate good theoretical background in communication. In areas of health promotion approaches 23% to 34.6% of paramedics had good knowledge, 24% to 48% had good skills & ability only 22% to 26% reported good performance. Lack of awareness about health related laws and policy was reported by 95% of paramedics. In therapeutic relationship 67% to 94% reported good knowledge, skills and ability. Good competency in area of referral of patients was reported by 60% to 87% paramedics. A good knowledge in dispensing was reported by only 6% of dispensers. About 9% of health technicians had good knowledge about health assessment while 17% had good knowledge in provision of basic therapy. Good knowledge among LHVs and midwives in early detection of pregnancy related complications was reported by 41% respondents. In the area of task specific service provision, 39% reported good knowledge, 67% to 68% had good skills and ability. Similarly 24% had good knowledge about family planning approaches, but only 20% reported good performance in this area. The

qualitative assessment revealed the factors leading to good competency were good social interaction, proper training and routine practice of those tasks. On other hand weak competencies were linked with lack of awareness/background knowledge, job description, practical utility, motivational factors, supervision.

Conclusion: The above findings indicate that there is a critical need for capacity building among PHC paramedics. They were competent enough and felt comfortable in performing tasks assigned to them. However deficiency has been reported visibly in theoretical background by most of them. Variation in competency was linked with different factors including, social interaction, capacity building, lack of theoretical background, lack of resources, incentives, monitoring and supervision etc. It is felt that policy makers should formulate proper strategy to overcome such short-comings so as to ensure competent staff at PHC.

Keywords: 360 Degree Evaluation, Competency Assessment, Paramedics

10.91

WINTER BLUES

Natasha Jumani¹, Shireen Arif², Amynah Mevawala³, Sana Karim³, Rozeena Gillani²

¹Alumni, and ²School of Nursing, Aga Khan University and ³Baqai College of Nursing, Karachi

Background: With the winds of winter all our attention goes towards dry skin, rough hair, dry scalp, crack lips and heels. But what we ignore is our frequent mood swings during winter season. Lack of energies, low mood, irritability and day time sleepiness are the turn outs of the winter. If these symptoms exaggerate and effect their work and relationships then this condition is known as "Winter Depression", "Winter Blues" or "Seasonal Affective Disorder" (SAD).

Objectives: 1. To explore the concept of Seasonal Affective Disorder (SAD). 2. To discuss preventive measures to overcome SAD.

Method: Systemic review of the literature from 8 articles gathered through print and electronic media device published between the years 2000 and 2009

Results: SAD is recognized in the DSM-IV as a sub type of atypical depression, if this condition is ignored for longer period it could end up into Severe Psychiatric Disorders. About 70% to 80% of those with SAD are women when they reach their thirties. The incidence of SAD increases with increasing altitude where the day hours in winter are shorter. To overcome winter blues interventions that can help to live a healthy life are: exposure to morning light, morning walk, balanced diet and exercise. Sleep also plays an important role to maintain person's emotional life.

Conclusion: SAD is a preventable disorder. Early recognition could help to lead a healthy life.

Keywords: Seasonal Affective Disorder, Winter Blues, Winter Depression

10.92**EFFECT OF COMPUTER GAMES ON HEART RATE**

Zain A. Sobani¹, Ali Pevaziz¹, Mohsin Yakub²
¹Medical College and ²Department of Biological &
Biomedical Sciences, Aga Khan University, Karachi

Background: The relationship between computer gaming's and energy expenditure and computer gaming's and cardiovascular responses among children's has been investigated under different conditions. **Objective:** To investigate the effect of computer games on heart rate in adolescents.

Method: A cross sectional study was conducted in Aga Khan University, Karachi, recruiting 30 adults male aged 17 to 25 years. A basal heart rate (HR0) was recorded at resting. The subjects were then asked to play the first race of Burnout Paradise developed by Criterion games on a Microsoft Xbox 360 Premium. The Subjects played the same course at same difficulty and cars using a standard wireless Xbox 360 controller. Further heart rate was recorded after 1 minute (HR1), 1 minute and 45 second (HR2) and 2 minutes 30 seconds (HR3). The sound effects and music of the game were turned off in order to prevent confounding effect of music and synchronization of heart rate to the beat. They played the course seated at comfortable postures in an environment free from distractions and external stimuli. After deconditioning for 5 minutes subjects were put on bicycle ergometry to a moderate speed for 3 minutes, there after another heart rate (HR4) was recorded.

Results: After two minutes and 30 seconds HR3 showed a significant change than HR0 (HR3 86.60 ± 16.04 vs HR0 81.80 ± 15.15 ; $p=0.01$). Further more that change is similar to the change we observed between HR0 and HR4 (HR0 81.80 ± 15.15 vs HR4 87.60 ± 16.79 ; $p=0.001$).

Conclusion: The increase in heart rate noted in the participants when playing was similar to that noted after bicycle ergometry raises the question on the implications of this increased heart rate in the absence of physical activity. Further work and a larger sample size will elaborate this relationship.

Keywords: Electronic Gaming, Heart Rate

10.93**ALARM FOR SWIMMERS: SWIMMING POOL POLLUTION AND ITS MANAGEMENT**

Rozeena Gillani¹, Amynah Mevawala³, Sana Karim³, Natasha Jumani³, Shireen Arif²

¹Alumni, ²School of Nursing, Aga Khan University and
³Baqai Medical University, Karachi

Introduction: In big cities, swimming pools are a great package of entertainment, sports and exercise for thousands of people. Sometimes, this entertainment changes itself into water pollution due to negligence and ignorance of its hygienic condition. CDC (2004) reported an outbreak of gastroenteritis in children, whose only common exposure was attendance at swimming club during previous weekend.

Objectives: 1. To explore the concept of swimming pool pollution. 2. To identify preventive strategies to reduce the percentages of pool pollution.

Method: Systematic review of literature from 15 research articles from 2000-2009 was conducted through electronic and print media

Results: In 2006, an outbreak of illness related to adenovirus type 3 was detected. It was found that there was a strong association between the presence of symptoms and swimming at a school camp. The water in swimming pool contains microorganisms and unwanted substances, which are derived from the skin and excretory products of swimmers which ultimately results in swimming pool pollution. Cleaning and disposing of pollutants play key role in decreasing swimming pool pollution. Good filtration removes solid particles from pool and strainer basket is important to remove debris. Proper chlorination of pool water is necessary to eradicate microorganisms for a particular time period. Lastly, some rules regarding swimmers' debris should be taught to the swimmers before giving entry to the pool.

Conclusion: While mechanical and chemicals intervention can combat pollution of swimming pool. Yet, higher authorities and swimmers should formulate some pool etiquettes to maintain first line of defense i.e. prevention. Cooperation of higher authorities and general public would help to decrease the rate of pool pollution in future

Keywords: Swimming Pool, Pool Pollution, Pool Etiquettes

10.94**PARENTS' PERCEPTIONS AND PRACTICES REGARDING CONSANGUINITY: CASE CONTROL STUDY OF β -THALASSEMIA**

Madiha Beg¹, Amna Rehana Siddiqui¹, Khadija Nuzhat Humayun², Khabir Ahmad³

Departments of ¹Community Health Sciences, ²Paediatrics & Child Health and ³Surgery, Aga Khan University, Karachi

Background: Beta-Thalassemia poses an increasing problem for Eastern Mediterranean Region, especially in Pakistan. Demographic and Health survey (1990) of Pakistan reports more than 50% of marriages are consanguineous in Pakistan.

Objectives: To determine factors related to perceptions and practices related to consanguinity among parents of children suffering from Thalassemia and comparing with parents of children not suffering from Thalassemia.

Methods: Parents of Thalassemic children (cases) aged 2 to 10 years of age will be selected from a Blood Transfusion Center using random sampling techniques from a list of registered patients in last one year. Parents of children (controls) visiting general clinic for common illnesses will be selected using an alternate algorithm starting with a random number generated from computer. Perceptions about consanguinity and changes in practices will be ascertained of study participants. Further awareness regarding susceptibility of Thalassemia, barriers to change in behavior related to premarital screening and consanguinity will be determined. Mapping of addresses for cases will be accomplished to perform

geographical mapping for cases of Thalassemia in Karachi as a secondary objective. The relationship of each perception and behavior with having a child with Thalassemia compared to control will be evaluated by univariate and multivariate analytical techniques.

Results: Results of this study will be used to develop interventional programs targeting high risk population who are vulnerable to this genetic disorder. Educational strategies can be tested and initiated to achieve favorable changes in practices related to consanguinity. Further studies could be generated using database to develop control strategies against Thalassemia in future.

Keywords: Consanguinity, Case-Control, Beta-thalassemia

10.95

PREVALENCE OF USE OF PAAN, CHALIA AND GUTKA AMONG CHILDREN AND ITS CONTRIBUTING FACTORS IN A SMALL TOWN OF KARACHI, PAKISTAN

Saira Amir Ali, Bushra Ansari, Haroon Nazeer, Amir Khakwani
School of Nursing, Aga Khan University, Karachi

Objectives: To identify the prevalence of substance abuse among children from 9-15 years old of both gender in a small town of Karachi, Pakistan. • To discuss contributing factors of substance abuse in a small town of Karachi, Pakistan.
Method: Non probability sampling was done. Total 50 (n=50) children from 9-15 years of age of both genders and any ethnicity were interviewed through a structured questionnaire. Contributing factors were asked like age, gender, ethnicity, family use, friends use, reason for using it, knowledge about its harmful effects. Results: Among 50 children 38 were using chalia and (X= 13.06, SD 1.49). . Family and friends use of these substances has some impact on children. 52% of the children learn this behavior from friends. 100 % indicated shops as a major source of access. 48% of the children were using chalia just for fun and 64% of the children using substance abuse have knowledge about substance abuse and its harmful effects.

Conclusion: There is a high prevalence of substance abuse among the children from age 9 to 15 years. Awareness sessions on dental hygiene and substance abuse at school level can help these children to get rid of substance abuse and prevent themselves from incurable diseases. Preferred presentation method oral and poster presentation

Keywords: Substance Abuse, Children (9-15yrs), Karachi

10.97

SUBSTANCE ABUSE AND ITS SUBSTANTIAL HEALTH ISSUES

Sana Karim¹, Rozeena Gillani², Shireen Arif¹, Natasha Jumani², Aynah Mevawala²

¹Alumni, Nursing Education Services, Aga Khan University, Karachi, and ²Baqai Medical University, Karachi

Background: Worldwide, the increasing rate of substance abuse is a raising concern regarding its destructive effects on person's health. In the year 2000, World Health Organization (WHO) reported that the extent of worldwide psychoactive substance use is estimated at 2 billion alcohol users, 1.3 billion smokers, and 185 million drug users.

Objectives: • To understand the concept of substance abuse with the help of gateway theory of substance abuse. • To identify the physical and psychological consequences associated with substance abuse.

Method: Systemic review of the literature from 20 research articles gathered through print and electronic media device published between years 2000 and 2009.

Results: According to WHO, substance abuse refers to the hazardous use of psychoactive substances, including alcohol and illicit drugs. In 2005, Dr Kausar reported the projected number of addicts in the year 2005 was 6.48 million out of which 3.01 million were chronic drug-abusers in Pakistan, with the number increasing by 7 percent a year (Dawn newspaper). The subsequent use of psychoactive drugs mainly causes intoxication which alters individual's judgment, perception, and attention. They also lose their physical control on their body which sometimes led to hazardous accidents and injuries. Continuous injection and inhalation may cause HIV/AIDS, hepatitis, lung cancer and asthma which are again increasing the global burden of disease.

Conclusion: People mostly abuse substance to resolve their troubles but in reality, they are affecting their health which ultimately leads them to black holes of unlimited crisis. The increased prevalence of substance abuse demands efforts regarding awareness programs to change global attitude.

Keywords: Substance Abuse, Health Issues, Drug Theory

10.98

GRAPHIC HEALTH WARNINGS: WHICH GENRE TO CHOOSE?

Zain A. Sobani¹, Sobia Nizami¹, Emmon Raza¹, Noor ul Ain Baloch¹, Javaid A. Khan²

¹Medical College and ²Department of Medicine, Aga Khan University, Karachi

Background: This year, tobacco will kill more than five million people worldwide – more than tuberculosis, HIV/AIDS and malaria combined. Tobacco use is especially common in developing countries where lack of education and weak restrictions on tobacco marketing are both common. In Pakistan, 30% of space on tobacco advertising is required to bear a warning about the hazards of tobacco use. Studies show that graphical health warnings are more effective than

text warnings but there are no data on the effectiveness of different styles of graphical health warning within a Pakistan population. Marginal differences between the effectiveness of one genre to the next is of potential public health significance.

Method: We presented ten anti-smoking warnings to randomly selected volunteers (n=170) and recorded their opinion on the effectiveness of each warning. The warnings were based on a range of images aimed at the diverse population interviewed. A grading scale based on appeal, application, educational potential, and motivation towards cessation, was used to produce a composite grade of perceived effectiveness of the warning.

Results: Our results indicate that graphical warnings cater to a greater proportion of the population than do text warnings. Those appealing to logic, and those inculcating a sense of fear by showing a deleterious outcome of smoking, were judged likely to be the most effective in motivating a smoker to quit and preventing experimental smokers from forming a habit.

Keywords: Tobacco Control, Anti-Smoking Warning, Graphic Health Warnings

10.99

THE KEY FACTORS INFLUENCING THE CHANGES IN RISK TAKING BEHAVIOUR (ALCOHOL CONSUMPTION) OF SOUTH ASIAN MASTER LEVEL STUDENTS STUDYING IN THE UK

S M Ali Turab

Department of Paediatrics & Child Health, Aga Khan University, Karachi

Objective: The aim of the study was to explore various factors potentially influencing the changes in the risk taking behaviours (alcohol consumption) in South Asian master level students aged 20-30 studying in the United Kingdom and how they may contribute in the changes in behaviours. The objective were to Identify the students from the South Asian region studying in UK with change in behaviours after coming to UK (alcohol consumption) and to explore various motives and beliefs held by the South Asian students studying in the UK related to changes in the behaviours (alcohol consumption).

Method: Data was collected by conducting face to face in depth interviews with the participants. Four participants were recruited from the University of Sheffield using purposive sampling strategy

Results: A change in the behaviour (increased alcohol consumption) was noted in all the four participants and a number of factor causing the change were identified. The major triggers of increased alcohol consumption were social, conformity, enhancement and coping motives. Apart from the above mentioned access/availability, parental influence, British culture, social norms and British way of socializing were also found to be important factors influencing increased drinking.

Conclusion: The change in behaviour of the south Asian students studying in the UK may have a number of implications in terms of health, safety well being and career as identified in the background of study. Considering the increased drinking in the participant south Asian students and the implications of the increased drinking mentioned above. The university needs to consider this study as a scoping study because there is a need to further explore the problem of increased drinking in the south Asians students in the UK in detail.

Keywords: Alcohol, International Students, Risk Taking Behaviours

10.100

PRETEST OF A LOCALLY DEVELOPED TRAUMA REGISTRY

Amber Mehmood, Kiran Ejaz, Junaid A. Razzak

Department of Medicine, Aga Khan University, Karachi

Introduction: Electronic trauma registries (ETR) play a critical role in the collection of pre-hospital and hospital based trauma data, required for trauma care improvement. The crucial step is to have a functionally active and reliable trauma registry which is customized according to the local needs. This prompted for development of a local registry with the help of software programmers at minimum cost.

Objectives: To pretest locally developed ETR at a single university hospital, to assess the functionality, efficiency and reliability in data storage retrieval and analysis. *Method:* We tested the registry through the records of poly trauma patients treated during 2008 at Aga Khan University Hospital. This data was entered into the ETR, by trained staff, its functionality and reliability was assessed through analysis of the data.

Results: There were 119 patients, with mean age of 32.7 ± 12.8 years, mean RTS was 7.4865±0.95, ISS score was 12.03±9.312 and mean TRISS was 95.75±11.5. The most common mechanism of injury was MVC (73.1%) followed by gunshot wounds (16.8%). There were 5 (4.2%) patients who expired. In the analysis of injuries, head and neck (42%) and extremities (52.1%) were the most commonly involved regions. We found that there were four unexpected deaths (TRISS > 50%) and we also found 2 unexpected survivors (TRISS <50%).

Conclusion: The ETR is found to be a reliable data storage system with the capability of generating different injury severity scores and probability of survival.

Keywords: Pre-Test, Electronic Trauma Registry, TRISS

10.101

LOCALLY DEVELOPED ELECTRONIC TRAUMA REGISTRY: A NOVEL SOLUTION FOR LOW-INCOME SETTINGS

Amber Mehmood¹, Junaid A Razzak¹, Saleha Raza², Nida Mumtaz², Kiran Ejaz¹

¹Department of Emergency Medicine, Aga Khan University and ²National University of Computer & Emerging Sciences, Foundation for Advancement of Science & Technology, Karachi

Introduction: A functionally active and well organized Electronic Trauma Registry can assist in addressing important issues about the prevention and treatment of injuries at hospital and regional level. The ideal process of development of such a registry includes its customization according to the local needs, enabling the end users to give their feedback to the software programmers who can improvise it accordingly. Examples of electronic trauma registries in LMIC are rare, mainly due to cost of obtaining and maintaining such registries. This prompted for development of a local registry with the help of software programmers at low cost which is user friendly interface. Attributes: The ETR uses both hard ware and soft ware to collect, verify, store and analyze the data. Effective coding systems e.g. International Classification of Diseases (ICD9-CM) and Abbreviated Injury Scaling (AIS) aid in standardization of the terms, whereas back end spreadsheets and calculators help in storage, collation and analysis of the data.

Scope: Information about patient demographics, injury location, injury date and time, external causes of injury, injury modifiers, mode of transport, ED/ hospital assessment and treatment, final diagnosis, disposition and outcome can be recorded. The registry is capable of generating different trauma scores (GCS, RTS, ISS) and Probability of survival (TRISS) score. **Advantages:** The registry could be used for hospital based injury surveillance, trauma outcome research and public policy interventions. When applied in multiple hospitals, it will serve as a city-wide trauma data bank.

Keywords: Electronic Trauma Registry, Software, Low Cost

10.102

SAINT JOHN'S WORT IN RELATION TO TRYPTOPHAN PYRROLASE ACTIVITY AND mRNA EXPRESSION IN SWIM STRESSED RATS

Iffat Ara, Samina Bano, Bushra Chaudhry
Department of Biological & Biomedical Sciences, Aga Khan University, Karachi

Objective: Saint John's Wort (SJW) is a herbal medicine with long and short-term effects, but, its mode of action is not clear. We aimed to investigate the acute effects of forced swim test (FST) on rat liver tryptophan Pyrrolase (TP) activity and also its mRNA expression following acute SJW administration at the dose 500mg/kg body weight.

Method: TP mRNA was quantified using real time reverse transcription PCR. TP activity and serum corticosterone concentrations were measured by standard laboratory procedures.

Results: SJW administered rats when compared with saline administered group of rats showed inhibition in TP holoenzyme activity by 50 % (P < 0.01), the total enzyme activity was decreased by 52.8% (P<0.01) and reduction in apoenzyme activity was 66.8 % (P <0.01) observed. Similarly TP mRNA expression was inhibited by -29% (P<0.05). However, robust increase in serum corticosterone concentration by 105.0 % (P<0.01) was observed. FST induced group of rats showed inhibition in holoenzyme by 50% (p<0.01), apoenzyme by 62 % (P<0.01), and total enzyme activity by 51% (P<0.01). Amount of mRNA expression was decreased by 51% (P<0.01) and corticosterone concentration was increased by 82% (P<0.01). Further, swim stressed SJW injected group showed increase in total and apoenzyme activity by 78.02 % (P<0.01) and 239.2 % (P<0.01) respectively. Similarly amount of mRNA expression was increased by 62 % (P<0.05). We observed no change in corticosterone concentration in SJW administered swim stressed rats when compared with saline treated swim stressed rats.

Conclusion: It is concluded that mechanism of action of SJW alters TP activity and its mRNA expression.

Keywords: SJW, mRNA, TP Activity

10.103

A CAUSE FOR CONCERN: EASY AVAILABILITY OF PRESCRIPTION DRUGS OVER THE COUNTER IN DIFFERENT PHARMACIES OF KARACHI, PAKISTAN

Saniya Siraj Godil, Omair Shakil, Muhammad Umair Bashir, Fatima Adhi, Muneeb Virk, Sahar Ashraf Janjua, Zara Awan, Shahid Sattar, Saira Ahmad, Muhammad Ressim Nazir
Medical Students, Aga Khan University, Karachi

Objective: The pharmaceutical sector in Pakistan lacks well-defined guidelines and regulations. When coupled with a greater propensity towards self-medication on the part of consumers in a developing country like ours, this may have serious consequences for the public health of the country. To assess the knowledge, attitude and practice of pharmacists regarding the dispensing of prescription drugs over the counter and to determine the role of the public regulatory bodies in regulating drug retailing practices.

Method: This was a sectional study. The sampling frame included registered pharmacies selling allopathic medicines. A minimum sample size of 97 was calculated. Data collection was done via questionnaire-based interviews of one drug dispenser from each pharmacy and information was obtained on dispensing, knowledge of the pharmacists regarding indications, dosage and side-effects of common drugs. Questions were also included to assess the role of regulatory authorities in maintaining conformance with correct dispensing practices. Data was entered and analyzed in SPSS Version 16.0.

Results: 132 pharmacies were surveyed. Pharmacists at only 10(7.6%) pharmacies had the required qualifications. 112(84.8%) pharmacies were providing symptomatic treatment to customers. Prescription drugs available over-the-counter included sedatives (25.8%), antidepressants (25.8%), and stimulants (8.3%). Most pharmacists were not aware of the

correct indications, dosages, side-effects and addictive potential of common drugs. 47(35.6%) pharmacies had never been provided official drug retailing regulations and 10(7.6%) had never been visited by a representative of the public regulatory body.

Conclusion: The drug retailing practices prevalent amongst pharmacies of Karachi are in direct contrast with safe drug retailing regulations.

Keywords: Pharmacists, Drug Dispension, Self-Medication

10.104

EFFECTS OF DIVERSITY ON LEVEL OF ADVOCACY

Salma Rattani¹, Ayesha Aziz², Kausar S. Khan²

¹School of Nursing and ²Community Health Sciences, Aga Khan University, Karachi

Purpose: Through Cognitive Behavioural Group Therapy (CBGT, women's understanding of resistance and hurdles to their empowerment were assessed and they were prepared for advocacy.

Methodology: Initially 11 women consented for taking sessions of CBGT but later on 2 from Sultanabad and 3 from Rehri Goth continued to attend the session. Participants of Sultanabad colony were migrants from Abbatadabd, and NWFP. These women married to those men who migrated earlier for employment. Women were identical in regard to ethnicity; they were Pathan, and they spoke same languages; Pathan/Hazara/Pashto. Women from Rehri Goth in addition to ethnicity and language were homogenous as they were the native of Rahri Goth.

Results: At the end of CBGT, women were able to advocate for their rights. However, in Sultanabad, participants' advocacy benefited the individuals such as one of the women was able to start a small business and other woman was decided to visit her home town which may seem to be a very small decision but for her it was a big achievement. In Rehri Goth, participants of CBGT, thinking themselves as one community, started collective bargaining and they used multiple forums to advocate for the entire community.

Conclusion: In Sultanabad though members were homogenous in ethnicity and language yet were diverse in regard to their original locality whereas participants of Rehri Goth were homogenous in regard to their origin, language and ethnicity. Thus they being homogenous or diverse has affected on their actions; for individual benefits vs. collective good.

Keywords: Diversity, Advocacy, Women

10.105

EPIDEMIOLOGY AND OUTCOME OF CHILDREN WITH NEAR DROWNING PRESENTED IN ER OF A DEVELOPING COUNTRY

Tanveer Ahmed Nizamani, Muhammad Rehan Khan, Khalid Ahmed, Anwarul Haque
Department of Paediatrics & Child Health, Aga Khan University, Karachi

Objective: The aim of this study is to review the incidence and outcome of children with near drowning presented in emergency room in a tertiary care pediatric intensive care unit of a developing country.

Design: Retrospective cohort study

Duration: From year 2000- 2009 (Ten years)

Participants: Children from 1 month to 14 years

Setting: Emergency room of a tertiary care hospital

Intervention: None

Outcome: Survivor and neurological morbidity. The survivors are those who have been discharged from hospital. The neurologic morbidity at the time of discharge is based on PCPC (Pediatric Cerebral Performance Category) Score. The PCPC score 1-3 indicates favorable outcome and the score 4-5 indicates unfavorable outcome.

Result: Thirty three children presented in ER with near drowning, the most common age was < 2 years (72.7%, 24/33) and > 2 years was 23.3% (9/33). 60% were male. The common location of drowning was close-water (81.8%, 27/33), with 78% (26/33) were involved the bucket and bathtub. 48% (16/33) of cases had immersion time for >10 minutes. The cardiopulmonary resuscitation (CPR) was done by layperson in 30% (10/33). 97% (32/33) were presented in ER with spontaneous breathing and palpable pulses. One patient came in cardiopulmonary arrest and required CPR. The Glasgow Coma Scale (GCS) <10 was observed in 40% (13/33). Eleven patients (33%) required admission in pediatric intensive care unit. All of them were discharged home alive. 80% (26/33) has PCPC with favorable outcome. Unfavorable outcome was observed in 20% The low GCS at presentation in ER was the predictor of unfavorable outcome.

Conclusion: We conclude that most of the survivors had good neurological outcome. The low GCS at presentation was associated with neurological disability.

Keywords: Child, Near Drowning, ER

10.106

USE OF STANDARDIZED MOTORCYCLE HELMET IN KARACHI, PAKISTAN

Kiran Ejaz, Uzma Rahim Khan, Junaid Razzak
Department of Medicine, Aga Khan University, Karachi

Introduction: Motorcyclists make up a high proportion of overall traffic injuries, resulting to death and disability in low and middle income countries. Most fatalities in motorcycle riders and 86% of all fatalities in pillion riders are due to head

and neck injuries. Strict enforcement of helmets can potentially save 15% of lives and prevent 1400 brain injuries every year in Karachi.

Objective: To identify attitudes and practices of motorcycle helmet users in Karachi, Pakistan

Methods: In 2009, a cross sectional survey on 539 motorcycle helmet users was conducted in petrol pumps of four towns of Karachi. Along with demographic data, variables regarding ownership, usage factors, quality, cost of helmet usage, ownership of motorcycle were noted. Results: All participants were males in our study. The mean age was 28 (SD 7) years. Of all helmet users, 491(98%) own the motorcycle and 468(92%) owned their helmets. About less than half 197(42%) had purchased helmets from street markets. Cost of helmet for 324(71%) respondents was between \$5 to \$10. About less than half 210(41%) were concerned about the quality of the helmets at the time of purchase. More than half, 305(57%) had no certification marking on their helmets. Most respondents with no schooling 67(74%) and age 40 or above 65(84%), did not have helmet certification marking.

Conclusion: Majority of the motorcyclists in Karachi are using non-standardized helmets.

Keywords: Helmet, Motorcyclist, Karachi

10.107

IS A GROUP MEETING APPROACH FEASIBLE FOR LADY HEALTH WORKERS TO DELIVER AN EARLY CHILD DEVELOPMENT PROGRAMME IN THE COMMUNITY?

Farrukh Raza, Javaid Memon, Saima Sayal, Muneera Rasheed, Aisha Yosufzai, Shahnaz Ibrahim, Zulfiqar Bhutta
Department of Paediatrics & Child Health, Aga Khan University, Karachi

Introduction: In Pakistan, at least 8 million children less than 5 years of age fail to meet their development potential. It is recommended that early child development programmes (ECD) designed to improve integrated with health and nutrition in young children. We have developed an ECD curriculum and we aim to evaluate whether Lady Health Workers (LHWs) can integrate an ECD curriculum in their existing services using a group meeting strategy?

Method: This intervention is being evaluated within a cluster randomized control trial in ECD in district Naushero Feroze, Sindh. The meetings are organized to discuss ECD issues with care givers to practice stimulation activities with their children. The LHW guides mothers on how to improve interactions and stimulation with their children. Forty LHWs have been trained and are delivering the meetings in their catchments to families with children less than 2 years of age.

Results: Initial results from group meeting have been reviewed (July-December 2009). On average 29 meetings of 1-2 hours duration were conducted in a month participated. In meeting sessions covered 53% what is ECD, 34% making low cost toys, 11% helping mother feel confident, 1% children learn from birth. Most popular activities (play) in 0-6mo; 67% dangling bright toys, in 6-12mo; child make a noise with objects 58%, and most popular communication in

6-12mo was 66% Tell child name of things, in 12-24mo; 53% Tell Stories and Least popular activities in 0-6mo; 7% provide safe colorful object to child, in 6-12mo; 5% play where is it?. Least popular communication in 12-24mo; 4% encourage pull and push toys

Conclusions: Early results indicate the group meeting approach is feasible and acceptable in community settings The larger trial will assess the impact of the interventions on growth and development outcomes on children.

Keywords: ECD, LHW, Meetings

10.108

FACTORS CAUSING DELAY IN SEEKING HEALTH CARE AT A PERI-URBAN SLUM AREA OF KARACHI: A PRIMARY HEALTH CARE SURVEY

Farhan Arshad Mirza, Awais Ashfaq, Adnan Sultan, Zafirah Salman, Wajiha Maan, Saima Lalani, Zahra Samani, Mohammad Ayub, Abdullah Waheed, Azeiz Ahmed
Medical Students, Aga Khan University, Karachi

Objective: In a recent report by the WHO in 2008, five common shortcomings of PHC plan and its delivery were identified; namely, inverse care, impoverishing care, fragmented and fragmenting care, unsafe care, and misdirected care. Reflecting upon these trends globally and how would they affect the PHC setting in our part of the world, we tried to look at the factors that might cause delay in seeking health care at a setting where PHC has had a proper set up since many years.

Method: A cross-sectional study was conducted for a period of 4 weeks from Sept 2009 to Oct 2009 involving interviewing patients using a questionnaire. Pilot phase was done to assess the feasibility of administering the questionnaire and to make it user friendly. A total of 148 mothers who brought their children to the PHC were enrolled in the study. Data collection variables included demographics, delaying factors, illness and education data. The data was analysed using SPSS 17.0.

Results: Out of the patients that presented to the PHC during our study, fever was the major presenting complaint (47.1 %) followed by cough (44.80%). The major factor that resulted in causing delay was the perception of the cost of care and use of alternative treatment with p-values of 0.002 and 0.023 respectively. Among the respondents, 83.7 % had a monthly income of less than Rs. 6000. 72.1 % of mothers had no formal education and its impact was significantly associated with causing delay (p value of <0.001). Approximately, 60% of the children had been brought to our PHC after a delay of more than 3 days at least. 35% of these had a delay of more than 5 days.

Conclusion: According to our survey, majority of the families have an under average income, so much that they can hardly afford twice a meal daily, let alone bearing the cost of health and related illnesses. Majority of the families thought that cost was the major factor in bringing their child to the PHC centre, even though most of the common medicines were available in our centre and are provided free of charge. There were few socio-economic and religious restrictions such as

unavailability of male members. It was seen that uneducated mothers took the most time (in days) in bringing their child to the PHC as they thought the nature of illness to be trivial and they were the ones who had larger families. This correlated with the fact these mothers were uneducated and these were that had mostly sought alternative treatment, trying to save money, time and effort to walk to the PHC setting.

Keywords: Primary Health Care, Delay, Children

10.109

KNOWLEDGE, ATTITUDE AND PRACTICES ABOUT ANEMIA IN A PERIURBAN SETTING

*Farhan Arshad Mirza, Adnan Sultan, Zafirah Salman, Awais Ashfaq, Saima Lalani, Zahra Samani, Wajiha Maan, Abdullah Waheed, Mohammad Ayub, Hyder Khan
Medical Students, Aga Khan University, Karachi*

Objective: Anemia is a common condition causing significant morbidity and mortality. In Pakistan the prevalence of anemia in the pre-school age is estimated to be 50.9% of the population approximating to 10,862,000 and has been graded by WHO as a severe public health problem. The data regarding knowledge, attitude and practices amongst Pakistani women regarding anemia is scarce and owing to the high prevalence of anemia in Pakistan in pre-school children, we conducted a community-based study designed to comprehensively evaluate knowledge of different aspects of anemia among Pakistani women.

Method: A cross-sectional study was conducted for a period of 4 weeks from Sept 2009 to Oct 2009 involving interviewing patients using a questionnaire. Pilot phase was done to assess the feasibility of administering the questionnaire and to make it user friendly. A total of 122 mothers who brought their children to the PHC were enrolled in the study. Data collection variables included demographics, variables evaluating the knowledge of mothers that included awareness regarding anemia, causes, signs and symptoms, treatment and prevention of anemia, practice variables that involved detailed information regarding diet. The data was analysed using SPSS 17.0. *Results:* Out of those children who had anemia, around 69.3% of their mothers had heard of it. Most had heard from doctors (42.4%) and relatives (19.1%). 53% women thought it was common in children while 18% did not and the rest were unaware about it. The causes of anemia among children were found to be poor diet (54.6%), weaning (17.2%), cow milk (7.7%). Around 79.7% people knew about the signs and symptoms of anemia. Whilst 66.1% people had been counseled about anemia before only 40.1% knew about its treatment. Around 97.2% of the study population knew about the food containing. 43.2% of the women thought that their child was at risk of developing anemia and 85.6% were willing to seek treatment if it was so.

Conclusion: Anemia is a serious problem for the health of individuals as it has effects on the mental as well as physical health of people. The population studied lacked significant knowledge regarding anemia, the various causes, its signs and symptoms, sources of iron containing food and the general treatment regarding anemia. The study also analyzed that few

measures have been taken to educate the population about the illness and so highlights the strong need for massive campaigning to be initiated in order to reduce the burden to society.

Keywords: Anemia, Primary Health Care, Knowledge

10.110

CORRELATION OF MALNUTRITION WITH OBJECTIVELY DIAGNOSED ANEMIA

*Farhan Arshad Mirza, Awais Ashfaq, Adnan Sultan, Zafirah Salman, Wajiha Maan, Saima Lalani, Zahra Samani, Abdullah Waheed, Mohammad Ayub, Sajid Soofi
Medical Students, Aga Khan University, Karachi*

Objective: Anemia and malnutrition still present two serious challenges to global healthcare with each enjoying significant global prevalence. A significant proportion of deaths in young children worldwide are attributable to low weight-for-age, and efforts to reduce malnutrition should be a policy priority. The aims of our study were to identify prevalence of anemia and malnutrition in children aged 6 months to 12 years in a primary health care setting, to correlate malnutrition with objectively diagnosed anemia in the same age group and to correlate mother's education level with malnutrition and anemia.

Method: The study was conducted at a PHC setting in a peri-urban slum area of Karachi for a period of 4 weeks from Sept 2009 to Oct 2009. We interviewed patients using a questionnaire and comparisons were made thereafter to observe the outcomes. A Pilot phase was carried out to assess the feasibility of administering the questionnaire. 148 children presenting to the clinic were enrolled in the study. Malnutrition was assessed using Anthropometric measurements which included height, weight, MAC and FOC. To classify malnutrition and its grades, we used the Harvard Classification (Grade I-IV). For blood sampling, index fingers were pricked with a lancet under aseptic measures. Blood drop was taken on a microcuvette and hemoglobin levels were checked using the Hemocue kit. WHO range and grades of anemia were adopted.

Results: In our study we found a high prevalence of anemia with 78.9% of children presenting to our clinic were found to be anemic. 38.6% children were malnourished, out of which, according to Harvard classification 60% were Grade 1, 24% were Grade 2, 4% were Grade 3 and 8% were Grade 4. 36.6% of children who were found to be anemic were also malnourished. Knowledge of anemia was fairly prevalent with 69.3% mothers of anemic children had heard of anemia. 77.5% mothers of anemic children had never received any formal education while 67.4% mothers of malnourished children had not received any formal education. 62% Mothers of anemic children had never been counseled for anemia by a doctor.

Conclusion: Anemia was highly prevalent (78.9%). There is a positive correlation between anemia and malnutrition. Education level of mother had an impact on the prevalence of anemia and malnutrition. Maternal counseling and parental (especially maternal) education levels need to be addressed

as an intervention towards reducing malnutrition and anemia in children between the ages 6 months – 12 years.

Keywords: Anemia, Malnutrition, Primary Health Care

10.111

IMPACT OF AN INTERVENTION PACKAGE ON PERINATAL AND NEONATAL MORTALITY DELIVERED THROUGH LADY HEALTH WORKERS (LHWS) AND TRADITIONAL BIRTH ATTENDANTS (DAIS) IN RURAL PAKISTAN

*Sajid Bashir Soofi, Shah Muhammad, Muhammad Atif Habib, Zulfiqar A Bhutta
Department of Paediatrics & Child Health, Aga Khan University, Karachi*

Background: Evidence suggests that effectively delivered community based interventions can reduce these deaths. In this study we made an attempt to deliver an intervention package through first level health care providers at community level.

Objective: To evaluate the effectiveness of a community based intervention package to reduce Perinatal and Neonatal mortality in a rural district of Pakistan

Method: It was a cluster randomized trial in a rural district; Matiari. The package involved community mobilization and education, improved maternal and newborn care, including identification of danger signs and care seeking were emphasized as were the importance of antenatal care and health facility delivery. The study area was randomized in 16 clusters (8 interventions and 8 controls) for the package delivery. Eight quarterly surveillance rounds were carried out over a period of two years through independent research team to capture vital statistics on births, perinatal deaths, neonatal deaths, care seeking at health facilities and household practices related to maternal and newborn care.

Results: Results showed reductions in the still birth rate (RR=0.79:95 % CI; 0.68-0.92; P=0.01) and neonatal mortality (RR=0.85:95 % CI; 0.75-0.96; P=0.01) in intervention clusters in comparison to control clusters. The proportion of the home births decreased (from 53% to 32%). The home based newborn care practices also improved in the intervention clusters, with administration of colostrum to the newborn increasing from 46% to 95%; delaying bathing of newborn until six hours from 26% to 57%.

Conclusion: The intervention package reduced Perinatal and neonatal mortality in rural district of Pakistan and has the potential to be delivered through first level health care providers and can be scaled up at national level.

Keywords: Intervention Package, Perinatal and Neonatal mortality, Rural Pakistan

10.112

A SQUATTER SETTLEMENT: SOCIAL LIFE OF FISHERMEN AT SEA

*Samra Sikandar¹, Yousuf Memon², Rubina Saleem², Nassem Mushtaq², M. Bashir², Habiba Arbabni²
²Department of Community Health Sciences, Aga Khan University, and ¹Dow University of Health Sciences, Karachi*

Introduction: Rehri Goth is located at the Arabian Sea coast, Bin Qasim town, Karachi. It's a 300 years old village having a population of around 40,000. Fishing is the main occupation which often takes place in the hostile marine environment. Living and working space on board are usually inadequate and entertainment opportunities are limited.

Objective: To study the social life of fishermen at sea during the fishing period.

Method: This cross sectional study was conducted at Rehri Goth. A standardized questionnaire was used for data collection. A convenient non probability sample of 20 professional fishermen was enrolled.

Results: The study reveals that 55% fishermen stayed at sea for two weeks with 5-10 people; 35% were allowed to sleep aptly; 60% resorted to the use of cigarettes, paan and guthka; 45% accepted using alcohol and 55% substance abuse; 75% expressed some knowledge about alcoholism and substance abuse; 55% stated they had no issues of sexual needs at work; 70% demonstrated strict self control when sexual need arise. About 65% had no idea about diseases like HIV and Hep C. About the social life on boat, 65% labeled the environment on boat as friendly.

Conclusion: Lack of proper sleep, fatigue, minimum means of entertainment on boat works as fuel to the plight of fishermen. The lengthy and hectic schedules of sea life affect their lives at home. At sea, often the fishermen remain exposed to the hazards of alcoholism, substance abuse and other malpractices. A relative absence of knowledge about diseases may form a potential pool of diseases.

Keywords: Fishing, Alcoholism, Entertainment

10.113

MALARIA PREVENTION IN A SQUATTER SETTLEMENT: LEVEL OF AWARENESS AMONG MEMBERS OF THE LOCAL GOVERNING BODIES (LGB) RELATED TO VECTOR CONTROL

*Hina Faruqi¹, Noman Khan¹, Yousuf Memon², Fahmida Khawaja², Fauzia Arif², Sultan Baig²
¹Students, Dow Medical University and ²Department of Community Health Sciences, Aga Khan University, Karachi*

Introduction: In 2007, 3.5 million cases of malaria were reported in Pakistan. Reports reveal 50,000 deaths per year in the country and Sindh is more prone to the disease. *Objectives:* • To evaluate the level of awareness of the members of LGB related to vector control in malaria prevention • To find out the ways to reduce these problems

Method: It is a cross-sectional quantitative analysis conducted at Sultanabad which is located at District West-Keamari Town, Karachi and is having 25,000 population. Data collection is done by using a pre-tested questionnaire. The Local Governing Body (LGB) consists of 13 members were interviewed. **Results:** According to the study results, 92.3% LGB members shared that malaria spreads by mosquitoes. About the breeding sites; 84.6% mentioned clean water containers; 69.2% said wells; 11.0% said perforations under rocks & trees and 79.9% said water in irrigation fields. About resolving the problem at breeding sites; 11.0% expressed about filling up the ditches with mud; 61.5% elaborated about instilling oil to the water surfaces and 46.2% said that introduction of larvicidal fishes in ponds reduces breeding sites. Regarding prevention; 69.2% shared indoor residual spray (IRS) as personal protective measure; 15.4% expressed protective clothing, 61.5% expressed about the use of nets; 76.9% informed about insect killing coils. Knowledge about the Prophylactic dose for malaria was 7.7%. About 69.2% said combination of multiple preventive measures is more effective and 84.6% shared that rainy season increases the incidence of malaria. **Conclusion:** The results of the study point to a lack of knowledge among the local govt. officials regarding vector control in malaria prevention. There is a need to enhance awareness level among them, as they are responsible for taking preventive measures.

Keywords: Malaria, Prevention, LBG

10.114

COASTAL AREAS OF KARACHI: HEALTH PROBLEMS OF SALT FARMERS

Batool Akhlaq¹, Zaid Hanafi¹, Yousuf Memon², Rubina Saleem², Naseem Mushtaq², M. Bashir²

¹Dow University of Health Sciences and Department of

²Community Health Sciences, Aga Khan University, Karachi

Introduction: Around 120 countries produce sea salt which is harvested for about six- eight months annually at the sea coast. Salt farmers work tirelessly under the blazing sun for a measly income, without any protective gear to shield them from the harsh saline environment.

Objectives: To explore the health problems faced by salt farmers at a peri-urban squatter settlement (Rehri Goth); To determine the possible risk factors and to highlight the economical injustice faced by them.

Methodology: A cross-sectional study was conducted at the Rehri Goth salt fields which included the salt farmers working there. 17 salt farmers were interviewed via a survey by the random sampling method.

Results: The severe injustice with salt farmer's can be highlighted by the fact that everyday after collecting 50-80 salt bori, a farmer earns around Rupees 200, whereas, the owner sells EACH bori for Rupees 200-250. Among all, the most disconcerting health issues faced by the salt farmers were body aches and skin rashes. About 58.8 % did not use any protective gear and 41.2% didn't wear any shoes. Working

long hours in the sun without eye protection, made about 17.7% farmers experience eye problems, among whom 11.8% had pain and 5.9% blurred eyesight. About 64.7% farmers had rashes on their hands and feet. 70.6 % reported body ache, 52.9% complained of dizziness and 5.9% reported pain while micturating.

Conclusion: Proper regulatory mechanisms to maintain the health of the salt farmers at their work area are required. Health education sessions to maintain personal and environmental hygiene should be conducted.

Keywords: Fishermen, Salt, Farmers

11.1 EFFECT OF TOPICAL EMOLLIENT THERAPY ON INCIDENCE PROPORTION OF HOSPITAL ACQUIRED INFECTION IN PRETERM NEONATES IN A HOSPITAL SETUP: A RANDOMIZED CONTROLLED TRIAL

Rehana Abdus Salam¹, Zulfiqar Bhutta²
Departments of ¹Community Health Sciences, ²Paediatrics &
Child Health, Aga Khan University, Karachi

Introduction: 99% of neonatal deaths occur in developing countries. Most of these deaths are attributable to prematurity and infection. With the increasing rate of premature births, the mortality rate of over 50% among preterm babies requires inexpensive hospital-based strategies to prevent fatal infections. A potential low cost intervention like topical emollient therapy can effectively reduce mortality related to infection. It reduces infection by enhancing skin barrier function, conserving heat and energy to promote growth. This study aims to compare the incidence proportion of hospital acquired infection among hospitalized preterm neonates who receive oil application versus routine skin care. The secondary objective is to compare the weight gain at 28th day of life. This study is a randomized controlled trial. 372 preterm neonates admitted to nursery/NICU fulfilling eligibility criteria will be randomized to intervention or control group with parental consent. Neonates assigned to intervention group will receive coconut oil application twice a day, beginning within 72 hrs of birth, till 28th day of life. Mothers of discharged neonates will be trained for oil application and instructed to continue till the neonate is 28 days old. Neonates will be followed during the weekly follow-up visits to the clinic. Control group neonates will receive routine skin care without topical emollient. Blood cultures will be sent as per assessment of physician based on clinical signs of infection. Weight will be checked weekly till 28th day of life. The incidence proportion of hospital acquired infection and weight gain will be compared in both the groups using appropriate statistical analysis.

Keywords: Topical Emollient Therapy, Coconut Oil Application in Neonates, Reducing Hospital Acquired Infection in Preterm Neonate

11.2 PREVALENCE, PERCEPTION AND EFFECT OF DYSMENORRHEA ON THE SCHOOL GOING FEMALE ADOLESCENTS OF KARACHI

Shala Khan¹, Kashif Abbas², Saleema Gulzar¹, Jocoline Sommer¹
¹School of Nursing and ²Department of Paediatrics & Child Health, Aga Khan University, Karachi

Objective: To determine the perception and effect of dysmenorrhea in the school going female adolescent of Karachi.

Study Design: Cross-sectional descriptive.

Place & Duration: This study was conducted in private and public schools of Karachi, with the collaboration of Aga Khan

University School of Nursing, Department of Paediatric, from August 2007 to July 2008.

Method: Sample was selected through stratified sampling method to enroll the sample of 337 participants. They were selected both from the private and government sector teaching institutes. The participating female students belonged to the age group of 10 to 19 years. A questionnaire was developed bilingually by the researchers (both in English and Urdu). In each selected school, a 37 stem questionnaire about the perception and effect of dysmenorrhea was administered. Data were unlinked to keep the anonymity and confidentiality throughout the study.

Results: The study included 349 school and college going females of Karachi. Majority of females reported 11 – 13 years as the age of menarche 256 (75.6%) while 24.4 % females had menarche between 14 – 16 years of age. A total of 227(67.6%) females reported regular menstrual cycles and 109 (32.4%) reported irregular menstruation out of 336 respondents. Majority of females had an average duration of 3 – 4 days menstrual cycle 256(75.6%) while 218(67.4%) reported 5 – 7 days of menstrual cycle. Dysmenorrhea was reported by 264 (78%). Only 37(11%) females used some home remedies such as mustard seeds, basil (Tulsee) leaves and clove oil for local application for reduction of menstrual pain. Females who suffered dysmenorrhea 92(27%) took pain killers and 246 (73%) did not opt for any analgesic. Ponstan was the most commonly used analgesic for dysmenorrhea 41% followed by Panadaol 25% and Buscopan 14%. Most of the females 265(80.5%) preferred to get analgesic killers prescribed by the physicians. A significant numbers of females gave positive response regarding use of a analgesic during menstruation 114(35.3%). Academic performance and attendance was also effected by 40% females during dysmenorrhea. A strong relationship was found between the experience of dysmenorrhea and self-imposed dietary restrictions by the study subjects ($p=0.020$). Significant relationship was also found between dysmenorrhea and analgesic ($p<0.001$) and dysmenorrhea and home remedies ($p<0.01$).

Conclusion: The prevalence of dysmenorrhea in adolescent age group in this study is significantly high, having marked impact on the academic and social performance. Those participants who adopted proper management for dysmenorrhea were least compromised. Therefore, this study suggests that timely dissemination of information both at school and at family level is essential. We are making a case that at the primordial level; health education essentially is part of school curriculum.

Keywords: Dysmenorrhea, Female Adolescent, Academic Performance and Attendance

11.3**TREATING COMMON ILLNESSES AMONG CHILDREN UNDER 5 YEARS: A PORTRAYAL OF HEALTH SEEKING BEHAVIOURS AND PRACTICES IN THE NORTHERN AREAS OF PAKISTAN***Babar Shaikh¹, Dave Haran²**¹Department of Community Health Sciences, Aga Khan University, Karachi and ²Liverpool School of Tropical Medicine, UK*

Objective: Inappropriate practices and behaviours while treating a child's illness impede a correct medical consultation. We studied the health seeking behaviours of people engaging with health care systems for the treatment of children under 5.

Method: In Northern Areas of Pakistan, a cross sectional survey comprising 272 household interviews and 267 exit interviews was conducted in sample of computer generated 25 random communities/clusters. The respondent was either a parent, or the accompanying guardian of the child under 5.

Results: Malaria, fever and diarrhoea were found in almost 1/3rd of the children under five. One third of the respondents did not know the cause of the illness of children. For consultation, majority goes to private clinics but home remedies, traditional practices and consultation with faith healer are common. Median delay of 2-3 days in a consultation with trained provider was reported. Not giving priority to child's illness, desolated household economics and restricted women's social mobility are major constraints for taking up appropriate and timely treatment for children. *Conclusion:* Health education and health promotion programs must take into account all the social determinants to be effective and result-oriented. Gaps and weaknesses in the government centres must be addressed in order to improve the utilization, access and coverage of health services.

Keywords: Child Health, Health Seeking Behaviours, Health Service Utilization

11.9**ENDOMETRIAL HYPERPLASIA MIMICKING AS AGGRESSIVE ENDOMETRIAL CARCINOMA ON IMAGING: ROLE OF DIFFUSION WEIGHTED MRI***Shaista Afzal, Fahd Haroon**Department of Radiology, Aga Khan University, Karachi*

Objective: This case report describes a 46 year old premenopausal female presenting with heavy vaginal bleeding. Ultrasound showed irregularly thickened endometrium and MRI showed thickened endometrium with indistinct margins and extension into the myometrium without significant contrast enhancement. DWI did not show a bright endometrium and no signal dropout on ADC, suggestive of benign aetiology. Histopathology revealed endometrial hyperplasia as final diagnosis. The unusual imaging appearance of this lesion and role of DWI in its differential diagnosis are discussed.

Conclusion: In conclusion DWI and ADC is a powerful diagnostic tool that provides additional information in complex situations. The examination is quick and can be easily added into existing MR examination protocol without requirement of intravenous contrast.

Keywords: Endometrial Hyperplasia, Diffusion Weighted Imaging, MRI

11.10**ADVERSE EFFECT OF TOBACCO USE ON PREGNANCY OUTCOME: A MULTI-CENTER HOSPITAL BASED STUDY IN KARACHI, PAKISTAN***Shafquat Rozi, Zahid Ahmed Butt, Saba Wasim, Juanita Hatcher, Asma Makhani**Department of Community Health Sciences, Aga Khan University, Karachi*

Background: Tobacco use is very common in Pakistan. A recent review on the effects of smoking on women's health reported a higher rate of gynecological complications. Our study objectives were to assess the adverse effect of maternal tobacco consumption during pregnancy on birth outcomes and obstetric complications in Karachi, Pakistan. *Methodology:* A multi-center hospital based case control study was conducted in Karachi, Pakistan. A random sample of 1275 women coming to the gynecology & obstetric department of selected hospitals for delivery was interviewed within 48 hours of delivery from wards. Cases were birth outcomes (preterm delivery, low birth weight, still birth, low APGAR score) and obstetric complications (antepartum hemorrhage, cesarean section etc).

Results: Final multiple logistic regression analysis showed that after adjustment for age & slits in the kitchen, gravidity (adjusted OR= 0.8; 95% CI: 0.7-0.9), hospital booking (adjusted OR= 1.9; 95% CI: 1.3-2.8), complications during current pregnancy (adjusted OR= 2.7; 95% CI: 1.8-3.9), still birth (adjusted OR= 1.8; 95% CI: 1.2-2.8) and miscarriages (adjusted OR= 3.9; 95% CI: 2.3-6.8) were significantly associated with cases. Interaction between our main exposure (tobacco use) and education level was found to be significant. *Conclusion:* Our study suggests that women who had adverse pregnancy outcomes were more likely to have still births, miscarriages and complications during current pregnancy. This indicates that pre-natal care and health education during the antenatal period might help in preventing such adverse events. Further research into specific factors responsible for adverse birth outcomes and obstetric complications is warranted.

Keywords: Reproductive Health, Child Health, Tobacco Use

11.11 FACTORS INFLUENCING IMPLEMENTATION OF INTEGRATED MANAGEMENT OF NEONATAL AND CHILDHOOD ILLNESSES STRATEGY AT PUBLIC SECTOR PRIMARY HEALTH CARE FACILITIES IN MATIARI DISTRICT, SINDH

*Nousheen Alwani, Narjis Rizvi, Neelofar Sami
Department of Community Health Sciences, Aga Khan
University, Karachi*

Objective: IMNCI strategy was launched by WHO and UNICEF in 1995. IMCI is a single effective and comprehensive strategy targeting five most prevalent causes of deaths among under five year children; including diarrhea, acute respiratory infection, measles, malaria and malnutrition. Objective To determine the factors influencing (constraining and supporting) implementation of IMNCI strategy at public sector primary health care facilities at three levels i.e., health sector policy and management level i.e., stakeholders responsible for implementation; health care providers level (trained IMNCI doctors) and at the level of primary health care facilities; in Matiari district, Sindh.

Method: Duration of the study was July 09-Sep 09. The study involved concurrent mix method design; i.e., use of qualitative and quantitative data collection approaches. Purposive sampling was employed to conduct in-depth interviews with 8 stakeholders and 8 IMNCI trained doctors. Universal sampling was done to survey 16 PHC facilities in the district to assess PHC system support for IMNCI implementation. *Results:* Among the major factor supporting IMNCI implementation were clear understanding and belief in significance of IMNCI strategy, IMNCI trained doctors exhibited their willingness to implement the strategy and no turnover was reported among IMNCI trained doctors. However inadequate health system support drastically acted as a major constarin to implement IMNCI startegy.

Conclusion: Matiari being the first district in implementing IMNCI strategy lack adequate health care system support to implement IMNCI strategy by trained doctors. Health department Sindh need to streamline IMNCI implementation in the district by assisting provincial and district health management in strategic direction and leadership in developing policy initiatives for IMNCI implementation and strengthening the health system support to implement IMNCI strategy.

Keywords: IMNCI Strategy, Factors Supporting, Factors Constraining

11.14 PREDICTORS BEHIND UNINTENTIONAL, PEDIATRIC DOMESTIC INJURY

*Emad uddin Siddiqui, Kiran Ejaz, Uzma Siddiqui
Department of Emergency Medicine, Aga Khan University,
Karachi*

Background: Unintentional pediatric domestic injury is a common presentation to emergency departments. Causes vary with age. Annually, 6.16 million unintentional injuries occur

in Pakistan in children above 5 years and contribute to 47,000 deaths per year.

Objective: To identify the predictors behind unintentional domestic injury, in children living in a semi rural area of Karachi.

Method: We enrolled 271 out-patient children of either gender, with a positive injury history in this retrospective descriptive study. It was conducted at a private hospital located at the northern outskirts of Karachi, Pakistan from January 2005 to January 2007. Questionnaire inquiring the age, socioeconomic status, monthly family income, family size, number of siblings and house structure were assessed. Timing of injury, monthly variation, injury pattern and factors were also noted. SPSS v16 was used for data analysis.

Results: Out of 271 patients, male to female ratio was 1.2:1. Injury pattern were noted as 145(54%) fall from elevation and 52(19%) children who fall at same level. Fifteen (6%) reported with burn. Cuts with sharp domestic utensils were noted in 19(6%). Submersion history was noted in 20(7%) cases. Insect/animal bites were in 11(4%) cases. Injuries induced by fall either height or same level, related trauma were 197(73%) and was the commonest type of domestic unintentional domestic injury in our children. *Conclusion:* Injuries induced by fall either height or same level, related trauma was the commonest type of domestic unintentional domestic injury in our children with working mothers, number of siblings and time of year as contributing factors.

Keywords: Pediatric Injury, Domestic, Unintentional Injury

11.15 FACTOR VII DEFICIENCY DURING PREGNANCY: A CASE-REPORT AND REVIEW OF LITERATURE

*Syed Mohammad Asad Zaidi¹, Rahat Najam Qureshi², Salman
Naseem Adil³*

*¹Medical College, Departments of²Obstetrics & Gynaecology
and³Medicine, Aga Khan University, Karachi*

Introduction: Factor VII deficiency is a rare autosomal recessive bleeding disorder. Few cases have been reported of Factor VII deficiency during pregnancy, a state which could potentially cause fatal hemorrhage. Homozygous cases tend to bleed spontaneously where as heterozygous cases are usually incidental discoveries.

Case-Report: Here we present a case that was diagnosed with Factor VII deficiency after a history of heavy menorrhagia and multiple first pregnancy failures. The patient was delivered via Cesarean section due to non-assuring fetal heart monitoring. She was treated with Fresh Frozen Plasma (FFPs) and Factor VII concentrates, however, developed bleeding postoperatively.

Results: Literature indicates that whilst Factor VII levels rise during pregnancy in normal women, no increase is seen in homozygous cases, where as a moderate rise is seen in heterozygous cases, late during the third trimester. Evidence suggests that heterozygous cases proceeding beyond the first trimester may be managed expectantly and the therapeutic management should be on an individual basis. Heavy

menorrhagia, multiple first pregnancy failures and a positive family history for bleeding disorders necessitate investigation and monitoring of Factor VII levels during pregnancy. *Conclusion:* Factor VII concentrates achieved adequate homeostasis in the other reported cases, however, our patient required FFPs to control post-operative bleeding. Recombinant Factor VIIa is the treatment of choice in homozygous cases and does not carry risk of viral infection transmission or thrombus formation

Keywords: Factor VII, Pregnancy, Recombinant Factor VIIa

11.16

LOST IUCD

Qurratulain Haider¹, Samina Khanani¹, Ali Haider²

¹*Department of Radiology, Aga Khan University, Karachi and*

²*Dow University of Health Sciences, Karachi*

Objective/Introduction: A 30 years prior to conceiving, she had an IUCD inserted in the uterine endometrial cavity. Despite this she conceived and worried about IUCD. Her consultant and she herself could not find the thread/string of IUCD in vagina. She constantly felt pain, discomfort and irritability in left iliac fossa throughout the pregnancy. Multiple ultrasounds were performed during this pregnancy, at 12 weeks, anomaly scan at 21 weeks and growth scan at 33+ weeks. The question of lost IUCD was not mentioned on requests for these ultrasounds by the consultant except at the time of growth scan and the radiologist was unable to find the IUCD due to gravid uterus with large fetus.

Case Summary: 30 Years old young lady presented with lost IUCD, conceived with IUCD *in situ*, felt constant pain, irritability and discomfort in left iliac fossa throughout the pregnancy. Post partum ultrasound pelvis revealed empty endometrial cavity of the uterus. Targetted ultrasound of left iliac fossa, at the site of pain during pregnancy showed linear hyper echoic structure with strong distal shadowing in left iliac fossa beside left iliac vessels, highly suggestive of lost IUCD. Plain X-ray abdomen was advised which confirmed the IUCD in left hemipelvis. Laproscopic removal of IUCD was planned.

Conclusion: IUCD if displaced/lost, thorough search of pelvis including uterus, adnexa, lower and even upper abdomen by Transabdominal and transvaginal ultrasound must be made especially targeted at the site of pain, irritability or discomfort. Positive finding of lost IUCD include constant, hyperechoic linear/wavy structure with distal shadowing highly suggestive of lost IUCD and plain X-ray abdomen including pelvis is required for further confirmation and location of IUCD. Appropriate management plan should be followed to remove the laproscopic / hysteroscopic or intraoperative Fluoroscopic guidance.

Keywords: Lost IUCD, USG X-ray, Laproscopy Hysteroscopy

11.17

SONOGRAPHIC BIRTH WEIGHT ESTIMATION

Waseem Akhtar Mirza

Department of Radiology, Aga Khan University, Karachi

Objective: To develop a sonographic birth weight estimation model for Pakistani population and to validate the published models in the same population

Method: Data collected for pregnant women who presented to radiology department of Aga Khan University hospital Karachi from January 2007 to July 2008 and undergone ultrasound estimation of fetal weight within 4 days prior to a term delivery (37-42 weeks gestation). The neonate's actual birth weight was used to validate the published fetal weight estimation models and modified sonographic birth weight estimation model was derived for our population by using linear regression.

Results: Modified sonographic birth weight estimation model for our population was derived by using fetal parameters. No significant difference (p-value >0.05) of actual and predicted birth weight derived from Our regression model, Campbell and Woo models noted, however least difference (p-value 0.7) was identified between our predicted model (Mean difference 14g, SD=37.7).

Conclusion: Our sonographic modified regression model of fetal weight estimation gave the least difference with actual neonatal birth weight and can be reliably used in our population. Hadlock1, Hadlock2 and Wool2 models are not appropriate in our setting or should be used carefully while predicting fetal weight in our population.

Keywords: Radiology, Ultrasound, Birth Weight

11.18

EXPERIMENTAL ANIMAL MODEL FOR TRAINING OBSTETRIC ANAL SPHINCTER INJURY TECHNIQUES

Raheela Mohsin

Department of Obstetrics & Gynaecology, Aga Khan University, Karachi

Introduction: There is a need for obstetricians and trainee obstetricians for proper identification & evaluation of Obstetric anal sphincter injuries and develop skills for its repair.

Objectives: To improve the surgical skills for perineal tears an adequate experimental animal model was used in a workshop along with the video. Material and Methods The participants were shown a 10 minutes video on multi-parous goat for repair of perineal tears. End to end repair technique was used for suturing. Assessment of the quality of the model was carried out in a selected group of participants via questionnaire

Results: A total of 65 participants including 38 residents, one physiotherapist and 26 consultants in Obstetrics and Gynaecology attended hands on training workshop. The participants had graduated on median 7 years before (range 2-23). Fourteen participants (21.5%) had no previous

experience while 32(49.2%) had 0-5 Years experience and 19 (29.2%) had 6-10 years of experience. 41(63.1%) could easily identify the goat sphincter. With reference to the similarity to human vaginal dimensions 7 (10.7%) reported difference, 43 (66.2%) similarities and 15(23.1%) strong similarities. Evaluating the anal canal anatomy 7 (10.8%) mentioned differences, 50(76.9%) similarities and 8 (12.3%) a strong similarity. Finally considering the degree of recommendation of the animal model for perineal tear repair 54(83.1%) would strongly recommend, 10(15.3%) would recommend it and 1(1.5%) would not recommend it. *Conclusions:* OASI on a Multiparous Goat mimics human anatomy and this is found to be an effective training tool for both residents and consultants

Keywords: Perineal Tears, Animal Model, Resident Training

11.19

INFECTIVE ENDOCARDITIS IN CHILDREN: A CHANGING PROFILE AT A TERTIARY CARE CENTRE

*Muhammad Rehan Khan, Prem Kumar Maheshwari, Saleem Akhter, Mehnaz Atiq
Department of Paediatrics & Child Health, Aga Khan University, Karachi*

Objective: Infective endocarditis (IE) is associated with high morbidity and mortality. Incidence of IE is increasing in children due to increased survival of patients with congenital heart diseases. Diagnosis of IE is still very challenging in developing countries due to lack of modern diagnostic facilities. The objective of the study was to evaluate clinical presentation, diagnostic yield of blood culture, echocardiographic findings and outcome of children with infective endocarditis.

Method: A retrospective chart review of children younger than 14 years of age, diagnosed as having infective endocarditis in last 10 years was carried out in pediatric cardiology section of a tertiary care centre.

Results: A total of 32 patients were diagnosed to have IE in study period. Mean age at presentation was 5 ½ years. Male to female ratio was 2:1. Fever was the most common presentation followed by a murmur on physical examination i.e. 87.5% and 69% respectively. Congenital heart diseases were predominant predisposing heart conditions (78%) leading to IE as compared to rheumatic heart disease (12.5%). Blood cultures were positive in 66% of patients with streptococcus viridans as the most common organisms (12.5%). 84.3% of patients had vegetations on echocardiography. The commonest sites of vegetations were VSD and mitral valve (21.8% each). Mortality rate was 6.25% in patients with IE.

Conclusion: Congenital heart diseases have emerged as a leading cause of IE in the developing countries. Although blood C/S is the gold standard for diagnosis but its positive yield is low. High clinical suspicion and echocardiography is the mainstay of diagnosis in our setup.

Keywords: Endocarditis, Echocardiography, Congenital Heart Diseases

11.20

DOMESTIC INJURIES IN CHILDREN

*Ahmad Vaqas Vaqas Faruque, Muhammad Arif Mateen Khan
Department of Surgery, Aga Khan University, Karachi*

Objective: To show “Our homes” are not safe for children

Method: • Retrospective study • Duration – 1st January 2008 – 31 December 2008 • Numbers of patients – 165 • SPSS The inclusion criteria was • All children presented to Emergency / Clinics during this period with domestic injuries include • Fall • Burns • Foreign body ingestion • Foreign body inhalation • Poisoning • Fingers caught in doors • Electrocution injuries • Drowning The exclusion criteria was • Injuries outside home settings. • All road traffic accidents.

Results: • Most common age of presentation was 1-3 years. • Boys are mostly exposed to domestic injuries (72%). • Head was the most common site of injury (39%). • Most common injury was laceration (41%). • Fall was the most common mechanism of injury (39%). • Foreign body ingestion/inhalation is commonest injury in preschool children. • Children's age b/w 5-14 years mostly came with history of fall. • The commonest place of injury was bed room (37%). • Most of the mothers were undergraduate or illiterate (77%). • 56% of children's mothers were not working outside home. • Trauma score of most of children's were mild (69%). • Most of them 73% children admitted. • Most of them (99%) recovered. • Mortality rate was (1%).

Conclusion: • Avoid making kitchen a play space. • Minimize amount of time baby spent in kitchen. • Lock all cabinets and drawers. • Knives should be kept in locked drawers. • Keep all electrical appliances unplugged • Sharp edges of furniture's should be padded • Wrap up excess blind cords • Furniture's should be secured to wall • Use a crib manufactured within 6 years • Don't place any wall hangings above the crib • Regular survey for potential choking agents • Install a gate at the top of stairs way • Gates should be at the bottom • Cover all electrical outlets • Cover the balcony railing to prevent falling

Keywords: Domestic Injury, Trauma Score, Mortality

11.21**HOME BIRTHS IN A SQUATTER SETTLEMENT OF KARACHI: WHY WOMEN CHOOSE HOMEBIRTH; FACTORS, ISSUES AND EXPERIENCES.**

Arsala Aslam¹, Saddakat Jawad¹, Yousuf Memon²
¹Dow University of Health Sciences and ²Department of Community Health Sciences, Aga Khan University, Karachi

Objective: Home birth is common in developing world due to lack of resources, unawareness and cultural restrictions. Home birth rates in developed countries are considerably low; e.g. 1-2 % in U.K, < 0.7 % in U.S, whereas the rates are high in low income states e.g. 95% in Bangladesh and 90 % in Nepal. In Pakistan, 80% of the births take place at home attended by 'untrained' personnel. This study was conducted at Sultanabad which is one of the squatter settlements in Karachi. The study focuses on the reasons which lead to home births and the issues associated. The basic purpose was to provide an understanding of the reasons and factors behind home births at the site. We aim to provide the implications for practice for Traditional Birth Attendants (TBAs), physicians, obstetric nurses, and perhaps most importantly women of childbearing age. The other purpose was to find out the opinions of women about the role of TBAs (dai's) and doctors in providing the obstetrical care. The main objectives of the study are to: >determine the factors why mothers go for homebirths >learn from the experiences of women delivered at home >explore the issues associated with delivering at home and at hospital

Method: The women who had given birth at home were asked to participate in the study. A written consent was obtained. Participation was voluntary. The data were collected by conducting in-depth interviews with the women using a pre-tested questionnaire developed by the researchers. SPSS software program version 16.0 was used to analyze the data.

Results: The results reveals that out of 100 women interviewed, 84% gave birth to their first child at home and 56 % had all home births. Deliveries conducted by Dai's at home were most common (46%), others were conducted by either female members at home or neighbours (10%). 54% responded that the decision of home delivery was self-made, 27.4% reported the family members specifically the mother in law made the decision. the reasons presented to giving birth at home were 1)poor economic status (2) afraid of doctors/hospitals (3) belief that home is comfortable (4) more trust in TBAs conducting delivery (5) following tradition (6) under peer pressure. In the last two pregnancies, at least one antenatal care visit to an obstetrician/gynaecologist was made by 64% but less than half consulted a doctor for postnatal care(25.5%). 53% stated that home births are not safer and 70% said that they had a better experience of delivering at home. Neonatal deaths were common in cases conducted by TBAs.37% faced complications and problems after their last homebirth. the study reveals that the charges paid in a hospital birth were three times more than the expenses of delivering child at home.

Conclusion: Major barrier to hospital births turns out to be economic constrains and fear of doctors and hospital among women. Women found home more comfortable. We would

to recommend that dialogues are essential to develop good relationships between pregnant women and doctors that will enable to reduce the fear of hospitals among the women of urban slums. Improving relations between the hospitals and TBAs that attend home births would be fruitful. Capacity building of TBAs to conduct safe delivery and to refer the complicated cases to hospital would be beneficial. Health education on the importance of antenatal care and hospital delivery should be emphasized.

Keywords: Home Births, Home Birth Reasons, Tbas (Dai)

11.22**PREVALENCE OF UTERO-VAGINAL PROLAPSE AND ASSOCIATED FACTORS IN RURAL PAKISTAN**

Abdul Hakeem Jokhio¹, Raheela Mohsin Rizvi², Christine MacArthur, Javed Rizvi²
Department of ¹Community Health Sciences, and ²Obstetrics & Gynaecology, Aga Khan University, Karachi

Background: Prevalence studies of utero-vaginal prolapse in general population are rare particularly in developing countries including Pakistan. It is considered to share some of the obstetric risk factors of urinary incontinence.

Objective: The primary aim of the study was to determine prevalence and associated factors of utero-vaginal prolapse in women in rural Pakistan.

Methods: Through cross-sectional approach a multistage random sample of 418 married non-pregnant women aged 15-60 years living in the catchment area of the two public health facilities in rural population selected over a period of 4 months. Interview-based structured questionnaire was used to collect data by female health workers, followed and verified by physical examination. The main outcome measures were utero-vaginal prolapse, prolapse with urinary incontinence and associated variables such as age and parity etc.
Results: Prevalence of utero-vaginal prolapse was found 12.7%. Cases 4.8% were identified along with urinary incontinence. Of all the cases, 62.3% had first degree prolapse, 34% had second degree prolapsed and 3.7% had a third degree prolapse. The highest rate of utero-vaginal prolapse (30%) was found in women of the age between 26-30 years and the highest rate (54.7%) was found in women with Para 1-5 children.

Conclusion: Our findings have shown that among women below 30 years of age 30% were found utero-vaginal prolapse. We also found a high prevalence of utero-vaginal prolapse in women having given birth to one or up to 5 children. There are needs for further investigations in women with special focus on early age group and with less number of children.

Keywords: Prevalence, Utero-Vaginal Prolapse, Associated Factors

11.23

CHILDHOOD INJURIES: PREVENTIVE STRATEGIES FOR CHOKING AND SUFFOCATION.

Rozeena Gillani
Alumni, Aga Khan University, Karachi

Introduction: In spite of getting more attention and concern from society, children are still more prone to unintentional injuries. These injuries include drowning, suffocation, burns, road traffic accident and many more. Over 500 deaths occur every year in the United States due to choking and most of them are children under 14 years.

Objectives: 1. To explore the concept of choking and suffocation. 2. To identify preventive strategies to reduce the incidences of these injuries.

Method: Systematic review of literature from 15 research articles from 2000-2009 was conducted through electronic medium by using Google, PubMed, Blackwell Synergy search engines.

Results: In 2008, injuries resulting from suffocation and choking are among leading killers of Asian children. Choking is the mechanical obstruction of the air flow in lungs which cause hypoxia and ultimate death. Hard foods, inappropriate toys, plastics, clothing, and tool boxes are commonly present in houses and schools which make them vulnerable for choking and suffocation. There are some preventive measure which can reduce the incidences of choking and suffocation in children. Caregivers and parents should be vigilant and supervise their children regularly. Awareness programs should be arranged for parents to make them aware about phenomenon of unintentional injuries. These programs should include CPR and Heimlich maneuver to manage emergency incidences.
Conclusion: Unintentional injuries which include suffocation and choking are major threats for the health and wellbeing of children. Through proper precautions, eradication of this threat from its root can be possible for care givers

Keywords: Suffocation, Childhood Injuries, Choking

11.24

ASSESSMENT OF PROGRAMME FOR TRAINING OF TRAINERS (TOT) OF COMMUNITY MIDWIVES

Rafat Jan¹, Rahat Qureshi², Arusa Lakhani¹, Salma Rattani¹, Laila Sewani¹

¹School of Nursing and ²Department of Obstetrics & Gynaecology, Aga Khan University, Karachi

Introduction: Pakistan has one of the highest maternal and neonatal mortality rates globally. The Government is committed to the Millennium Development Goals and has trained and deployed community midwives (CMW) as skilled birth attendants. To upgrade the teaching of CMWs, 40 Master Trainers were prepared by PAIMAN through a 4-week TOT Programme.

Methodology: A survey was conducted to evaluate the TOT Programme using quantitative and qualitative approaches during September till December 2009. The purpose was to assess the competencies of tutors' after TOT, to define their learning needs, and recommend further training. Thirty tutors were randomly selected from the total list of 150. Principals (12) and 24 students were also included.

Results: Majority of tutors who attended TOT (71 %) were aged 40 and above and 50 % had midwifery experience of 14 years or less. The Principals' and the tutors perceived moderate to great level of improvement after TOT. The least difference was seen in essential clinical competencies and maximum improvement was in knowledge and education skills. Tutors were dissatisfied with lack of follow up after the course. The overwhelming response is a positive reaction to the training of TOT which was conducted by PAIMAN.
Recommendation/Conclusion: Clinical teaching should be strengthened through the TOT Programme. This should include development of contextually appropriate case studies, objective structured clinical examination questions. Principals should

have skills to follow up and further develop the tutors. There is a need to incorporate information technology in the tutor programmes. Overall, all parties appreciate the opportunity for training of trainers.

Keywords: Community Midwifery Programme, Midwifery Tutors, Training of Tutors

11.25**EVERY WOMAN COUNTS**

Nighat Shah¹, Shershah Syed¹, Sarwan²
Departments of¹Obstetrics & Gynaecology, and²Community
Health Sciences, Aga Khan University, Karachi

A Project on Unsafe Miscarriages by Society of Ob/Gyn (SOGP) and Packard Foundation

Introduction: 68, 000 women almost all from developing countries die due to abortion each year. Globally there is pandemic of abortions with nearly 40-50million miscarriages annually. Almost half of them are in unsafe environment. This contributes to 13% of maternal mortality (WHO, policy document). In Pakistan 29 per 1000 women seek miscarriages in reproductive age (pop council 2002).

Objective: To reduce maternal morbidity and mortality in the country by ensuring quality miscarriage services and post abortal care including family planning. Enhancing the knowledge, concepts and skills of health care providers all over Pakistan

Material and methods: This is a three year project and started in Jan 2009. Master trainers and focal persons were trained by SOGP. Meetings were held with stake holders including NGOs, parliamentarians and healthcare providers. Conferences held in all provinces and medical colleges to sensitize youth

Results: The project is working under three headings, which include capacity building, advocacy and networking. Through our workshops we have reached out to 840 health care providers in different cities of Pakistan. These include Gwader, Turbat, Abbotabad, Multan, Sukkhar, Hyderabad, Khairpur, Lahore. The participants in these meeting were doctors, midwives. We have also trained these healthcare providers in safer miscarriages techniques like MVA and medical management.
Conclusion: Through our activities and interactions we have increased awareness regarding medical management and skill development in MVA in healthcare professionals, for safer outcome in miscarriages. There has been a positive change in attitude of policymakers, religious scholars and community leaders. This will help in reducing maternal morbidity and mortality related to unsafe miscarriages.

Keywords: Unsafe Miscarriage, Maternal Mortality, MVA, Manual Vacum Aspiration

11.26**A VERBAL AUTOPSY SURVEY OF PERINATAL, NEONATAL AND POST-NEONATAL MORTALITY IN GILGIT NORTHERN AREAS, PAKISTAN**

Gul Nawaz Khan, Aisha K. Yousafzai, Farrukh Raza, Sajid Bashir Soofi, Zulfiqar A. Bhutta
Department of Paediatrics & Child Health, Aga Khan University, Karachi

Objective: In Pakistan there is little information on perinatal and neonatal deaths in community setting. The goal of this survey was to assist in the identification of the magnitude and major causes of perinatal, neonatal and post-neonatal mortality in Gilgit district using a verbal autopsy survey in order to inform priority setting for child health research and interventions.

Method: A two-stage stratified-random sampling method was used for selection of respondents for verbal autopsy survey. The stratification of villages was done on the basis of the number of households in each village. The project team visited every village at least once quarterly to capture vital statistics like pregnancies, live births, abortions, stillbirths, neonatal and post-neonatal deaths between August 2004 and November 2005.

Results: A total of 92 stillbirths, 124 neonatal deaths and 116 post neonatal deaths were recorded during the surveillance and cross sectional survey in the study areas. The overall perinatal mortality was 66/1000 births, stillbirth rate was 36/1000 births, neonatal mortality was 49/1000 live births and post-neonatal mortality was 46/1000 live births. Forty three percent of deaths occurred at home in the study area. The majority of stillbirths were due to asphyxia conditions as they occurred in the intra-partum period. The main causes of death among neonates were prematurity (30%), neonatal sepsis (18%), asphyxial conditions (17%), and congenital abnormalities (10%). Causes among post-neonates were measles (52%), sepsis (27%), malnutrition (10%), and pneumonia (3%).

Conclusion: Perinatal, neonatal and post-neonatal death rates were much higher than rates in developed countries. Our data suggest that all deaths are preventable with high quality obstetric and immediate newborn care.

Keywords: Perinatal, Verbal Autopsy, Gilgit

11.28

DIFFERENCE IN THE HEALTH CARE SEEKING PATTERN AMONG FAMILIES OF CHILDREN UNDER FIVE YEAR OF AGE WHO DIE OF SEVERE DIARRHEA COMPARED TO THOSE WITH NON-FATAL DIARRHEA-A CASE CONTROL STUDY IN THE SEMI URBAN AREAS OF KARACHI

Umber Zaman¹, Anita Zaida¹, Baber Sheikh², Iqbal Azam²
Departments of¹Paediatrics & Child Health, and²Community Health Sciences, Aga Khan University, Karachi

Introduction: Despite the considerable reduction in the number of deaths due to diarrhea, children under five years of age still die of diarrhea each year, most of these occurring in middle and low income countries. For preventing diarrhea in the settings where it is a leading cause of death requires both effective technology and methods to change behavior. It is therefore imperative to study the determinants of health care seeking for addressing better future strategies. We therefore aim to study the provision of appropriate and prompt care among families of children under five year of age who die of severe diarrhea compared to those with non-fatal diarrhea. The study participants of this case control study are identified from the ongoing surveillance system and interviewed through a questionnaire to inquire for the determinants of health care seeking behavior. Cases include families of children 0-59 months who died of developing severe diarrhea and their age and neighborhood matched controls include families of children 0-59 months with severe diarrhea who survived after a severe diarrhea episode. The results of the study will help to conclude that appropriate and prompt care seeking behavior of families can reduce the childhood mortality due to diarrhea. The findings of having a consistently low knowledge and use of health care facility for childhood diarrhea, pattern of changing healers quickly, using traditional healers or unqualified doctors can provide relevant information to policy makers to plan appropriate health care services to make it more accessible and acceptable.

Keywords: Severe Diarrhea, Appropriate & Prompt Care, Selatj Care Seeking

11.29

NEONATAL MORTALITY AND PREVALENCE OF PRACTICES FOR NEWBORN CARE IN SQUATTER SETTLEMENTS OF KARACHI, PAKISTAN: A CROSS-SECTIONAL STUDY

Afsheen Ayaz¹, Sarah Saleem²
Departments of¹Pathology & Microbiology, and²Community Health Sciences, Aga Khan University, Karachi

Objective: During past decades there was sustained decline in child and infant mortality. However neonatal mortality remained relatively unchanged, due to lack of emphasis on conditions which cause death during first 28 days of life. These deaths could be prevented by simple, inexpensive

practices during antenatal, intrapartum and postnatal period. In Pakistan where majority of deliveries are conducted at homes there is dearth of knowledge on community practices. This study provides an insight on burden of neonatal mortality and prevalence of practices for newborn care in squatter settlements of Karachi, Pakistan.

Method: Pre-tested questionnaire administered to recently delivered women to collect information on neonatal morbidity, mortality and practices of women during pregnancy, child birth and for newborn care.

Results: Antenatal care seeking from skilled provider was common (70%) but only half (54.5%) took appropriate care. Tetanus toxoid was received by 79% women during pregnancy. Only 56% delivered at facility by skilled attendant. Unhealthy newborn care practices like bathing immediately after birth (56%), pre-lacteals (79.5%), late initiation of breast feeding (80.3%), application on umbilical cord (58%), body massage (89%) were common. Most neonates (81.1%) were vaccinated after birth. Neonatal mortality was 27/1000 live births with majority of deaths on first three days of life.

Conclusion: Practices at grass root level have not changed much even after years of massive efforts. Inadequate antenatal care and home deliveries are still common and unhealthy newborn care practices are highly prevalent. This leads to important questions of why behaviors have not changed. What strategies are needed to bring this change?

Keywords: Newborn, Care, Practices

11.30

USE OF MISOPROSTOL BY TRAINED TRADITIONAL BIRTH ATTENDANTS TO PREVENT POSTPARTUM HAEMORRHAGE IN HOMEBIRTHS IN PAKISTAN: A RANDOMISED PLACEBO-CONTROLLED TRIAL

Naushaba Mobeen¹, Jill Durocher², Nadeem F. Zuberi³, Juanita Hatcher¹,
Departments of¹Community Health Sciences, ²Obstetrics & Gynaecology, Aga Khan University, Karachi and ³Gynuity Health Projects, New York, USA

Objective: To determine if misoprostol is safe and efficacious in preventing postpartum haemorrhage (PPH) when administered by trained traditional birth attendants (TBA) at home deliveries.

Method: Design: A randomised, double-blind, placebo-controlled trial Setting: Chitral, North-West Frontier Province, Pakistan Population: A total of 1,395 women delivering at home Methods: From October 2005 to June 2008, consenting women were randomised to receive 600mcg oral misoprostol (n=717) or placebo (n=678) after delivery to determine whether misoprostol reduced the incidence of PPH (≥ 500 mL). Main outcome measures: The primary outcomes were measured blood loss ≥ 500 mL after delivery and drop in Hb > 2 g/dL pre- to post-delivery.

Results: Oral misoprostol was associated with a significant reduction in the rate of PPH (≥ 500 mL) (16.5% versus 21.9%; relative risk 0.76 95% CI 0.59-0.97). For every 19 women

given misoprostol, one case of PPH (=500 mL) was averted. Fewer women in the misoprostol group had a drop in Hb >2 g/dL, compared to placebo (18.5% versus 22.6%; relative risk 0.82 95% CI 0.67-1.01). Shivering and chills were significantly more common with misoprostol. There were no maternal deaths among participants.

Conclusion: Postpartum administration of 600 mcg oral misoprostol by trained TBAs at home deliveries reduces the rate of PPH by 24%. Given its ease of use and low cost, misoprostol could reduce the burden of PPH in community settings where universal oxytocin prophylaxis is not always feasible. Monitoring and evaluation should accompany any widespread introduction of this drug and future research should document its program effectiveness.

Keywords: Misoprostol, Postpartum Haemorrhage (Pph), Traditional Birth Attendants (Tbas)

11.31

EMPOWERING CIVIL SOCIETY TO ADVOCATE FOR POLITICAL COMMITMENT TO ADDRESS THE REPRODUCTIVE HEALTH AND RIGHTS OF POOR PEOPLE IN PAKISTAN- RESULTS OF PROGRAM EVALUATION

Naushaba Mobeen¹, Muhammad Afzal Mahmood², Insha Hamdani³

¹Department of Community Health Sciences, Aga Khan University, Karachi, ²University of Adelaide, Australia, and ³Marie Stopes Society, Karachi

Objective: A team of public health and reproductive health consultants reviewed a community based project implemented by a NGO in Pakistan. The project purpose was to promote public awareness of Sexual and Reproductive Health and Rights (SRH) and to mobilise poor communities to advocate with the stakeholders to increase their commitment to SRHR and the project was conducted in two provinces of Sind and Punjab from 2004-8. The focus of the project activities was on improving knowledge, attitude and practices with regard to sexual and reproductive health and rights and mobilise poor communities particularly women and young people to advocate for commitment to and services for SRHR from key decision makers. The project aim was to work towards implementation of government policies on SRH and rights at the local, provincial and federal level.

Method: The evaluation team conducted 9 in-depth interviews with the national stakeholders and 20 focus group discussions with the project teams, partners and stakeholders. The project proposal, monitoring and event reports, log frame, baseline survey, and mid term evaluation data were reviewed for the purpose of this evaluation

Results: The project achieved, to a large extent, its aims. The careful selection of communities contributed to the aim of promoting equity. The project activities contributed toward the desirable impact that whole populations of the target areas achieve and enjoy their SRH rights. Achieving this impact fully will take time considering the baseline situation. The project teams successfully networked with local stakeholders to raise awareness, strengthen capacity for advocacy, and

create an enabling environment. Additionally, the project team worked with the provincial and national government departments, and non-government organisations that promote policy development and rights for better SRH status. The project team provided relevant trainings to a large number of youth and other community members, health care providers and members of CBOs for community action to raise awareness and do advocacy work. The project has, indeed, created a community action momentum towards the goal but four years is relatively a short time for an advocacy project to achieve such impacts considering the social, cultural and health service access context in particular. The project faced challenges such as negative perceptions due to some aspects of the existing RH programs, opposition to SRH by some of the stakeholders, difficulty to achieve gender equity within the current socio-cultural constraints, inadequate public sector services, and relatively limited funds to mobilise the community. **Conclusion:** Such advocacy work with the disadvantaged communities is feasible despite the perceived resistance; the participatory process involving locals, developing trust and working together for action is the key. Despite many commonalities, each community has its unique set of cultural and social factors which require attention. In light of the findings, expansion and continuation of such work in the project and other communities, and integration of such advocacy initiatives with other RH service programs are recommended.

Keywords: SRHR, Advocacy, Pakistan

11.32

EFFECT OF ADMINISTRATION OF ANTIHELMINTHICS FOR SOIL TRANSMITTED

Quratulain Humayun¹, Batoool Haider², Zulfiqar Bhutta²
Department of ¹Community Health Sciences, and ²Paediatrics & Child Health, Aga Khan University, Karachi

Objective: Helminthiasis is infestation of the human body with parasitic worms and it is estimated to affect 44 million pregnancies, globally, each year. Intestinal helminthiasis is associated with blood loss and decreased supply of nutrients for erythropoiesis, resulting in iron deficiency anaemia. Over 50% of the pregnant women in low- and middle-income countries suffer from iron deficiency anaemia. Though iron deficiency anaemia is multifactorial, hook worm infestation is a major contributory cause in women of reproductive age in endemic areas. Anthelmintics are highly efficacious in treating hook worm but evidence of their beneficial effect and safety, when given during pregnancy, has not been established. To determine the effects of administration of anthelmintics for soil transmitted helminths during the second or third trimester of pregnancy on maternal anaemia and pregnancy outcomes

Method: Types of studies All randomised controlled trials assessing the effects of administration of anthelmintics during the second or third trimester of pregnancy, irrespective of language or publication status were included in the review. Both individual randomised and clusterrandomised trials were included. Quasi-randomised trials were excluded from the

review. Types of outcome measures: Maternal outcome 1. Anaemia (haemoglobin less than 11 g/dl) Pregnancy outcomes 1. Low birthweight (less than 2500 grams) 2. Preterm birth (birth before 37 weeks of gestation) 3. Perinatal mortality 4. Infant survival at six months Search strategy We searched the Cochrane Pregnancy and Childbirth Group's Trials Register (September 2008). Data collection and analysis Two review authors independently assessed trial quality and extracted the data.

Results: Three studies (1329 women) were included in this review. Analysis showed that administration of a single dose of antihelminth in the second trimester of pregnancy is not associated with any impact on maternal anaemia in the third trimester (risk ratio (RR) 0.90; 95% confidence interval (CI) 0.68 to 1.19, random effects (2 studies, n = 1075)). Subgroup analysis on the basis of co-interventions other than antihelminthics which included iron supplementation given to both groups in the study by Larocque et al, and a subset of the study by Torlesse et al, showed that a single dose of antihelminth along with iron supplementation throughout the second and third trimester of pregnancy was not associated with any impact on maternal anaemia in the third trimester as compared to iron supplementation alone (RR 0.76; 95% CI 0.39 to 1.45, random-effects (2 studies, n = 1017)). No impact was found for the outcomes of low birthweight (RR 0.94; 95% CI 0.61 to 1.42 (1study; n = 950)), perinatal mortality (RR 1.10; 95% CI 0.55 to 2.22 (2 studies, n = 1089)) and preterm birth (RR 0.85; 95% CI 0.38 to 1.87 (1 study, n = 984)). Impact on infant survival at six months of age could not be evaluated because no data were available.

Conclusion: The evidence to date is insufficient to recommend use of antihelminthics for pregnant women after the first trimester of pregnancy. More well-designed, large scale randomised controlled trials are needed to establish the benefit of antihelminthic treatment during pregnancy.

Keywords: Helminthiasis, Maternal Anemia, Erythropoiesis

11.33

FIRST TRIMESTER THREATENED MISCARRIAGES AND RELATED OBSTETRICAL COMPLICATIONS

*Samina Ahmed, Rahat Najam Qureshi
Department of Obstetrics & Gynaecology, Aga Khan University, Karachi*

Objective: To assess the effect of first trimester threatened miscarriage on pregnancy outcomes.

Method: A Prospective Cohort study was conducted from March 2007-April 2008. A total of 1,365 women with singleton viable pregnancies confirmed on ultrasound were recruited for the study. 273, pregnant ladies with threatened miscarriage were considered in the Exposed group and 1,092 women who had no threatened miscarriage were considered in Un-Exposed group.

Results: Threatened miscarriage was found to be significantly associated with complications like PPRM (RR=3.64, p <0.001), Abruptio placenta (RR=3.46, p<0.001), Placenta previa (RR=2.57, p=0.001), Gestational hypertension (RR=1.96, p<0.001), Preterm birth (RR=3.79, p<0.001), Intrauterine Growth Retardation (RR=3.02, p<0.001) and

Pregnancy loss (RR=4.31, p <0.001). It also increases the risk of Cesarean sections (RR=1.43, p=0.025) and NICU admissions (RR=3.45, p<0.001).

Conclusion: Patients with threatened miscarriage are at increased risk of adverse pregnancy outcomes like PPRM, preterm birth, IUGR, gestational hypertension and placental complications (abruptio placenta and placenta previa). The risk of cesarean delivery, NICU admission and spontaneous pregnancy loss is also increased in this group.

Keywords: Threatened Miscarriage, Preterm Birth, Placental Abruptio

11.34

PEDIATRIC TRACHEOSTOMY: COMPLICATIONS AND ROLE OF HOME CARE IN A DEVELOPING COUNTRY

*Muhammad Arshad¹, Sadaf Zia², Zafar Nazir¹, Sohail Awan¹
Department of ¹Surgery, Aga Khan University, Karachi and ²Liaquat National hospital, Karachi*

Introduction: Tracheotomy in its earlier days was most commonly performed for acute airway infection in children. Its indications are now changing; it is being now most commonly being performed for congenital malformations (1) This shift in indication has increased the rate of survival of such patients and therefore the number of children going home with tracheostomy has also increased.

Objective: This study was conducted (1) To see the pattern of indication and complications in our part of the world (2) the rate at which tracheostomy can help in weaning off ventilator (3) The feasibility of sending these children home with tracheostomy.

Materials & Methods: A retrospective study was done on 127 patients. The indications, final outcome and the complications encountered in and outside the hospital was studied through review of charts.

Results: The main indication was prolonged ventilation group (PV) 61% followed by mechanical obstruction group (MO) 22%, the last being adjunct to surgery group (AS) 17%. The in hospital complication rate was 30% and at home was 18.11%; these complications included upper respiratory tract infections, blockage or displacement of tubes as the most common ones. The late complication rate was 4%. Hundred (78.8%) of the patients on the ventilator could be successfully weaned off ventilator with a p-valve of 0.001. Eighty one patients were sent home with tracheostomy Tube (TT). Forty of these were successfully decannulated. The overall decannulation rate was 48.8%.

Conclusion: We still have of a large number of tracheostomies done for PV group in order to reduce the intensive care unit (ICU) stay and to prevent nosocomial infections. The need arises from the high cost of prolonged stay in an ICU setup is a cause of major economic burden and lack of financial assistance for these patients worsens the scenario. Home care of the tracheostomy tubes remains a good option for the patients requiring long periods of time to overcome their primary pathology

Keywords: Pediatric Tracheostomy, Complications, Home Care

11.35**FIRST STUDY OF UTERINE ARTERY DOPPLER SCREENING IN THE SECOND TRIMESTER FOR PREDICTION OF ADVERSE PREGNANCY OUTCOME IN HIGH-RISK PAKISTANI WOMEN**

Nuruddin Mohammed, Rahat Qureshi, Rozina Nuruddin, Lumaan Shiekh
Department of Obstetrics & Gynaecology, Aga Khan University, Karachi

Objective: The aim of this prospective study was to assess the role of uterine artery Doppler (UtAD) studies in high-risk pregnancies in the second trimester for prediction of adverse pregnancy outcomes such as intra-uterine-growth-restriction (IUGR), gestational hypertension (GH), pre-eclampsia (PE), stillbirth and placental-abruption.

Method: UtAD studies were performed between 16-23 weeks of gestation in singleton high-risk pregnancies. Each woman had only one UtAD ultrasound. Pregnancies with diagnosed fetal abnormalities were excluded. Data from 219 high-risk women were evaluated. **Results:** Mean maternal age was 29 years (SD 5.1). Mean gestational age for UtAD and for delivery was 20 weeks (SD 2.43) and 37 weeks (SD 2.85), respectively. Average birth-weight was 2.63kg (SD 0.72). The estimated prevalence of adverse pregnancy outcome was 45%. For all outcomes, the test positive and negative predictive values were 59% (95%CI: 51%, 66%) and 96% (95%CI: 86%, 99%) respectively and the test sensitivity and specificity were 98% (95%CI: 92%, 99%) and 44% (95%CI: 35%, 53%), respectively. Sixty-nine women (32%) had IUGR, 15 (7%) and 28 (13%) developed GH and PE respectively. There were two (1%) placental abruptions and stillbirths, respectively. The conventional positive and negative likelihood ratios were 1.75 (95%CI: 1.49, 2.06) and 0.05 (95%CI: 0.01, 0.18).

Conclusion: Uterine artery Doppler studies is a useful tool in the second trimester for prediction of adverse outcomes in at-risk pregnancies with high negative predictive values.

Keywords: Uterine Artery Doppler Screening, High Risk Pregnancies, Adverse Pregnancy Outcome

11.36**DOES UTERINE ARTERY DOPPLER SCREENING IN THE SECOND TRIMESTER HAS ANY ROLE FOR PREDICTION OF ADVERSE PREGNANCY OUTCOME IN LOW-RISK PAKISTANI WOMEN?**

Nuruddin Mohammed¹, Rahat Qureshi¹, Rozina Nuruddin², Lumaan Shiekh¹
Departments of ¹Obstetrics & Gynaecology, and ²Community Health Sciences, Aga Khan University, Karachi

Objective: This prospective study aimed to evaluate the role of uterine artery Doppler (UtAD) studies in low-risk pregnancies in the second-trimester for prediction of adverse-pregnancy-outcome such as intra-uterine-growth-restriction (IUGR), gestational hypertension (GH), pre-eclampsia (PE), stillbirth and placental-abruption.

Method: UtAD studies were performed at 20-23 weeks of gestation in singleton low-risk pregnancies who presented for routine anomaly screening. Low-risk-pregnancy was defined by exclusion of following conditions: Essential-hypertension, diabetes-mellitus, anti-phospholipid syndrome, systemic-lupus-erythomatosus; age <20 and >40 years; previous pregnancy-induced-hypertension, pre-eclampsia, diabetes-mellitus, stillbirth, and placental-abruption; mother/sister hypertensive and pregnancies with diagnosed fetal abnormalities. Data from 68 low-risk women were evaluated.

Results: Mean maternal age was 28 years (SD 4.63). Mean gestational age for UtAD and for delivery was 20 weeks (SD 2.18) and 36 weeks (SD 2.89), respectively. Average birth-weight was 2.63kg (SD 0.70). The estimated prevalence of adverse-pregnancy-outcome was 31%. All cases were of IUGR only. For all outcomes, the positive and negative-predictive-values of the Doppler were 46% (95%CI: 30%, 63%) and 87% (95%CI: 69%, 96%), respectively and the test sensitivity and specificity were 81% (95%CI: 57%, 94%) and 57% (95%CI: 42%, 71%) respectively.

Conclusion: In low-risk population, uterine artery Doppler studies is of limited diagnostic value. However, for those with negative test results, there is a very low-risk of developing adverse pregnancy outcome suggesting need for less intensive antenatal care to be offered to such patients.

Keywords: Uterine Artery Doppler Screening, Low Risk Pregnancy, Adverse Pregnancy Outcome

11.37**EFFECT OF HIGHLY ACTIVE ANTIRETROVIRAL THERAPY (HAART) ON THE HEIGHT AND WEIGHT OF HIV-1 INFECTED CHILDREN: A SYSTEMATIC REVIEW**

Muhammad Bilal Siddiqui
Department of Paediatrics & Child Health, Aga Khan University, Karachi

Objective: Acquired Immunodeficiency Syndrome (AIDS) continues to be a global public health concern in the recent era, especially among children. Association between HIV-infection and child growth has been researched worldwide and strong evidence exists that paediatric HIV-infection leads to physical growth failure. The advent of highly active antiretroviral therapy (HAART) has revolutionized the care of HIV-infected patients. Several researchers have tried to identify the effects of HAART on the changes in physical growth parameters among HIV-infected children. However, the results have been contradictory, which led us to develop a systematic review focusing the effect of HAART on the changes in physical growth parameters among HIV-infected paediatric population.

Method: This systematic review has focused on the studies comparing pre and post-HAART z-scores of height-for-age and weight-for-age of HIV-infected children (aged between 0 to 18 years). To identify such studies, a search strategy was established which could not revealed any relevant systematic

review and RCT. Hence cohort studies were selected. The methodological quality of these potential cohort studies was assessed using SIGN-50 checklist. Nine cohort studies were qualified to be included in this review.

Results: Although only one out of nine selected studies identified a decreasing trend, rest of the 8 studies identified an improvement in height-for-age and weight-for-age z-scores after the introduction of HAART among HIV-infected children.

Conclusion: The review thus concludes that HIV related growth retardation improves with the introduction of HAART among HIV-infected children. Comparatively, height takes slightly more time to regain than weight.

Keywords: HAART, Growth, Paediatric

11.38 AGE AT MENOPAUSE AND LIFESTYLE CHARACTERISTICS OF MENOPAUSAL WOMEN, KARACHI PAKISTAN

*Sameera Ali Rizvi, Fatima Jalil, Iqbal Azam, Uzma Shamsi
Department of Community Health Sciences, Aga Khan
University, Karachi*

Objective: To determine age at menopause and examine lifestyle characteristics among women in Karachi, Pakistan.

Method/Methodology: A Cross Sectional survey was conducted among women of 40-60 years living in different areas of Karachi. Information was gathered on body mass index, exercise, food consumption and co-morbid status. Systematic sampling technique was used.

Results: The mean age at menopause was 45.2 (± 3.8) years. Around 96% had sedentary lifestyle with little exercise and 80% had their Body Mass Index ≥ 23 . Approximately 74% had arthritis, hypertension and diabetes

Conclusion: The high percentage of women with diabetes and hypertension in this age group is alarming. An urgent attention to health needs of menopausal women is needed.

Keywords: Age, Menopause, Lifestyle

11.39 VITAMIN D DEFICIENCY IN PREGNANT WOMEN AND NEONATES IN PAKISTAN

*Shaheena Anwar¹, Zulfiqar Bhutta¹, Perwaiz Iqbal²
Departments of ¹Paediatrics & Child Health, and ²Biological
& Biomedical Sciences, Aga Khan University, Karachi*

Abstract: Vitamin D deficiency is fast emerging as an important but under-recognized problem globally. Nearly a billion people worldwide are either vitamin D deficient or insufficient. Vitamin D deficiency is most likely to occur in Pakistanis, Hindu Indians, and East Africans and in vegetarians. It is also common in dark skinned people living in Northern countries. To illustrate, an estimated 30%- 50% children and adults in Saudi Arabia, Australia, Turkey, India, Southern Florida and

around 50% of young people living in Northern latitude have been reported to be deficient

Keywords: Vitamin D Deficiency, VDR Polymorphism, Pregnant Women

11.40 PROSPECTIVE CLUSTER RANDOMIZED CONTROLLED EVALUATION OF IMPACT OF ZINC AND/ OR MICRONUTRIENTS SUPPLEMENTATION ON CHILDREN OF 6 TO 18 MONTHS OF AGE

*Tauseefullah A, Mohammad U Soomro, Soofii SS, Bhutta ZA
Department of Paediatrics & Child Health, Aga Khan
University, Karachi*

Introduction: Zinc supplementation plays a vital role in decreasing the incidences and episodes of diarrhea, but the exact mechanism of action is not understood. To better understand the mechanisms by which zinc supplementation effects growth and morbidity patterns in young children, we are conducting a study to evaluate the impact of Zinc and / or micronutrient on growth, morbidity pattern and outcomes among children between ages of 6 -18 months. In a sub set of children within the cohort, we are evaluating the intestinal microbial flora colonization and intestinal permeability

Methods: The study is a prospective cluster randomized controlled evaluation of impact of Zinc and/ or Micronutrients supplementation on intestinal flora, diarrhoeal disease burden, intestinal mucosal integrity and growth in children aged 6-18 months. The study is being conducted in district Matiari and Bilal Colony, Karachi representing rural and semi urban areas respectively. The cases are recruited from the age of one month to 3 months and are enrolled in to 3 groups: A control, B & C Receive zinc and or micronutrients respectively. Primary outcomes measures include, weight for age, height for age, weight for height z scores and intestinal permeability at 3, 6, 9 and 12 months post-supplementation.

Results: Presently recruitment target of 2100 is complete and follow ups are in progress.

Conclusion: Study will be completed by the end of October 2010 and by that time we shall be able to determine exact mechanism of action of Zinc.

Keywords: Randomized Control Trial, Micronutrients, Zinc

11.42 A CLUSTER RANDOMIZED TRIAL OF COMMUNITY CASE MANAGEMENT OF SEVERE PNEUMONIA WITH ORAL AMOXICILLIN IN CHILDREN 2-59 MONTHS IN MATIARI DISTRICT, PAKISTAN

*Sheraz Ahmed, Sajid Soofi, Zulfiqar A. Bhutta
Department of Paediatrics & Child Health, Aga Khan
University, Karachi*

Introduction: In 2001, 19% of the 560,000 under-five deaths reported in Pakistan were due to pneumonia. The standard protocol for the treatment of severe pneumonia is either

injectable antibiotics or referral to a health facility. In rural communities of Pakistan this treatment modality is not possible due to a lack of resources and inaccessible health facilities. Therefore, we aim to determine whether enhanced community management of severe pneumonia among children aged 2–59 months by Lady Health Workers (LHWs) with oral amoxicillin will improve the proportion of clinical treatment failures by day 6 compared with the current standard of care consisting of referral to a health facility.

Methods: A prospective, unblinded two arm cluster randomized trial is being conducted in 18 Union Councils of Matiari District, Sindh. Children who present with a history of cough or difficult breathing are being assessed by the LHW and classified as having no pneumonia, pneumonia, severe pneumonia or very severe disease. Follow-up of enrolled cases continues until resolution of the morbid episode every 48 hours. The required sample size is 5223 and to date 1880 and 1322 children are enrolled in intervention and control arms respectively.

Results: Preliminary analysis shows the treatment failure in the intervention arm is 6.3 % (n=119) and 5 % (n=72) in control arm. The study will continue until March 2010.
Conclusions: It is expected these data will demonstrate whether community based management is feasible and effective, thereby improving access to early management of pneumonia in Pakistan.

Keywords: Severe Pneumonia, Amoxicillin, Lady Health Worker

11.43

PATTERN OF PEDIATRIC TRAUMA AT A TERTIARY CARE HOSPITAL IN KARACHI, PAKISTAN

Omair Shakil¹, Umair Zafar Malik¹, Ghulam Rehman Mohyuddin¹, Anwar-ul-Haq²

¹Medical College, and Department of²Paediatrics & Child Health, Aga Khan University, Karachi

Objective: Injuries are a leading cause of morbidity and mortality among children. Injured children place an enormous burden on the health-care system of developing countries, where resources are scarce. Lack of data regarding characteristics of injuries in the pediatric population of the country impedes the development of tailored preventive programs and effective policy guidelines. To identify the patterns of injury, in terms of site, type, and mechanism of injury, among children of various age groups presenting to the Emergency Department of a tertiary care hospital in Karachi, Pakistan.

Method: We conducted a retrospective review of patient medical records at Aga Khan University Hospital, Karachi, from October 2006 to October 2009 and all patients aged <14 years, presenting with trauma were selected. Information was collected regarding demographics, clinical presentation, and characteristics of trauma, hospital stay, and outcomes. Data was entered and analyzed in SPSS version 17.0.
Results: The sample was 501 patients with a mean age of 5.3 years. 66% were males and 34% were females. 10.6% had

polytrauma and 9% had major trauma. Open wounds were the commonest type of trauma. Among all three age groups (<5 years, 5-8 years, 9-14 years) head was the commonest site of trauma and fall was the commonest mechanism of injury. Most injuries occurred at home. 36.3% of patients underwent an operative procedure.

Conclusion: The pediatric trauma pattern identified at our centre should act as a stimulus for instituting preventive programs that raise awareness about head safety in children and making homes safer for minors.

Keywords: Pediatric Trauma, Head Injury, Head Safety

11.44

REVISED TRAUMA SCORE (RTS) AS A PREDICTOR OF OUTCOME IN PEDIATRIC TRAUMA PATIENTS: A RETROSPECTIVE REVIEW AT A TERTIARY CARE HOSPITAL IN KARACHI, PAKISTAN

Umair Zafar Malik, Omair Shakil, Ghulam Rehman Mohyuddin, Anwar-ul-Haq
Medical College, Aga Khan University, Karachi

Objective: Trauma scores help better classify trauma patients, and assist in clinical decision-making. The Revised Trauma Score (RTS) is widely used internationally but its effectiveness as a tool for predicting outcome in pediatric trauma patients in our local setting, has yet to be established, mainly owing to lack of use. To test the hypothesis that RTS is an effective predictor of outcome in pediatric trauma patients in Pakistan.

Method: We conducted a retrospective review of patient medical records at Aga Khan University Hospital, Karachi, from October 2006 to October 2009 and all patients aged <14 years, presenting with trauma were selected. Information was collected regarding demographics, vital signs at the time of presentation, length of stay (LOS) in the ward, ICU and the hospital, complications during hospital stay and mortality. Data was entered and analyzed in SPSS version 17.0.
Results: The sample was 501 patients with a mean age of 5.3 years. 66% were males and 34% were females. Using available data, RTS was calculated for 394 patients, who were then divided into two groups based on the RTS. For 32 patients with a RTS =10, the length of stay in the ward, ICU and the hospital were all shorter than the 363 patients with a RTS >10 (p-value <0.001).

Conclusion: In our local setting, RTS is a good predictor of outcome in pediatric trauma patients. It can aid in the assessment of severity of injury in, and objective assessment and triaging of, pediatric trauma patients.

Keywords: RTS, Pediatric, Trauma

11.45 THE IMPACT OF FETAL MOVEMENT MONITORING ON STILLBIRTHS

Mohammad Yawar Yakoob¹, Saad Siddiqui², Zulfiqar Ahmed Bhutta¹
Department of ¹Paediatrics & Child Health, ²Medical College,
Aga Khan University, Karachi

Background: Fetal movement counting is the oldest method of monitoring fetal well-being. It is an indicator of the central nervous system integrity. Fetal hypoxia can lead to reduction in fetal movements, which when perceived by mother, can indicate fetal compromise or impending fetal death. This may identify complications early enough for the clinician to conduct additional tests and interventions to be brought into effect to save the fetus.

Methods: A systematic search of PubMed and Cochrane Database of Systematic Reviews was conducted up to June 2009 to collect studies showing impact of fetal movement monitoring on stillbirths or perinatal mortality. Data from these studies were abstracted into standardized tables with quality assessment by adapted GRADE criteria according to the CHERG rules.

Results: A total of 994 hits were identified from our search strategy, of which 17 reviews and studies were finally chosen. The Cochrane review identified comprised 3 RCTs, but varied comparisons did not allow outcome pooling. The largest trial by Grant et al. failed to show a significant benefit of routine fetal movement monitoring on stillbirths. Some before-after and observational studies do, however, show that reduced fetal movements were associated with a higher risk of stillbirths.
Conclusion: Universal use of routine fetal movement monitoring is not indicated. It may be beneficial in high-risk pregnancies, especially those with placental insufficiency, to detect danger signs early and allow enough time for additional tests and interventions to be brought into effect. More randomized trials are needed for determining which method of formal monitoring would be the most effective.

Keywords: Fetal Movement Monitoring, Stillbirths, Perinatal Mortality

11.46 NOSOCOMIAL INFECTIONS AFTER PEDIATRIC CARDIAC SURGERY IN PEDIATRIC CARDIAC INTENSIVE CARE UNIT

Omair Shakil¹, Naveed-ur-Rehman Siddiqui², Dr Anwar-ul-Haq²
¹Medical College, and ²Paediatrics & Child Health, Aga
Khan University, Karachi

Objective: Nosocomial infection (NI) represents a major complication in children undergoing cardiac surgery. Postoperative NI is associated with increase cost and increased utilization of medical resources. To determine the frequency of Nosocomial infection after cardiac surgery, the organism responsible, and the final outcome

Method: This was a cross-sectional study. Between January 2008 and June 2009, all patients, aged <14 years who

underwent cardiac surgery, were admitted to the PCICU Unit at The Aga Khan University Hospital, Karachi for >48 hours and tested positive for NI, were registered through a structured questionnaire which included questions on demographics, type of congenital heart disease, Risk Associated Cardiac Heart Surgery (RACHS) 1 scoring, site and organism of NI, duration of mechanical ventilation (MV), central venous catheter (CVC), and Foleys catheter (FC), length of PCICU stay and the final outcome.

Results: The overall frequency of NI was 9.6% (22/230). 68% were male and 32% were female with mean ages of 3.8 and 2.4 years, respectively. The common sites of NI were Ventilator associated pneumonia (40.9%), Bloodstream infection (36.4%), and Surgical site infection (9.1%). Gram negative bacteria were implicated in 66% cases, Gram positive bacteria in 2% cases and fungi in 6% cases. Staphylococcus Epidermidis (18.8%), Acinetobacter (12.5%) and Pseudomonas Auregunosa (12.5%) were the commonest causative organism. The mortality among patients with NI was 18.2%.

Conclusion: NI after cardiac surgery causes increased morbidity and mortality. To improve outcome among pediatric patients undergoing cardiac surgery, adequate measures need to be instituted to effectively prevent and manage NI.

Keywords: Nosocomial Infection, Pediatric Cardiac Intensive Care Unit, Pediatric Cardiac Surgery

11.48 EFFECT OF BALANCED PROTEIN ENERGY SUPPLEMENTATION DURING PREGNANCY ON BIRTH OUTCOMES

Aamer Imdad, Yawar A Yakoob, Zulfiqar A Bhutta
Department of Paediatrics & Child Health, Aga Khan
University, Karachi

Objective: The nutritional status of the mother prior to and during pregnancy plays a vital role in fetal growth and development, as well as her own health during and following pregnancy. In contrast to high protein supplements, balanced protein/energy (BEP) supplementation during pregnancy has been shown to have a positive impact on maternal and perinatal outcomes. This paper is a part of a series of reviews undertaken for getting estimates of effectiveness of an intervention (in this case balanced protein/energy supplementation) for input to Lives Saved Tool (LiST) model.

Method: We searched electronic data bases like PubMed, Cochrane Library and WHO regional data bases to identify RCTs and quasi RCTs that evaluated the impact of balanced protein/energy supplementation in pregnancy on the incidence of small for gestational age babies (SGA) and neonatal mortality. Quality of evidence was evaluated according to the Child Health Epidemiology Reference group (CHERG) adaptation of GRADE criteria

Results: The final number of studies included in our review was six comprising of both RCTs and quasi-RCTs. Our meta-analysis indicates that providing pregnant females with balanced protein/energy supplementation resulted in a significant reduction in the risk of giving birth to small for gestational age infants (RR=0.69, 95% CI 0.56 to 0.85). This effect was statistically significant among undernourished

women (RR = 0.67, 95% CI: 0.53 – 0.84), but not in women with adequate nutritional status (RR = 0.79, 95% CI: 0.50 – 1.26). There was no effect on neonatal mortality (RR= 0.63, 95% CI 0.37 to 1.06) in the reported studies.

Conclusion: Providing pregnant females with balanced protein/energy supplementation leads to reduction in risk of small for gestational age infants, especially among undernourished pregnant women. Given these findings, we can recommend BEP as an intervention among undernourished women for inclusion in the LiST model with a point estimate of 33% reduction in SGA.

Keywords: Balanced Protein/Energy Supplement, Pregnancy, Small For Gestational Age

11.49

ROLE OF CALCIUM SUPPLEMENTATION DURING PREGNANCY IN REDUCING RISK OF DEVELOPING GESTATIONAL HYPERTENSIVE DISORDERS: A META-ANALYSIS OF STUDIES FROM DEVELOPING COUNTRIES

*Aamer Imdad, Yawar A Yakoob, Zulfiqar A Bh utta
Department of Paediatrics & Child Health, Aga Khan
University, Karachi*

Objective: Calcium supplementation in pregnancy is an effective intervention for reduction of gestational hypertension and associated complications, though the effect varies based on baseline calcium intake and pre-existing risk factors. Purpose of this review was to evaluate preventive effect of calcium supplementation during pregnancy on gestational hypertensive disorders in developing countries. **Method:** A literature search was carried out on electronic databases like PubMed, Cochrane Library and WHO regional databases. Identified studies were graded based on strengths and limitations of studies. All the included studies were from developing countries. Meta-analyses were generated where data were available from more than one study for an outcome. Primary outcomes were maternal mortality, eclampsia, pre-eclampsia, and severe preeclampsia. Adverse pregnancy outcomes like perinatal mortality, preterm birth, and low birth weight were also evaluated. We followed standardized guidelines of Child Health Epidemiology Reference Group (CHERG) to generate estimates of effectiveness of calcium supplementation during pregnancy in reducing maternal and neonatal mortality in developing countries, for inclusion in the Lives Saved Tool (LiST).

Results: Data from 10 randomized controlled trials were included in this review. Analysis showed that calcium supplementation was associated with a reduction of 59% (95 % CI 33 % to 64 %) in the risk of pre-eclampsia and 45 % (95 % CI 15 % to 64 %) reduction in risk of gestational hypertension in developing countries. Calcium supplementation was also associated with a significant reduction in risk of pre-term birth [RR 0.88, 95 % CI 0.78-0.99] in developing countries. Pooled results for risk of perinatal mortality [RR0.86, 95 % CI 0.69-1.06] and low birth weight [RR 0.81, 95 % 0.58-1.12] were not statistically significant.

Conclusion: Calcium supplementation is associated with a

reduction in risk of gestational hypertension, pre-eclampsia and pre-term birth in developing countries.

Keywords: Calcium, Pregnancy, Gestational Hypertension

11.50

PHARMACOECONOMIC COMPARISON OF BERACTANT VS PORACTANT

*Muhammad Hammad, Maqbool Qadir, Salwa Ahsan, Shaikh Hussam Lateef, Shahjahan Khan
Department of Paediatrics & Child Health, Aga Khan
University, Karachi*

Objective/Background: Respiratory distress syndrome (RDS) is a significant cause of morbidity and mortality in preterm infants. Exogenous Surfactant therapy has become a standard of care in RDS and it has significantly contributed to improve the outcomes. Various surfactant formulations are available in the market. These formulations differ in the origin, dose and cost. Two of these formulations available at AKUH are beractant and poractant. **Objective:** Pharmacoeconomic comparison of beractant vs poractant

Methodology: A two years retrospective analysis of Beractant and Poractant utilization at NICU of AKUH was carried out. The data was used to compare the both surfactants pharmacoeconomically.

Results: Beractant: Total number of patients 112 Total number of doses dispensed 128 Total number of vials dispensed 146 Total cost (Pak Rupees) 4182k Average cost per patient (Pak Rupees) 37346 Neonates received one vial per dose 95 (84.8 %) Neonates received two vials per dose 17 (15.1 %) Neonates who received single dose 98 (87.5 %) Neonates who received two doses 12 (10.71%) Neonates who received three doses 2 (17.85 %) Poractant: Total number of patients 87 Total number of doses dispensed 104 Total number of vials dispensed 151 Total cost (Pak Rupees) 3020k Average cost per patient (Pak Rupees) 34712 Neonates received one vial per dose 56 (64.36%) Neonates received two vials per dose 23 (26.43 %) Neonates received three vial per dose 7 (8 %) Neonates received four vial per dose 01 (1.15 %) Neonates who received single dose 71 (81.6 %) Neonates who received two doses 15 (17.24 %) Neonates who received three doses 1 (1.15 %)

Conclusion: Pharmacoeconomically, poractant has subtle advantage over beractant. The average cost per patient is also slightly lower for poractant; however, repeat dose occurred somewhat more frequently with poractant. Beractant could have a better pharmacoeconomic profile for babies weighing between 1.2 -2 kg. Although comparison of the therapeutic effects was not carried out, substantial literature supports the use of poractant with lower FiO2 requirements.

Keywords: Surfactants in Neonates, Pharmacoeconomic Comparison of Surfactants, Respiratory Distress Syndrome

11.51

EFFECT OF PREVENTIVE ZINC SUPPLEMENTATION ON LINEAR GROWTH IN CHILDREN UNDER 5 YEARS OF AGE IN DEVELOPING COUNTRIES: A META-ANALYSIS OF STUDIES FOR INPUT TO THE LIVES SAVED TOOL

Aamer Imdad, Yawar A Yakoob, Zulfiqar A Bhutta
Department of Paediatrics & Child Health, Aga Khan
University, Karachi

Objective: Zinc plays an important role in cellular growth, cellular differentiation and metabolism. The results of previous meta-analysis evaluating effect of zinc supplementation on linear growth are inconsistent. We have updated and evaluated the available evidence according to GRADE criteria and tried to explain the difference in results of the previous reviews.

Method: A literature search was done on PubMed, Cochrane library, IZiNCG database and WHO regional data bases using different free and mesh terms for zinc and growth. Data was abstracted in a standardized form. Data were analyzed in two ways i.e. weighed mean difference (effect size) and pooled mean difference for absolute increment in length in cm. Pooled estimates for effect of zinc supplementation were calculated using random effect models. We have given our recommendations for effectiveness of zinc supplementation in the form of absolute increment in length (cm) in zinc supplemented group compared to placebo.

Results: There were thirty five studies assessing the effect of zinc supplementation on growth in children < 5 years from developing countries. In ten of these studies zinc was also given in combination with other micronutrients (Iron, Vitamin A etc). The final effect size after pooling all the data sets (Zinc ± Iron etc) showed a significant positive effect of zinc supplementation on linear growth [Effect size: 0.12 (95% CI 0.04, 0.21), Random model]. A subgroup analysis by excluding those data sets where zinc was supplemented in combination with iron showed a more pronounced effect of zinc supplementation on linear growth [Effect size 0.17 (95 % CI 0.07, 0.27)]. A subgroup analysis from studies that reported actual increase in length (cm) showed that a dose of 10 mg zinc/day for duration of 24 weeks led to a net a gain of 0.37 (±0.25) cm in zinc supplemented group compared to placebo. This estimate is recommended for inclusion in Lives Saved Tool (LiST) model.

Conclusion: Zinc supplementation has a significant positive effect on linear growth, especially when administered alone, and should be included in national strategies to reduce stunting in children < 5 years of age in developing countries.

Keywords: Zinc, Growth, Children < 5 years

11.52

IMPACT OF MATERNAL EDUCATION AND PROVISION OF COMPLEMENTARY FOODS ON CHILD GROWTH IN DEVELOPING COUNTRIES

Aamer Imdad, Mohammad Yawar Yakoob, Zulfiqar A Bhutta
Department of Paediatrics & Child Health, Aga Khan
University, Karachi

Objective: Complementary feeding for an infant refers to transition from exclusive breastfeeding to family foods. Complementary feeding and foods typically cover duration from 6 to 18-24 months of age. Complementary feeding strategies encompass a wide variety of interventions designed to improve the quality and quantity of these foods. In this review we evaluated the effectiveness of provision of complementary food during weaning period and evaluation of education of mothers about practices of complementary feeding on weight and height gain in children. Recommendations were made for inputs to the Lives Saved Tool (LiST) by following standardized guidelines developed by Child Health Epidemiology Reference Group (CHERG).

Method: We conducted a systematic review of published randomized and quasi-randomized trials on PubMed, Cochrane Library and WHO regional databases. The included studies were abstracted and graded according to study designs, limitations, intervention specifics and outcome effects. Meta-analyses were generated for change in weight and height by two methods. In the first instance we pooled the results to get weighed mean difference or effect size estimates to control for difference in the unit of measurement among different. A second meta-analysis was conducted to get a pooled estimate in terms of actual increase in weight (kg) and length (cm) in relation to the intervention and recommendations for input to the LiST model.

Results: We selected 17 studies for inclusion in the review. The included studies evaluated the impact of provision of supplementary foods (± nutritional counseling) and of nutritional counseling alone. Both these interventions were found to result in a significant increase in weight [effect size 0.43, 95% CI 0.16 – 0.71 and 0.30, 95 % CI 0.05-0.54 respectively] and linear growth [effect size 0.31, 95 % CI 0.09-0.52 and 0.21, 95 % CI 0.01-0.41 respectively]. Pooled results from subset of studies that reported growth outcome as actual increase in weight in kg and length in cm showed that provision of appropriate complementary foods (± nutritional counseling) for a minimum period of 3months resulted in an extra gain of 0.55 (±0.44) kg in weight and 0.80 (±0.71) cm in height in children between 6-24 months of age in developing countries. These estimates have been recommended for inclusion in the Lives Saved Tool (LiST). Effect of provision of complementary food seemed more prominent in food insecure populations compared to food secure populations.

Conclusion: Provision of appropriate complementary food, with or without nutrition education to mothers during weaning period leads to significant increase in weight and height gain in children under 24 months of age. This intervention can

significantly reduce the risk of stunting in developing countries and is recommended for inclusion in the LiST tool.

Keywords: Complementary Feeding, Growth, Length

11.53

IMPACT OF VITAMIN A SUPPLEMENTATION ON INFANT AND CHILDHOOD MORTALITY

Aamer Imdad¹, Mohammad Yawar Yakoob¹, Zulfiqar A Bhutta¹, Robert E Black²

¹Department of Paediatrics & Child Health, Aga Khan University, Karachi and ²John Hopkins University USA

Objective: Vitamin A is important for the integrity and regeneration of respiratory and gastrointestinal epithelia and is involved in regulating human immune function. It has been shown previously that vitamin A has a preventive effect on all-cause and disease specific mortality in children under five. The purpose of this paper was to get a point estimate of effectiveness of vitamin A supplementation in reducing cause specific mortality by using Child Health Epidemiology Reference Group (CHERG) Guidelines.

Method: A literature search was done on PubMed, Cochrane Library and WHO regional data bases using various free and Mesh terms for Vitamin A and mortality. Data were abstracted into standardized forms and quality of studies was assessed according to standardized guidelines. Pooled estimates were generated for preventive effect of vitamin A supplementation on all-cause and disease specific mortality of diarrhea, measles, pneumonia, meningitis and sepsis. We did a subgroup analysis for vitamin A supplementation in neonates and children aged 1-59 months. In this paper we have focused on estimation of effectiveness of vitamin A supplementation in children 1-59 months of age. Results for neonatal vitamin A supplementation have been presented, however no recommendation is made as more evidence on it would be available soon.

Results: There were 22 studies evaluating preventive effect of vitamin A supplementation in community settings which reported all-cause mortality. Twelve of these also reported cause specific mortality for diarrhea and pneumonia and six reported measles specific mortality. Pooled results for preventive vitamin A supplementation showed that it reduced all-cause mortality by 21 % (95% CI 8% to 32%) in children 1-59 months of age. Vitamin A supplementation also reduced diarrhea specific mortality by 31 % [95 % CI: 17% to 42 %] in the same age group. There was also reduction in measles [RR 0.71, 95% CI: 0.45-1.11] and meningitis specific mortality [RR 0.71, 95% CI: 0.25-2.04] in children 1-59 months of age; however, the results were not statistically significant. Vitamin A supplementation had no effect on pneumonia specific mortality [RR 0.98, 95% CI: 0.73-1.31].

Conclusion: Preventive vitamin A supplementation reduces all-cause and diarrhea specific mortality in children 1-59 months of age in community settings.

Keywords: Vitamin A, Mortality, Morbidity

11.54

AWARENESS AND AUTONOMY TO EXERCISE VARIOUS REPRODUCTIVE RIGHTS AMONG MARRIED WOMEN VISITING FAMILY PRACTICE CLINICS IN KARACHI

Faridah Amir Ali, Soobia Raza

Department of Family Medicine, Aga Khan University, Karachi

Objective: Gender inequality in reproductive rights is a global issue. Generally women are denied their reproductive and sexual rights. Exploring Pakistani women's reproductive rights is very important because of specific culture where woman's disclosure of her sexual needs is difficult and stigmatized. There is no local data which highlights reproductive rights of women. This study was therefore done to determine the awareness and autonomy of women regarding their reproductive and sexual rights.

Method: A cross-sectional survey on 323 married women upto 45 years of age visiting family medicine clinics at Aga Khan University Hospital and medicine OPD at Liaquat National Hospital from March 2007 till May 2007 was done.

Results: 95% of women reported to be aware of their reproductive rights and 75.5% thought that women have the right to make autonomous choices freely. But 71.8% answered their parents responsible for decisions of their marriages and 12.4% said their marriage was forced upon them. Although 91% women were satisfied with their sexual life, 22% had experienced marital rape. Half of the women in our population were practicing contraception. Out of these, only 10% decided about it themselves. When asked what contraception meant, one-third answered to limit family size to two children.

Conclusion: Although women may be aware of their reproductive rights, in reality, their rights are not exercised. There are misconceptions regarding contraception and there is a high rate of forced marriages, marital rape and forced abortions. Efforts should be directed towards creating awareness about the reproductive and sexual rights of women.

Keywords: Contraception, Abortion, Rape

11.55

ASSESSMENT OF KNOWLEDGE ATTITUDE AND PRACTICES REGARDING SCABIES AMONG PATIENTS VISITING PRIMARY HEALTH FACILITY IN BILAL COLONY

Zahra Ali, Anum Ali, Amir Malik, Nashmia Riaz

Medical College, Aga Khan University, Karachi

Objective: The aim of this study was to find the prevalence of scabies among the children visiting Bilal MCCT and to assess knowledge, attitude and practices about scabies among mothers visiting Bilal MCCT.

Method: We carried out a cross-sectional survey in Bilal MCCT (mother and child care trust). An analysis of responses to questions on scabies and its mode of transmission, importance of treatment and methods for prevention were

undertaken, and the responses were broken down by education level and socioeconomic class of mothers.

Results: The prevalence of scabies was found to be 12.2%. 42.9% of patients with scabies had a secondary bacterial infection. 30.8% of the patients had had a previous episode of scabies in the past one year. 58.3% of the mothers interviewed said that they knew or had heard of scabies. 89.6% people considered scabies a significant problem in their child's life. 68% of the mothers believed medical treatment was necessary for eradication of the disease while 66% agreed that it spread through contact.

Conclusion: Our recommendations include that mothers need to be given adequate counseling about mode of transmission of scabies, the importance of family treatment and its preventive measures. Interestingly, many mothers subjectively knew or had heard about scabies. Most were even willing to seek treatment for their children and considered it a problem in their children's life. Yet, their practices were not a reflection of their degree of knowledge and attitude towards the disease

Keywords: Scabies, Knowledge, Attitude

11.57

KAP ABOUT FAMILY PLANNING AMONG CURRENTLY MARRIED AFGHAN REFUGEE WOMEN, RESIDING IN KARACHI, PAKISTAN

Hina Ladha¹, Mehtab S. Karim¹, Sarah Saleem¹, Tazeen Ali²
Department of¹Community Health Sciences, and²Nursing Education Services, Aga Khan University, Karachi

Objective: Refugee families usually have a high fertility rate which is mostly reflective of their replacement behavior. During Afghan crisis over 3 million people migrated from Afghanistan to Pakistan. Many of these were settled in Karachi city, with support from UNHCR and Focus Humanitarian, among many other organizations. The group which is supported by Focus Humanitarian also receives subsidized health care through a formal system, whereas those supported by UNHCR do not receive any health coverage. Experiments done by RAND show, those individuals who get subsidized health care are likely to have better health indicators. However, no study has been conducted on refugee population, particularly in regard to their knowledge and use of family planning services. Therefore, the objective of our study is to assess and compare KAP about family planning among the two groups of currently married Afghan refugee women residing in Karachi, Pakistan.

Method: For a cross sectional study design, systematic random sampling technique was employed to recruit the eligible subjects. Women in reproductive ages, who had been pregnant at least once in their lifetime, residing in proper housing in Karachi and who consented to participate were eligible to be the study participants. 325 women in each group were successfully interviewed.

Results: There was substantial difference in the two groups of women whether they had ever heard of FP (89% in health subsidy group and 45% in non-health subsidy group). Consequently, around 54% of women in health subsidy group

were currently using any FP method as compared to 25% women in non-health subsidy group. One of the most common reasons cited by women in non-health subsidy group for it was lack of knowledge about FP along with lack of access to FP services. Results of logistics regression analysis suggest that women who had health coverage, after adjusting for their socioeconomic and demographic characteristics were significantly more likely to use FP methods.

Conclusion: In conclusion, the findings our study reveals, that women receiving health coverage were significantly more likely to use FP methods. Their usage of FP was quite higher and almost comparable to that of local Karachi population. We therefore recommend that refugee population should be given proper health care coverage in order to increase the use of family planning methods with the aim of decreasing their fertility.

Keywords: Family Planning, Afghan Refugee Women, Health Subsidy

11.58

FREQUENCY OF CONGENITAL MALFORMATION IN A TERTIARY CARE HOSPITAL OF PAKISTAN

Muhammad Sohail Salat¹, Bushra Afroz¹, Fatima Adhi², Saira Ahmad², Shahid Sattar², Imran Ahmed¹, Zulfiqar Bhutta¹
Department of¹Paediatrics & Child Health, and²Medical College, Aga Khan University, Karachi

Objective: The global prevalence of congenital malformation is approximately 6 percents of total birth. It is estimated that 7.9million children born annually are affected with a birth defect of either genetic or partial genetic origin. There is paucity of data of congenital malformations in the developing countries, owing to limited diagnostics facilities, lack of birth defects surveillance and registry. 80% of birth in our country are home based attended by traditional birth attendant. Therefore no hospital data exists from our country

Method: We reviewed standardized electronic patients record of all births with coding on ICD 9. A total of 47116 birth cohorts were reviewed over a period of 17 years and 2624 cases of birth defects were identified

Results: Our data shows prevalence of congenital malformation approximately 5.6 percent. Major malformations includes genitourinary abnormalities which had the highest incidence of 26.1%, followed by cardiovascular malformations 11.9% and musculoskeletal 8.4%, while gastrointestinal malformation and central nervous system malformation accounts for 6.2% and 3.7% respectively. In our cohort only 2.0% were attributed to chromosomal abnormalities. Among minor malformations Telipes Equino varus comprises of 28% of total malformations while 13.7% of the cases were found with ear, nose, throat and skin malformations

Conclusion: Ours was the first data set audited for congenital malformation however further data is required at the national level for more generalizability

Keywords: Genitourinary Abnormalities, Cardiovascular Malformations, Musculoskeletal Abnormalities

11.59**ROLE OF SKILLED BIRTH AND TRADITIONAL BIRTH ATTENDANTS IN PREVENTING STILLBIRTHS AND PERINATAL MORTALITY**

Mahrukh Ayesha Ali¹, Mohammad Usman Ali², Mohammad Yawar Yakoob³, Zulfiqar A. Bhutta³

¹Medical Student, Khyber Medical College, ²Medical College, and ³Paediatrics & Child Health, Aga Khan University, Karachi

Introduction: Stillbirth and Perinatal Mortality remains the chief adverse outcomes of pregnancy throughout the world. About 1 million are intrapartum deaths, and majority of them occurs in low income developing countries. In high-income countries where women receive quality intrapartum care, the proportion of intrapartum stillbirths is less than 10% of all stillbirths. This review discusses the impact of skilled birth attendants such as doctors, midwives or nurse-aides and also the role of trained traditional birth attendants (TBAs) in preventing stillbirths.

Methods: A systematic literature search was performed on Pub Med/MEDLINE, Cochrane Database and the WHO regional libraries. Hand search of bibliographies of relevant reviews was also conducted. The primary aim was to select randomized and quasi-randomized trials looking at the impact of presence of skilled birth attendants and trained TBAs on stillbirths.

Results: The literature search yielded 596 hits. 114 reviews and articles were initially identified and screened for eligibility, out of which 5 reviews and 59 studies were finally selected for data abstraction. One large trial conducted by Jokhio reported significantly reduced stillbirth rates at births attended by trained TBAs with (OR = 0.69; 95% CI: 0.57 – 0.83). Perinatal mortality rates were also reduced with (OR = 0.70; 95% CI: 0.59 – 0.83). The paucity of trials prevented generation of new Meta analysis.

Conclusion: There was some evidence that midwifery training programs leading to improved midwifery skills can reduce intrapartum complications and Perinatal outcomes, including reduction in stillbirth incidence.

Keywords: Skilled Attendance, Stillbirth, Intrapartum Death

11.60**HOME BIRTHS IN A SQUATTER SETTLEMENT OF KARACHI: WHY WOMEN CHOOSE HOMEBIRTH; FACTORS, ISSUES AND EXPERIENCES**

Arsala¹, Sadaqat¹, Yousuf Memon², Fahmida Khowaja², Shagufia Iqbal², Sultan Baig²

Department of ²Community Health Sciences, Aga Khan University, Karachi and ¹Dow Medical University

Introduction: Home birth is common in developing world. In Pakistan, 80% of the births take place at home and are mostly attended by 'untrained' personals.

Objectives: The purpose of the study was to explore the current status, reasons and issues of home deliveries at a

squatter settlement of Karachi and to have opinions of women about the role of TBAs and doctors in providing the obstetrical care.

Methodology: Sultanabad is one of the squatter settlements in Karachi. The women who had an experience of home birth were asked to participate. It was a cross-sectional study and the data were collected by conducting interviews with the women.

Results: Results reveal that out of 100 women interviewed, 84% delivered their first child and 56 % had all births at home. About 46% deliveries were conducted by TBAs. Self decision for home delivery was 54%; and mother in law decided in 27.4% cases. In their last two pregnancies, 64% women had antenatal care and 25.5% had postnatal care by a doctor, 53% stated home birth is not safe and 70% said home birth is comfortable. The main reasons given for home birth were poverty, lack of awareness, fear of doctors/hospitals, more trust in TBAs, traditions and peer pressure. Neonatal deaths were common in cases conducted by TBAs.

Conclusion/Recommendation: Dialogues are essential to develop good relationships between women and doctors. Capacity building of TBAs to conduct safe delivery and refer the complicated cases to hospital would be beneficial.

Keywords: Home birth, TBAs, Delivery

11.61**EFFECT OF CHRONIC TREATMENT WITH THE CONSTITUENTS OF NIGELLA SATIVA SEEDS EXTRACT ON GONADS IN MALE RAT**

S. Abdul Saeed, Mehwish Ahmed, Mehwish Sagheer, Anwar H. Gilani

Department of Biological & Biomedical Sciences, Aga Khan University, Karachi

Introduction: Nigella Sativa (black seed) has been used worldwide as a natural remedy for the treatment of a wide range of medical conditions. We designed an in vivo study to investigate the effect NSE on the reproductive system parameters in rat. Ten Sprague Dawley male rats received daily oral dose of 50mg/kgbw NS extract and another batch of 10 received 75mg/kgbw 50 days. Control (n=5) received the same volume of saline. At the end of the treatment (52 days), 5 rats from the treatment and controls groups were sacrificed. NSE treatment was discontinued for the reversal groups. After another 52 days reversal groups were also sacrificed. Pituitary gland, testes, and accessory reproductive organs were dissected out and weighed. Epididymal sperm reserve was also determined according to the method described by Amann et al, 1976. There was an overall drop in the body weights of treated rats compared with controls. However, rats recovered after cessation of treatment. Treatment with NSE at 50 mg dose did not affect the studied parameters. However, treatment with doses of 50mg and 75 mg NSE resulted in significant drop in the testes weight and epididymal sperm reserve. In the reversal batch rats recovered from this decrease. These results provide evidence that treatment with NSE causes

a reversible decrease in the testicular weight and sperm reserve. Histology data (not shown here) provides further evidence that treatment with NSE leads to disruption of the testicular architecture. This study provides basis for further studies to investigate anti-fertility potential of NSE.

Keywords: Nigella Sativa, Gonads, Rats

11.62

EFFECT OF CHRONIC TREATMENT WITH THE CONSTITUENTS OF NIGELLA SATIVA SEEDS EXTRACT ON TESTOSTERONE CONCENTRATION IN SERUM AND TIF IN MALE RAT

S. Abdul Saeed, Mehwish Ahmad, Mehwish Sagheer, Anwar Gilani

Department of Biological & Biomedical Sciences, Aga Khan University, Karachi

Introduction: Nigella Sativa (black seed) has been used worldwide as a natural remedy for the treatment of a wide range of medical conditions. We designed an in vivo study to investigate the effect NSE on the reproductive system parameters in rat. Ten Sprague Dawley male rats received daily oral dose of 50mg/kgbw NS extract and another batch of 10 received 75mg/kgbw 50 days. Control (n=5) received the same volume of saline. At the end of the treatment (52 days), 5 rats from the treatment and controls groups were sacrificed. NSE treatment was discontinued for the reversal groups. After another 52 days reversal groups were also sacrificed. Testes were dissected out, Testicular Interstitial Fluid (TIF) and blood was collected and plasma and TIF were stored at 4oC till measurement of testosterone by a highly sensitive and specific radioimmunoassay. Testosterone measured in the TIF showed significant decrease at the dose of 75mg NSE in treated rats compared with controls. There was significant decrease in TIF at the dose of 50mg thymoquinone. In the reversal batch animals recovered from this decrease. Serum testosterone showed significant decrease at the dose of 75mg NSE in treated rats compared with controls. There was a significant drop in serum testosterone level in rats treated with 50mg thymoquinone. However, after the cessation of treatment, rats recovered. These results provide evidence that treatment with NSE causes a reversible decrease in the steroidogenesis potential of the testes. This study provides basis for further studies to investigate anti-fertility potential of NSE.

Keywords: Nigella Sativa, Testosterone, Rat

11.64

VITAMIN D DEFICIENCY IN PREGNANT WOMEN AND NEONATES IN PAKISTAN

Shaheena Anwar¹, Zulfiqar Bhutta¹, Perwaiz Iqbal²
Departments of¹Paediatrics & Child Health, and²Biological & Biomedical Sciences, Aga Khan University, Karachi

Background: Vitamin D deficiency is fast emerging as an important but under-recognized problem globally. Vitamin D deficiency is defined as serum levels less than 20ng/ml. Nearly a billion people worldwide are either vitamin D deficient or insufficient. In Pakistan, 48% of nursing mothers and 52% of breastfed infants have been reported to be deficient. When pregnant Pakistani women in Norway were supplemented with Vitamin D, 56% still had this deficiency which is a cause of concern as nutrition alone didn't solve this problem. Vitamin D exerts its effect by its receptor (VDR) which is present in almost all cells of the body. Polymorphisms in VDR may cause decrease RNA stability or low transcription efficiency of VDR protein. A cross sectional study on 400 mother baby pairs from two parental studies in JPMC (urban study) and Pind Daden Khan, Jhelum (rural study) will be conducted to determine whether there is an association of VDR polymorphisms with serum vitamin D levels. Objective: Identify the most common polymorphisms in vitamin D receptor in mothers and their neonates and study their relationship with vitamin D deficiency. Methods: 1. Vitamin D levels will be assessed on HPLC 2. VDR polymorphisms will be studied by PCR-RFLP. DNA from white blood cells will be extracted using the phenol-chloroform method and amplified by PCR. Amplified DNA sample will be subjected to digestion with restriction endonuclease for 16 hours. Digested products will be visualized by gel electrophoresis. *Statistical Methods:* 1. Hardy Weinberg equilibrium (using Haploview v 3.2) will be performed to determine haplotype frequencies. 2. Multiple Regression model will be applied with vitamin D deficiency as outcome.

Keywords: Vitamin D deficiency, VDR, Pregnant women

12.1 PEYRONIE'S DISEASE

Vaqar Bari
Department of Radiology, Aga Khan University, Karachi

Introduction: Peyronie's disease also known as Induratio penis plastica is a connective tissue disorder involving the growth of fibrous plaques in the soft tissue of the penis affecting as many as 1-4% of men. A 43 year old man presented with painful erection. On ultrasound examination he had plaques in tunica albuginea and had a characteristic development of curvature with discomfort during the Doppler evaluation

Keywords: Peyronie's Disease, Erectile Dysfunction, Fibrous Plaques

12.2 NON-DIABETIC RENAL DISEASE IN PATIENTS WITH TYPE 2 DIABETES MELLITUS

Sonia Yaqub, Ather Hussain, Waqar Kashif
Department of Medicine, Aga Khan University, Karachi

Objective: Diabetic Nephropathy (DN) is the leading cause of end stage renal disease (ESRD) in diabetics worldwide, yet most patients with type 2 diabetes mellitus are not formally evaluated with a renal biopsy. The diagnosis is almost always based on clinical grounds. A wide spectrum of non diabetic renal disease (NDRD) is reported to occur in patients with type 2 diabetes mellitus. It has been estimated that up to one-third of diabetic patients who present with proteinuria are suffering from non diabetic renal diseases. The aim of this analysis was to know the prevalence and nature of NDRD in patients with type 2 diabetes.

Method: We retrospectively studied the case records of patients with type 2 diabetes who underwent kidney biopsy on clinical suspicion of NDRD (Absence of diabetic retinopathy and/or neuropathy; short duration of diabetes). Based on the biopsy findings, patients were grouped as Group I, isolated NDRD; Group II, NDRD with underlying DN; and Group III, isolated DN.

Results: Out of 68 patients studied, 75% were males. Mean age was 56 years. Mean duration of diabetes was 9 years. Group I included 33 patients (48.5%); Group II included 12 patients (17.6%) and Group III included 23 patients (33.8%). Among group I, mean age was 56 (41-77) years. The most common NDRD were acute interstitial nephritis (24%), diffuse proliferative glomerulonephritis (21%) and crescentic glomerulonephritis (12%). Among group II, mean age was 59 (46-71) years and the most common lesion was interstitial nephritis superimposed on underlying DN (63% cases). Among group III, mean age was 53 (42-80) years. Mean proteinuria was 5, 6.3 and 7.3 grams in groups I, II and III respectively (p=NS). The mean duration of diabetes was 7.7, 10 and 11 years in groups I, II and III respectively.

Conclusion: Prevalence of NDRD (either isolated or superimposed on underlying DN) is very high in diabetics

with proteinuria. Our study showed an increasing trend in proteinuria in patients with DN. These patients were relatively younger than those in other groups. Duration of diabetes was relatively greater in patients with DN. Thus, kidney biopsy in diabetic patients may prove to be helpful in identifying an underlying NDRD for better management

Keywords: Diabetic Nephropathy, Proteinuria, Non Diabetic Renal Disease

12.3 CLINICALLY SIGNIFICANT CONTRAST INDUCED NEPHROPATHY AFTER NON-EMERGENT CARDIAC CATHETERIZATION

Sonia Yaqub, Waqar Kashif, Mustafa Bhatti, Sumera Nasim
Department of Medicine, Aga Khan University, Karachi

Objective: Contrast-induced nephropathy (CIN) is the third leading cause of acute kidney injury in hospitalized patients and is associated with significant in-hospital morbidity as well as increased risk of short term and long term mortality, particularly in patients undergoing coronary intervention. Several randomized controlled trials have tested numerous interventions to prevent CIN but only hydration with 0.9% saline, sodium bicarbonate and N-acetyl cysteine have shown efficacy. Although studies have shown the association of CIN with adverse patient outcomes, the actual incidence of clinically significant CIN following non-emergent coronary angiography is not clear. The aim of this analysis was to know the prevalence of clinically significant CIN among patients undergoing non-emergent coronary angiography at AKUH.

Method: We retrospectively studied the case records of patients who underwent coronary angiography between January 2005 and December 2007 with a serum creatinine of ≥ 1.5 mg/dl at the time of procedure. Clinically significant CIN was defined as either doubling of serum creatinine from baseline value within a week following the procedure or need for emergency hemodialysis after the procedure.

Results: Case records of 356 patients were reviewed. 116 patients met the inclusion criteria. Mean age was 65.9 years. 72% were males. All patients received non-ionic contrast. Overall prevalence of CIN was 18% while that of clinically significant CIN was 9%. Patients with clinically significant CIN had significantly lower left ventricular ejection fraction (EF) (p=0.01) and higher prevalence of cerebrovascular disease (p<0.001). Baseline serum creatinine was significantly higher (p=0.02) and estimated GFR by Cockcroft-Gault formula was significantly lower (25.04 ml/min versus 40.12 ml/min; p<0.001) at the time of procedure in patients with clinically significant CIN. Mean length of hospital stay was significantly higher in this group compared to those without clinically significant CIN (9 versus 3 days; p 0.003).

Conclusion: We have come a long ways in prevention of CIN. However, clinically significant CIN still occurs in high risk groups despite adequate prophylaxis. Patients with lower EF, cerebrovascular disease and more importantly low GFR at the time of procedure are more likely to have CIN. This adds tremendously to morbidity and cost of these patients. We need

to look into more methods for blocking the effect of these contrast agents in causing kidney injury.

Keywords: Contrast Nephropathy, Coronary Intervention, Acute Kidney Injury

12.4

VALIDATION OF 2007 PARTIN'S TABLES IN PAKISTANI PATIENTS WITH PROSTATE CANCER

Syed Muhammad Nazim¹, Farhat abbas¹, Nuzhat Faruqui¹, Muhammad Islam²
Departments of ¹Surgery, and ²Community Health Sciences, Aga Khan University, Karachi

Objective/ Introduction: Natural history of Prostate cancer is remarkably heterogeneous. Moreover, the biological behavior varies between Asian and Western patients. There are also differences in selection, screening and treatment strategies. Partin's table was developed in United states to pre-operatively predict the stage of carcinoma of prostate has been used worldwide in many clinics as well. However, the predictability of this table has not been established in Pakistani patients. **Objectives:** To establish the validity of 2007 Partin's tables in our population from the region with clinically localized prostate cancer.

Materials & Methods: Patients with clinically localized carcinoma prostate who were treated with intent of radical prostatectomy over a period of 12 years (Jan 1998-June 2009) were included. The clinical & procedure related data and pathological findings of all patients were obtained. Pre-operative serum PSA values, clinical stages and biopsy Gleason scores were placed on Partin's table and its predictive value and pathological findings of specimen were compared and analyzed by using Receiver operating characteristic (ROC) analysis.

Results: A total of 138 Radical prostatectomy were performed during the study period, of which 109 (79 %) fulfilling the criteria were included in final analysis. 90 patients (82.6%) had RRP + bil PLND. In rest of 19 patients, lymph nodes were involved on frozen section examination, so 7 patients had Bilateral PLND + orchidectomy and 12 patients had RRP with bilateral orchidectomy. The median age at presentation was 65 ± 5.83 years. The pre-operative serum PSA values and clinical stages were higher in our cohort of patients as compare to Partin's cohort. Organ confined disease was present in 58 % of patients, seminal vesicles were involved in 22 % and lymph node metastasis was present in 12 % of patients. The overall survival was 93 %. The accuracy of Partin's table derived probability was high with area under curve (AUC) of 0.82 for organ confinement, 0.805 for seminal vesicle involvement and 0.714 for lymph node involvement respectively.

Conclusion: The 2007 Partin's table has a reasonable predictive value for the final histo-pathological features like organ confinement, seminal vesicle & lymph node involvement in our limited series. This predictive model can be used in Pakistani patients with carcinoma prostate with comparable accuracy.

Keywords: Partin's Tables, Prostate Cancer, Validation

12.5

HIGH NORMAL LEVELS OF ALBUMINURIA AND RISK OF HYPERTENSION IN SOUTH ASIAN POPULATION

Saleem Jessani, Tazeen H. Jafar
Department of Community Health Sciences, Aga Khan University, Karachi

Objective: Albuminuria predicts hypertension in European-origin populations. People of South Asian origin have been shown to be more susceptible to hypertension than Europeans. However, the prognostic significance of urine albumin for incident hypertension in South Asians is not clear. **Method:** We conducted a nested prospective study within a cluster randomized controlled trial to examine the relationship between albuminuria within the normal range and incident hypertension. The participants included were non-diabetic, normotensive adults with urinary albumin to creatinine ratio (UACR) <30 mg/g. All participants were followed up for two years to assess their blood pressure status. Multivariable logistic regression analysis was used to examine the association between UACR and incident hypertension, defined as initiation of antihypertensive therapy during two years as follow-up or new onset of SBP = 140 mm Hg or DBP = 90 mm Hg based on mean of last two of three readings at follow-up visit. **Results:** Of 1272 eligible participants, 920 (72.3%) completed the 2-year final follow-up visit. During this time, 105 participants (8.3%) developed incident hypertension. The proportion of subjects with incident hypertension increased with the increasing levels of UACR (p<0.001 for trend). In the multivariable model, baseline systolic blood pressure (SBP), being overweight (BMI =23Kg/m²) and the UACR were significant predictors of incident hypertension. Participants with UACR values in the highest quartile (median, IQR: 8.34, 6.95-12.56) had a 3-fold risk of hypertension compared to those in the lowest quartile (adjusted OR: 3.10 (95%CI: 1.56-6.20)).

Conclusion: Albuminuria in the conventional high normal range predicts hypertension in non-diabetic South Asians. Future studies are needed to explore whether this relationship of albuminuria with incident hypertension is modifiable.

Keywords: Blood Pressure, Hypertension, Albuminuria

12.6

EFFECTS OF ALPHA BLOCKER ON DOUBLE-J URETERAL STENT RELATED LOWER URINARY TRACT SYMPTOMS AND PAIN

Syed Muhammad Nazim, M. Hammad Ather
Department of Surgery, Aga Khan University, Karachi

Objectives: To evaluate the effect of Alfuzosin (an alpha blocker) on frequency of stent related urinary symptoms and pain in patients with double-J ureteral stent placement vs. placebo.

Materials and Methods: This prospective randomized placebo controlled trial was conducted from July 2008 to May 2009. A total of 130 patients underwent placement of double J stent after retrograde ureteroscopy for ureteral stones. They were enrolled in the study and prospectively randomized in 2

groups. Group 1 (n=65) received Alfuzosin 10 mg once daily and group 2 (n=65) received placebo for one week along with standardized analgesia. The stent symptoms were measured and recorded one week following the procedure in the clinic. Statistical analyses were performed using Chi-square test and student t test with $p < 0.05$ considered significant.

Results: The demographic profile including patient and stone related parameters were comparable. Patients who received Alfuzosin (group 1) had significantly less urinary symptoms i.e. day time frequency, nocturia, urgency, urge incontinence, dysuria and sense of incomplete voiding ($p < 0.001$). No statistically significant difference was found between the 2 groups with respect to haematuria ($p = 0.278$) and non urge incontinence ($p = 0.06$). The mean pain score was measured on a visual analogue scale and it was 1.15 in patients who received Alfuzosin and 3.89 in placebo group ($p < 0.001$). The proportion of patients who experienced pain related to stent in Alfuzosin group was 58% as compared to 91% who received placebo ($p < 0.001$). None of the patients experienced any adverse effects during follow up in study group.

Conclusion: Alfuzosin 10 mg once daily in patients with double J stent significantly decreases the bothersome urinary symptoms, besides decreasing significantly the pain associated with stent.

Keywords: Double J Stent, Stent Symptoms, Alpha Blocker

12.9

SUCCESSFUL PREGNANCY IN A RENAL TRANSPLANT RECIPIENT WITH ACTIVE HEPATITIS B – A CASE REPORT

*Sonia Yaqub¹, Waqar Kashif¹, Mohammad Salih¹, Luman Shaikh²
Departments of ¹Medicine, and Obstetrics & ²Gynaecology,
Aga Khan University, Karachi*

Objective: Pregnancies have been reported in renal transplant recipients as fertility is usually restored within six months of transplant. Over all success rate is $>90\%$ if pregnancy goes beyond the 1st trimester. Principal risks to mother include hypertension, pre-eclampsia, infections and worsening proteinuria and those to the fetus are prematurity, intrauterine growth retardation (IUGR) and low birth weight. Serum Creatinine at conception and time interval between transplant and conception are the factors determining long term maternal and fetal outcomes. Hepatitis B is associated with progressive liver disease and diminished survival in renal transplant recipients.

Results: We report a rare case of successful pregnancy in a renal transplant recipient who was found to have active hepatitis B infection. A 33-years-old lady with chronic kidney disease of unknown etiology (small kidneys) progressed to end-stage kidney disease and had undergone pre-emptive living non-related renal transplant. She was maintained on steroids, azathioprine and cyclosporine. Her serum creatinine stayed around 2mg/dl. Two years after transplant, she reported to the clinic with a missed menstrual period; Ultrasound showed live gestation of 5 weeks. 24 hour urine studies showed creatinine clearance of 23 ml/min and 284 mg protein.

On routine pre-natal screening, she was found positive for HBsAg. Further testing revealed positive Hepatitis B - e antigen. Rest of the viral profile was negative. Liver enzymes and ultrasound were normal. She was monitored and managed by obstetrician, nephrologist and gastroenterologist as high risk pregnancy. Amlodipine was changed to methyl dopa. Cyclosporine dose reduced to target a trough level of 100-150. She was started on Lamivudine for hepatitis B. Blood pressure (BP), proteinuria, creatinine, liver enzymes and cyclosporin levels were monitored closely. At 36 weeks, she gave birth to a healthy female baby weighing 2.7kg through spontaneous vaginal delivery. Baby was given post-exposure prophylaxis for hepatitis B i.e. Vaccination and immunoglobulins. Mother's graft function remained stable throughout pregnancy.

Conclusion: To our knowledge, this is the only reported case of successful pregnancy with good maternal as well as fetal outcomes in a renal transplant recipient with active Hepatitis B.

Keywords: Renal Transplant, Pregnancy, Hepatitis B

12.10

GENERAL PRACTITIONERS' KNOWLEDGE AND PRACTICE PATTERNS IN DETECTION AND TREATMENT OF CHRONIC KIDNEY DISEASE

*Sonia Yaqub¹, Tazeen H. Jafar¹, Mohammad Qasim Raza²,
Hina Aaqil²
Department of ¹Medicine, and ²Medical College, Aga Khan
University, Karachi*

Objective: The incidence and prevalence of chronic kidney disease (CKD) is on the rise worldwide. The burden of CKD can be considered in terms of both CKD-specific and CKD-related morbidity and mortality. Moreover, CKD is a strong independent predictor of cardiovascular disease. Early recognition of CKD followed by appropriate management of hypertension, proteinuria, and cardiovascular risk factors and timely referral to nephrologists could substantially improve outcomes for patients with CKD. Because of lack of adequate number of formally trained nephrologists, many patients with CKD are seen by general practitioners (GPs). This study was designed to assess the knowledge and practices of the GPs in detection and treatment of CKD in order to improve the quality of care and outcomes of all individuals with CKD and to reduce the risk of developing the disease in population at high risk.

Method: A cross-sectional survey of GPs practicing in Karachi was done. The sampling strategy was convenience sampling. The data was collected on a structured questionnaire after taking verbal consent. Questions were focused on the identification of CKD and its risk factors, screening for CKD and associated co morbidities, as well as management of hypertension, proteinuria and cardiovascular risk factors in patients with CKD.

Results: A total of 232 GPs were approached. Mean age was 38.5 ± 11.26 years; 56.5% were males. The average number of patients seen per day was 57 ± 67 . Out of 232, 26.3% GPs had affiliation with teaching hospitals and 30.6% possessed

postgraduate degree/diploma beyond MBBS. Most of the GPs knew the traditional risk factors for CKD of diabetes (88.4%) and hypertension (79.7%), but were less aware of other risk factors of elderly age (33.6%) and family history of kidney disease (42.2%). While most of the GPs (77.2%) were aware of when to screen type 2 diabetics for kidney disease, only 12.5% GPs correctly knew when to screen patients with type 1 diabetes. Only 37.9% GPs were aware of estimated glomerular filtration rate in evaluation of patients with CKD. Serum Creatinine and 24 hour urine Creatinine clearance were used to diagnose CKD by 78.1% and 63.8% GPs, respectively. Only 61.6 % GPs recognized CKD as a risk factor for cardiovascular disease. When asked about the goal blood pressure (BP) in patients with CKD, only 40.1% and 28.9% GPs knew goal systolic and diastolic BP, respectively while 12.9% GPs thought antihypertensive therapy could be stopped once target BP was achieved. 48% GPs chose ACE inhibitors/ Angiotensin receptor blockers (ARBs) as first line antihypertensive agent for lowering BP in patients with proteinuria. The most commonly prescribed antihypertensive agents were ACE inhibitors/ARBs (55.2%) followed by Calcium channel blockers (36.7%), beta blockers (32.6%), Thiazides (31.2%) and sedatives (5.9%). Almost half (49.5%) the GPs thought non steroidal anti inflammatory agents (NSAIDs) could be safely prescribed to patients with CKD. Half the GPs (53.4%) were aware of the target HBA1c levels for patients with diabetes and CKD while only 21.6% knew the target serum low density lipoprotein (LDL) cholesterol for patients with CKD.

Conclusion: Our survey identified specific gaps in knowledge and practices of GPs regarding diagnosis and management of CKD. Educational efforts are needed to increase awareness of clinical practice guidelines and recommendations for patients with CKD among GPs, which may improve management and clinical outcomes of this population.

Keywords: Chronic Kidney Disease, Knowledge, Attitude, Practices, General Practitioners

12.11 ACCURACY OF MULTIDETECTOR CT SCAN IN STAGING OF RENAL CARCINOMA

Syed M Nazim¹, M Hammad Ather¹, Kamran Hafeez¹,
Basit Salam²
Departments of¹Surgery, and²Radiology, Aga Khan University,
Karachi

Objective: The aim of this study is to determine the diagnostic accuracy of multidetector-row computed tomography (MDCT) compared to histopathological findings in tumor staging of renal cell carcinoma, with the focus on tumor size and stage, renal vein involvement, and peri renal infiltration. *Method: MATERIALS AND METHODS:* In a retrospective study, a total of 98 consecutive patients with renal cell carcinoma were preoperatively assessed for tumor staging using multidetector-row CT. Triphasic CT imaging (i.e., noncontrast, arterial, and parenchymal phase) was performed using multidetector-row CT with the slice thickness of 5 mm and using multiplanar reconstructions to define the tumor

characteristics. A single blinded reader evaluated the CT scans independently who reviewed the scan on multiplanar reconstructions. The results were then correlated with the histopathological results.

Results: A total of 98 renal cell carcinomas were proven on histopathology. There was a significant (p 0.05) difference in the mean maximum radiological and maximum pathological diameter of the tumor. Twenty seven tumors were down staged and only 1 was up staged. The specificity of CT for capsular invasion, nodal disease and adrenal involvement was 85, 82 and 98% respectively. The specificity was over 97% for tumor thrombus in renal vein and IVC.

Conclusion: The multi planar reconstruction capability of multidetector-row CT allowed good specificity in predicting renal vein, IVC involvement, capsular invasion and nodal disease.

Keywords: Renal Cell Carcinoma, Imaging, MDCT

12.12 A SINGLE CENTER EXPERIENCE OF HYPONATREMIA FROM PAKISTAN

Absar Ali, Ramesh Kumar, Ameet Kumar
Department of Medicine, Aga Khan University, Karachi

Objective: Hyponatremia is one of the most common reasons for nephrology consult in admitted patients. It is important to know the risk factors for development of Hyponatremia for the optimal management and prevention. There are several studies available from all around the world but the data is relatively scanty from Pakistan. The objective was to determine the prevalence, etiology, severity presentation and associated factors of Hyponatremia in patients admitted to Aga Khan University hospital Karachi Pakistan.

Method: It was a cross section study of one year duration from January 2008 to December 2008. All the patients admitted on medical service with the primary or secondary diagnosis of Hyponatremia were included in the study. Patients of age less than 18 years were excluded

Results: Total numbers of patients were 100 in the final analysis so the results given in percentage or in number will be the same. Age range 25 to 86 years, Mean age was 65 + 13, Median age 67 and mode 52 years. There were 43 male and 57 female. Serum sodium range was from 101 to 131 mole/liter, Mean, Sodium 119 + 7, Median Sodium 120 and Mode was 122 m mole/liter. There were 35 patients admitted with the principal diagnosis of Hyponatremia and 65 patients with secondary diagnosis of Hyponatremia. Out of 100 patients, 67 did not develop any mental change, 15 patients developed confusion, 15 stupors and 03 developed coma. Only 02 patients developed seizures. The etiology of Hyponatremia was as follows: Volume depletion: 44; CHF: 14; Renal Failure: 13; Thiazide induced: 11; SIADH: 09; Cirrhosis of liver: 07; and Nephrotic syndrome: 02 patients. The outcome was as follows: 94 discharged 05 expired and 01 patients LAMA. There was no statistically significant correlation was noted between mental change and severity of Hyponatremia.

Conclusion: Hyponatremia is a common problem in our community. Volume depletion was the most common etiology

in our patients. There is a need of cohort studies to find out the relationship of Hyponatremia to various factors noted in our study.

Keywords: Hyponatremia, SIADH, Renal Failure

12.13

CLINICAL AND BIOCHEMICAL MARKERS OF UREMIC PRURITUS: A CROSS SECTION STUDY OF DIALYSIS PATIENTS

Absar Ali, Naila Asif, Farzana Adnan

Department of Medicine, Aga Khan University, Karachi

Objective: Pruritus or itching is a common problem in Uremia. Prevalence of Pruritus in Uremic patients is variable and in some studies it is up to 90%. It may not be life threatening but no doubt is the most bothersome symptom in dialysis patients. However, the etiology and pathogenesis is not clear. A number of clinical and biochemical parameters are implicated as a possible cause of itching in renal failure. The objective was to define the clinical and biochemical characteristics associated with Pruritus in renal failure patients presenting to the tertiary care center of Karachi Pakistan. *Method:* It was a cross section study of chronic hemodialysis patients over a period of 3 months. Patients were getting regular out patients dialysis in two hospitals namely Aga Khan University Hospital and Liaquat National Hospital, both located in Karachi Pakistan. A standard questionnaire was used to assess the severity of itching. Patients were divided into two categories. One group with out Pruritus and other group with Pruritus.

Results: Total 57 hemodialysis dependent patients were included in the study. There were 25 (44 %) male and 32 (56%) female. Mean age was 54+11 years. Pruritus was noted in 18 (32%), and 39 patients (68%) reported no Pruritus. The correlation coefficient (r) value was calculated between Pruritus and all other variables separately. r value written in bracket : Serum PTH (0.19), S. Calcium (0.05), S. Phosphate (0.08), S. Urea (0.16), Dialysis duration (0.11), Presence of DM (0.09).

Conclusion: Serum PTH, Calcium, Phosphorus, Urea, Dialysis duration, and presence of Diabetes do not correlate with the symptom of Pruritus in hemodialysis patients. Our study supports several studies done in other countries. However there are studies favoring the positive relationship between Pruritus and these variables. We conclude that there is a need of more intense research especially at microbiological level to resolve this important issue.

Keywords: Pruritis, Uremia, Renal Failure

12.14

A RARE CASE OF GITELMAN'S SYNDROME WITH SIADH

Absar Ali, Qamar Masood

Department of Medicine, Aga Khan University, Karachi

Objective: Gitelman's Syndrome is rare autosomal recessive defect in NaCl transport in distal tubule of loop of henle. Bartter's Syndrome is a similar disorder characterized by defect in NaCl transport in thick ascending limb of loop of henle. Here we are presenting a case of Gitelman's syndrome which was complicated with hyponatremia secondary to SIADH

Method/History: A 17 year old boy was admitted with chief complaints of fever for 1 month, cough and chest congestion for 10 days and letharginess for one week. He was diagnosed celiac disease by jejunal biopsy 6 years ago at the age of 11 years and has recurrent diarrhea since childhood. There is a history of pubertal delay and growth hormone deficiency and hypogonadism and low LH, FSH and Testosterone levels for 5-6 years. There was no known allergy. Examination: At the time of admission he was in distress and lethargic. BP 83/55 , P 102, T 37.5 , RR 24 , Wt 30 Kg , Height 4ft 6in, O2 Saturation 98% on 4 liter. Examination of head and neck was unremarkable. Bilateral wheezing and crepts were present in chest. Heart was normal. Positive findings in CNS Exam revealed power of 2/5 bilateral in upper as well as lower extremities. Investigations: CBC: WBC 18000 (N 68, M 11, L 19, E 1), Hgb 15, Hct 42, Platelets 280 Chemistry: BUN 5, Creatinine 0.6 , Sodium 115 meq/l, Potassium 1.0 meq/l, Chloride 87meq/l , Bicarb 16 meq/l, FBS 109 mg/dl , Albumin 3.1, Gram/L (3.5-5) Calcium 8.2mg/dl (8.6-10.5), Phosphorus 1.0mg/dl (2.7-4.8), Magnesium 1.4mg/dl(1.9-2.5), Serum Calculated Osmolaltiy 237, Serum Measured Osmolaltiy 241, Urine Osmolaltiy 261, Urine Na 41 and 57, Spot Urine K = 28 , Transtubular Potassium Gradient (TTKG): 25 : 1, TSH 5.05 (0.35-6.2), Cortisol 34 and 54 (6-30). ABG: PH 7.56 , PCO2 26, PO2 92 HCO3 24 O2 Sat 99 % , Urine DR: SG 1015, PH 7.0, Protein 2 +, Glucose Negative, Ketone Negative. Stool DR: Normal. Chest X-ray: No abnormality Identified. ECG: NSR, nonspecific T wave changes.

Conclusion: Patient presented with characteristic clinical and biochemical features of Gitelman's Syndrome with Hypokalemia, Hypomagnesemia, Metabolic Alkalosis and Low urine calcium. The diagnosis of Syndrome of Inappropriate Secretion of Anti Diuretic Hormone (SIADH) was established on the basis of typical lab values described above. To the best of our knowledge it is the first case report of Gitelman's Syndrome with SIADH.

Keywords: Gitelman Syndrome, SIADH, Hyponatremia

12.15 DOES THE TYPE OF DIVERSION AFFECT 30 DAY COMPLICATION RATE AFTER RADICAL CYSTECTOMY?

Johar Raza, Hammad Ather, Zaheer Alam, Faisal Aziz
Department of Surgery, Aga Khan University, Karachi

Objective: To determine if the type of urinary diversion, Ileal Conduit or Orthotopic Neobladder affect the 30 day complication rate after Radical Cystectomy

Method: A retrospective analysis of a prospectively maintained data base was performed on all the patients undergoing radical cystectomy at this institution. Patients were divided into two groups depending upon the type of diversion they received. Various variables that could affect the complication were determined, and complication noted. Multivariate analyses were performed to determine if any other factors contributed towards complication development.

Results: A total of 106 patients underwent urinary diversion following radical cystectomy with 93 male and 13 female patients. The mean age was 59.25 years (range 28-88 yrs) with mean ASA grade of 2.4 and charlson's index of 2.3 respectively. Seventy three patients received an Ileal Conduit, while 33 patients received Orthotopic Neobladder. Forty seven patients developed complications within 30 days of the procedure. Patients were divided into 2 groups depending upon the type of diversion, and both groups were comparable. On multivariate analysis preoperative chemotherapy, radiotherapy and charlson's index were found to be the contributing factor in development of complications with statistical significance ($p=0.05$, 0.01 and 0.04 respectively). None of the other factors contributed in development of 30 day complication, including the type of diversion ($p=0.19$).
Conclusion: The type of diversion does not affect the 30 day complication rate in patients undergoing radical cystectomy. Long term follow-up is needed to establish the complication rates in either type of diversion.

Keywords: Radical Cystectomy, Complication, Diversion

12.16 GRADING COMPLICATION FOLLOWING RADICAL CYSTECTOMY AND ILEAL CONDUIT FOR BLADDER CANCER USING CLAVIEN GRADING SYSTEM

Johar Raza, Hammad Ather, Zaheer Alam, Faisal Aziz
Department of Surgery, Aga Khan University, Karachi

Objective: To determine the 30 day complications of a major urological procedure using a validated system
Method: Patients who had undergone Ileal conduit formation, following Radical Cystectomy for muscle invasive Transitional Cell Carcinoma, were studied, using a prospectively maintained data base. Basic details were determined, and complications noted. These complications were graded according to the Modified Clavien Grading system (CG).

Results: Of all the IC, performed at this hospital, complete data was available from 73 patients who were analyzed. Of these 73 patients 65 were male and 8 were female. The mean

age was 60 (range 32-88). The mean duration of hospital stay was 14 days (S.D 6.1 days) (8-38 days being the range). Ten patients received pre-operative chemotherapy and radiotherapy, respectively. The mean duration of surgery was 8.4 hrs (S.D 1.5 hrs, range 5-12hrs), with mean estimated blood loss of 1386 ml (SD 670ml). Preoperative radiotherapy was associated with more complications ($p=.035$). No other factor like ASA, co morbidities, blood loss or duration of stay influenced the complications ($p>0.05$). Forty three (59%) patients did not have any acute complications. Most common complication were of CG- 2, with 7 pts having wound infection, followed by Uretero-ileal leakage (n 5 each), for which Percutaneous intervention under local anaesthesia was needed GC-3a. Mortality rate was 2.7%, classified as CG-V.

Conclusion: Radical Cystectomy with Ileal Conduit is a major procedure with a good safety profile at this institute. Long term follow up is still needed to look into delayed complications and quality of life.

Keywords: Clavien Grading, Ileal Conduit, Complication

12.17 COST AND LENGTH OF STAY IMPLICATION OF EARLIER TRIAL OFF CATHETER POST TRANSURETHRAL RESECTION OF PROSTATE

Nadia Akber Ali
Nursing Education Services, Aga Khan University, Karachi

Introduction: Cost and length of stay implication of earlier trial off catheter post transurethral resection of prostate Nadia Akber Ali Boghani Nurse Case Management Coordinator of UROLOGY
Introduction: Benign prostatic enlargement is a nonmalignant condition in which aging prostate undergoes alteration in consistency or size in men which causes obstructive urinary symptoms. The surgical treatment involves removal of the obstructing part of the prostate. Following surgery Foleys catheter is placed which require in patient stay. The aim of the study is to determine whether early removal of indwelling urinary catheter (Foley's) after TURP significantly impact on patient early discharge without causing any complication and also save cost.

Method: This a prospective study conducted at a tertiary care hospital from 1st Jan 2009 till Sep 2009. The result and morbidity were recorded through observation and recoded in a Performa and results were analyzed using standard statistical methods.

Results: Total 81 patients had undergone TURP out of which 30(37.03%)patients' indwelling catheter removed on the second day of surgery, 9 (11.1%)discharged with catheter and 42 (51.8%)patient catheters removed on 3rd day of surgery. Post operative all patients remained stable except for 3 (3.7%) patients. 1 (1.2%) patient went into retention after removing catheter on second day of surgery and 2 (2.4%) patients developed fever. No other significant complications were recorded. The hospital stay was reduced from 5 day to 3.6 days.

Conclusion: Early removal of the catheter after TURP did not increased morbidity and maintained the efficacy of the procedure. If this practice adopted nationally, the saving

resulting from the reduction in hospital stay would be considerable.

Keywords: Transurethral Resection of Prostate, Decreased Length of Stay, Decreased Cost

12.18

EFFICACY OF DOXAZOCIN IN THE MEDICAL-EXPULSIVE THERAPY OF DISTAL URETERIC STONES: RANDOMIZED CLINICAL TRIAL

Ali Akbar Zehri, Hammad Ather, Farhat Abbas, Raziuddin Biyabani

Department of Surgery, Aga Khan University, Karachi

Objective: To assess the clinical efficacy of Doxazocin as the medical-expulsive therapy for distal ureterolithiasis
Method: Sixty five patients with a symptomatic 4-7 mm distal ureteral stone were included in the study. Patients were randomized to one of the two treatment groups. Group 1 (n= 32 patients) was the control group and received Diclofenac sodium 50 mg for their pain and group 2 (n= 33 patients) received Doxazocin (2mg daily at the night) along with Diclofenac sodium 50 mg. The treatment duration was until stone expulsion or 28 days, whichever came first. The primary endpoint of the study was the stone expulsion rate. The secondary endpoints included stone expulsion time, use of analgesics, number of emergency room visits, hospitalizations and drug side effects. Statistical analyses were performed using chi-square test and Fisher's exact test.

Results: Both groups were comparable in terms of demographic, clinical and stone related parameters. Stone expulsion rate was significantly higher in treatment group 2 (38% for group 1 and 70% for group 2, $p = 0.009$) while the expulsion time was significantly lesser in group 2 patients ($p = 0.005$). During the treatment period, we observed significant differences between the two groups in the number of pain episodes and analgesic used ($p = 0.0001$). None of the patients in either group reported as drug related any side effects during the study period.

Conclusion: Doxazocin significantly improves stone expulsion and is associated with decreased colic frequency, use of analgesia. It is also very well tolerated

Keywords: Alpha Blocker, Distal Ureteric Stone, Doxazosin

12.20

MICROALBUMINURIA - AN EARLY INDICATION OF RENAL AND CARDIOVASCULAR DISEASES

Omer ul Hassan¹, Narmeen Hassan¹, Nighat Rahman², Obaid ul Hassan², Rasheed Iqbal²

Department ²Pathology & Microbiology, Aga Khan University, Karachi and ¹Dow University of Health Science, Karachi

Objective: To identify the association between microalbuminuria with protein, sugar, pH and specific gravity of urine.

Method: Micral test (Roche Diagnostics) was used to measure microalbumin concentration, Neutralit pH strip for pH,

Refractometer for specific gravity and Teco urine reagent strips for detection of protein and sugar in urine. All this was done according to the manufacturers instructions in The Laboratory (39 Garden Road Saddar, Karachi) from January 1st - October 10th 2009.

Results: A cross-sectional study of 395 patients was taken out of which a total of 100 patients were found to be positive for microalbuminuria. Males 61 and Females 39. Mean age 49 years. Adults 98 and Children 2. Micro albumin concentrations. 64 patients had 100mg/L concentration. 25 patients had 50 mg/L concentration. 11 patients had 20mg/L concentration. Protein Traces were present in 13 cases. Sugar Traces were present in 13 cases. Mean pH 5.4. Mean Specific Gravity 1022. Range of Specific Gravity. 2 patients had < 1010. 33 patients had >1010 < 1020. 29 patients had > 1020 < 1030. 33 patients had > 1030 < 1034

Conclusion: In our study 25.3% were found positive for Microalbuminuria out of which 87% of the cases had no urinary protein and sugar. All the 100 cases had acidic Ph urine. This helps in early detection of kidney diseases. Microalbuminuria is a good predictor of persistent proteinuria

Keywords: Microalbuminuria, Renal Diseases, Protein and Sugar

12.21

PREVALENCE OF HYPERTENSION IN HEALTHY SCHOOL CHILDREN AND ITS RELATIONSHIP WITH BODY MASS INDEX, PROTEINURIA AND HEMATURIA

Arshalooz Rahman, Farah Qamar, Sohail Ashraf
Department of Paediatrics & Child Health, Aga Khan University, Karachi

Objective: To study the prevalence of high blood pressure (BP) in healthy school going Pakistani children and to verify whether in this population elevated BP values are associated with high BMI, asymptomatic hematuria and proteinuria.
Method: Survey of 660 public school children (age 14.5 ± 1.2 years) was conducted. Measurement of Body weight, height, and BP and urine dipstick for hematuria was performed on a single occasion in each child. Elevated BP was defined as prehypertension if resting systolic and/or diastolic BP values were less than 90th percentile and as hypertension if reading equaled or exceeded the 95th percentile according to gender, age and height, based on the US normative BP tables. Overweight children were defined according to the WHO classification of BMI (body mass index). Children were defined overweight if BMI was between 25-30 and obese if BMI was >30.

Results: Majority (81.8%) of the children were found to be normotensive (BP <90th centile). Pre-hypertension was seen in 15% and hypertension in 3% of the children. According to the WHO defined cut-offs for BMI, 25.5% of the children were overweight and 3% were obese. The organism is not part of the normal human flora, and the rare *Aeromonas* isolates from stools of healthy persons are usually transient. Most (14%) of the pre-hypertensive children had normal BMI for age (>25%). However, amongst the children with BMI > 30 (obese), 37.5% children were pre-hypertensive and 12.5%

were hypertensive. Significant relationship was observed between systolic BP and weight, and between systolic BP and positive urine dipstick for hematuria and proteinuria (RR 1.1 and 4.4 respectively). The coefficient was negative for height i.e. greater centiles of height were protective. Because of covariance between BMI and height and weight, the variable of BMI was analyzed separately and showed significant correlation with systolic BP.

Conclusion: Pre hypertension is the earliest change in BP recordings in over weight children, however pre hypertension is also seen in children with normal BMI. For which other environmental factors should be looked into. Hypertension has a strong correlation with obesity, asymptomatic proteinuria and hematuria in children. Therefore community based screening programmes for children should include BP recording, BMI assessment and urine dipsticks analysis to screen high risk groups for detection, early lifestyle modification and intervention.

Keywords: Hypertension, BMI, Pre-Hypertension

12.22

IN VITRO AND IN VIVO EFFICACY OF TRACHYSPERMUM AMMI LINN IN UROLITHIASIS

*Aslam Khan, Samra Bashir, Anwarul Hassan Gilani
Department of Biological & Biomedical Sciences, Aga Khan University, Karachi*

Objective/Background: Urolithiasis is one of the most painful and oldest known diseases affecting about 12% of the industrialized countries. Currently no effective pharmacological agent is available. Medicinal plants have been used for the expulsion and dissolution of kidney stone since ages. **Objective:** To investigate the crude extract of *Trachyspermum ammi* (Ta.Cr) for possible antiurolithic effect by using the in vitro experiments and in vivo rat models to rationalize its medicinal use.

Methodology: Calcium oxalate crystals were produced by mixing metastable solutions of calcium (Ca⁺⁺) and oxalate (Ox) to see the dose-dependent effect of Ov.Cr on rate of nucleation and aggregation by using an aggregometer and crystal count and morphology by observing under the light microscope. Antioxidant activity was studied using the free radical scavenging and inhibition of lipid peroxidation assays. Antispasmodic effect was studied on high K⁺ (80 mM) and carbachol (CCh), 1 μM- induced contractions in rabbit urinary bladder. The in vivo preventive and curative effects of Ta.Cr were studied using male Wistar rats. Kidney stones were induced by 0.75% ethylene glycol in drinking water for 3 weeks along with ammonium chloride for the first 5 days. In the study for preventive effect, group 1 (Saline group) was given plain tap water for drinking along with saline treatment intra peritoneally; group 2 (control) was given stone inducing treatment with saline while the group 3 and 4 (treated groups) were given stone inducing treatment along with 30 and 100 mg/kg of Ta.Cr, respectively. For curative study, similar treatments were started after 3 weeks of stone inducing treatment and continued for next 2 weeks. At the end of each treatment period, 24 hours urine samples were collected and

the animals were euthanized to collect blood for biochemical analysis and the kidneys were excised for histopathological examination.

Results: Ta.Cr exhibited dose-dependent (0.25-4 mg/ml) inhibitory effect on the slope of nucleation and aggregation and also caused a decrease in number of crystals formed in the CaOx metastable solutions. It also showed dose-dependent antioxidant effect. Ta.Cr relaxed high K⁺ contraction with EC50 value of 0.17 mg/ml (0.125-0.250), indicating calcium channel blocking effect. Ta.Cr (30-100 mg/kg) prevented as well as reversed the toxic changes caused by stone inducing treatment, like, weight loss, high urinary volume due to renal impairment, increased crystalluria, oxaluria, raised serum urea and creatinine levels and crystal deposition in kidneys in both preventive and curative groups compare to the respective control groups.

Conclusion: These data clearly indicate the presence of antiurolithic constituents in Ta.Cr possibly mediated through inhibition of CaOx crystallization, antioxidant and antispasmodic activities, thus the study rationalizes the medicinal use of Ov.Cr in urolithiasis.

Keywords: *Trachyspermum Ammi*, Rats, Antiurolithic

12.23

FREQUENCY OF FALLS IN PATIENT WITH NOCTURIA

*Rajab Ali Ghirano, Syed Raziuddin Biyabani, Imran Khan Jalbani, Riaz Hussain Lakdawala
Department of Surgery, Aga Khan University, Karachi*

Introduction: Nocturia, defined as waking up at night to void, has been reported in more than one third of individuals above the age of 60 years. Nocturia negatively affects quality of life and unfragmented sleep is necessary for maintenance of well being. Nocturia in the older patient can result in significant morbidity from fatigue and falls.

Aim: To assess the frequency of falls in patients with nocturia thus leading to long bones fracture. **Methods:** Patients aged 50-80 years presenting in urology clinic or admitted to the surgical floor at Aga Khan University hospital were recruited for study. The cohort was divided into two groups. Group 1: Patients with no nocturia and Group 2: Patients with nocturia. The patients with benign positional vertigo were excluded from study.

Results: Of the 251 patients studied, seventy three were in group 1 and one hundred and seventy eight were in Group 2. Patients with nocturia were older and had a higher incidence of falls. (p=0.044). The incidence of long bone fractures was higher in group 2 but not statistically significant. Stratified analysis showed increased frequency of falls with increasing age (p=0.001) and with increasing co-morbid conditions (p=0.001).

Recommendation/Conclusion: Our study suggests that nocturia presents as an age dependant risk factor for falls and a potential for fractures. The symptom of nocturia warrants early treatment which could prevent potentially devastating complications.

Keywords: Nocturia, Falls, Fractures

12.24**IMPACT OF PATIENT'S SELF VIEWING OF FLEXIBLE CYSTOSCOPY ON PAIN USING VISUAL ANALOGUE SCORE**

*Kashifuddin, Razzaq Nasir, Hammad Ather
Department of Surgery, Aga Khan University, Karachi*

Objective: In this study we intend to assess and compare the severity of pain during flexible cystoscopy in patients who will be allowed to view their procedure on video monitor to those who will not, to see if there is a difference in pain score from control group. Thus further reduction of the pain during flexible cystoscopy will be achieved, this will decrease the patients discomfort, will require fewer or no analgesic medication, short duration day care stay, and early return to work.

Method: It is a prospective, randomized, controlled study. A total of 76 patients with an indication of flexible cystoscopy were enrolled in the study and were divided into 2 groups; Group A (38 patients) and group B (38 patients). In group A patients viewed the procedure on monitor, Group B patients (38) were control. Statistical analyses were performed using chi-Square test and student t-test.

Results: There was no statistically significant difference in demographic parameters of both groups. Mean age, duration of procedure and indications of procedure were comparable in both the groups. There was statistically significant difference in pain perception in the two groups ($p < 0.001$). The numbers of patients having pain in study group (Group A) were lower than in control group.

Conclusion: Patient who viewed the procedure, experience less pain compared to the Controls.

Keywords: Pain, Flexible Cystoscopy, VAS

12.25**COMPLICATIONS IN PERCUTANEOUS MANAGEMENT OF STAGHORN AND NON STAGHORN CALCULI; APPLICATION OF MODIFIED CLAVIEN'S GRADING SYSTEM**

*Kashifuddin Soomro, Johar Raza, Khurram Siddiqui, Hammad Ather, Raziuddin Biyabani, Amanullah Memon
Department of Surgery, Aga Khan University, Karachi*

Objective: To prospectively grade complications of Percutaneous Nephrolithotomy (PCNL) through application of Claviens' Grading System (CGS) of complication for Minimally Invasive Surgery in the management of staghorn and non staghorn calculi.

Method: Seventy five renal units in 70 patients undergoing PCNL were enrolled prospectively over period of 8 months to document complications according to the Modified CGS for Minimally Invasive Surgery. Grade1 complications include all those managed conservatively without additional intervention. Grade2 complications include blood transfusion and addition of antibiotics. Grade3 complications include

interventions under local (Grade 3a) and general anesthesia (Grade3b). Grade4 complications include life threatening events to patients, injuries to the nearby organ, single organ dysfunction (Grade4a) and multi-organ dysfunction (grade 4b) and mortality categorized as Grade5. Comparative impact of stone burden, staghorn vs. non- staghorn calculi was also assessed by Modified CGS for Complication.

Results: In our series, most common complications observed were Grade 1 (pain-25, fever-24). Nine patients required blood transfusion, 4 patients had addition/change in antibiotics and 5 patients needed high dependency unit postoperatively. Three patients had Grade 4a complications. Statistically significant postoperative hemoglobin drop ($p < 0.001$) was observed in staghorn calculi compared to non staghorn calculi.

Conclusion: According to Modified CGS in our patients the majority of patients had grade1 (40%) and grade2 (15.7%) complications. Staghorn calculi were associated with statistically significant blood loss during PCNL.

Keywords: PCNL, Staghorn, Clavien Grading System

13.4

CLINICAL COURSE AND OUTCOME OF PATIENTS WITH STATUS ASTHMATICUS IN A TERTIARY CARE CENTRE IN PAKISTAN OVER THE LAST TEN YEARS (2000-2009)

Babar Dildar, Ali Bin Sarwar Zubairi, Zeeshan Waheed, Javed Hussain

Department of Medicine, Aga Khan University, Karachi

Objective: To describe the clinical course and predictors of poor outcome in patients admitted with status asthmaticus at a tertiary care centre in Pakistan.

Method: Patients aged 16 years and above diagnosed as acute severe asthma were included. Data collected included demographics, APACHE II score, complications, use of mechanical ventilation, length of hospital stay, and mortality.

Results: Out of 46 patients, 40(87%) were females. The mean age was 54±21 years. Ventilatory support was required in 34(73.91%) patients. In patients who required invasive mechanical ventilation, 10(21.70%) had hospital stay more than 7 days (mean=15±7), and 7(15.19%) had 7 days or less (mean=5±2) p=0.038. In patients who required non invasive ventilatory support 7(15.19%) had hospital stay more than 7 days (mean=12±3 days), and 10(21.70%) had 7 days or less (mean=5±2) p=0.828. In patients who did not require ventilatory support 1(2.17%) had hospital stay more than one week (16 days), and 11(23.87%) had 7 days or less (mean=5±2) p=0.011. Hospital course was complicated by respiratory failure in 33(71.73%) patients, cardiac arrhythmias in 7(15.21%) patients, sepsis in 5(10.86%), and barotrauma in 1(2.17%) patient. Fourty three patients (93.47%) survived and 3(6.52%) died. Mean APACHE II score was 9.30±4.39vs 13.66±2.08, mean PaCO₂ was 53.83±23.07 mmHg vs 80.0±15.13 mmHg and arterial pH was 7.33±0.11vs 7.21±0.09 among survivors and non survivors respectively.

Conclusion: Requirement of ventilatory support and complications during hospitalization were associated with prolonged hospital stay. High APACHE II scores, elevated PaCO₂, and decreased arterial pH on admission were associated with increased mortality.

Keywords: Status Asthmaticus, Outcome, Complications

13.5

REAL LIFE PERSPECTIVE IN OUTPATIENT ASTHMA TREATMENT AT A TERTIARY CARE CENTER OF PAKISTAN

Muhammad Irfan, Muhammad Naeem, Ahmed S. Haque, Javaid A.Khan

Department of Medicine, Aga Khan University, Karachi

Objective/Background: Poor control of asthma is associated with an impaired quality of life and is calculated to be responsible for three quarters of the total costs of asthma. The effectiveness of asthma management is influenced by patient compliance and inhaler technique. Poor compliance with prescribed inhaled treatment is an important cause of uncontrolled disease. Previous studies have shown that only up to a quarter of inhalation meet all criteria of

acceptability. We conducted a study to assess the real life perspective in outpatient asthma treatment. Objectives: To study the prescriptions, compliance and inhaler technique of patients with asthma.

Methods: 181 patients with asthma and using an inhaler for =6 months were studied prospectively. All patients underwent a questionnaire-based interview, medical records review & direct observation of inhaler technique (8 steps). Diagnosis of asthma was based on medical records.

Results: Mean age±SD was 49.31±17.9 years. 52% were female. 90% patients were urban dwellers.. Prescription: The commonest prescribed drugs were salbutamol (60%), salmeterol/fluticasone combination (54%) and beclomethasone in 27%. Inhaled corticosteroids (ICS) were prescribed in 83%. There was a higher trend in prescribing ICS among younger patients in both groups with no sex discrimination. 77% of the patients were prescribed a spacer device & 55% admitted using it every time. Compliance: 61% patients reported total compliance in preceding 6 weeks. Common reasons for non-compliance were feeling better (17%) & forgetfulness (11%) Technique: 84% reported having been previously taught the technique of using inhalers. Only 30% used a metered-dose inhaler (MDI) correctly. 71% used the MDI-spacer combination correctly. The most frequent errors with a MDI were failure to coordinate actuation/inhalation (52%) and inadequate breath-hold (52%). When a MDI-spacer combination was used, inadequate breath holding (58%) & early 2nd actuation (46%) were the weakest steps.

Conclusion: In patients with asthma, inhaled short & long-acting beta2 agonists along with ICS were the most frequently prescribed drugs. More than one third patients reported lack of compliance with prescribed inhalers. Two third were using the MDI incorrectly, where as the MDI-spacer combination was satisfactorily used by the majority. Emphasis on compliance and rechecking of inhaler technique on each visit is recommended.

Keywords: Asthma, Treatment, Inhaler Technique

13.6

THE INFLUENCE OF AGE AND GENDER ON PROPER USE OF METERED DOSE INHALER

Muhammad Naeem, Ahmed Suleman Haque, Muhammad Irfan, Javaid A Khan

Department of Medicine, Aga Khan University, Karachi

Objective/Background: Inhaled therapy remains the most effective and important aspect of asthma maintenance treatment for patients of all ages. Therapeutic benefit depends on a competent inhaler technique. Many older patients have been shown to have poor inhaler technique. This might be a factor contributing to the observation that death rates from asthma have not fallen in the older age group. We conducted this study to assess influence of age & gender on proper use of Metered Dose Inhaler. Setting: Chest clinic of Aga Khan University Hospital, a tertiary care teaching hospital in Karachi, Pakistan. Objectives: To assess the influence of age & gender on proper use of Metered Dose Inhaler in patients with bronchial asthma. **Methods:** This was a cross sectional survey. 202 diagnosed

asthma patients using inhaler for =6 months were studied prospectively. Patients underwent a questionnaire-based interview, medical records review & direct observation of inhaler technique.

Results: There were total 202 patients. 106 (52.5%) patients were female. Mean age \pm SD of all patients was 49.41 ± 17.9 years. Mean age \pm SD of female & male patients was 48.78 ± 17.8 & 50.10 ± 18.0 years respectively. 98 (48.5%) patients were using inhaler with spacer device. Out of all patients 130 (71.8%) patients self-perceived their inhaler technique as being appropriate. Of 96 men, 18 (18.75%) were using a MDI+spacer & 10 (10.4%) without a spacer correctly. Among females 20 (18.8%) with MDI+spacer and 12 (11.3%) without a spacer demonstrated correct inhalation technique. Among the 98 patients who were using a spacer, the correct technique by age groups was shown by 6 (42.8%) in the <30years, 19 (35.38%) in those between 31-60years & 12 (40%) in >60 years. Among patients using inhaler without spacer the correct technique by age groups was shown by 5 (20%) in the <30, 13 (22.80%) in those between 31-60 years & 4 (18.18%) in >60 years.

Conclusion: Self perceived inhalation technique is inaccurate in a vast majority our patients. On assessment only one fourth of the patients were found to be acceptable. No significant influence of age and gender was found on correct inhaler technique. Reassurance and checking on each visit can improve the inhaler technique.

Keywords: Asthma, Inhaler Therapy, Gender

13.7

PUBLIC KNOWLEDGE AND OPINIONS CONCERNING CANCER

*M Babar, AS Haque, M Irfan, JA Khan
Department of Medicine, Aga Khan University, Karachi*

Objective: Early cancer treatment improves outcomes. Inadequate public awareness and knowledge contribute to delay in seeking medical care. Objective: To gain insight into public cancer knowledge and opinions.

Method: A prospective questionnaire and community-based cross-sectional survey.

Results: 520 city-dwellers participated. 285(57%) were men. Mean age \pm -SD was 34 ± 13.1 years. 386(77%) had attended college/university. 180(34%) had an acquaintance with cancer. 106(21%) were exposed to some cancer awareness on mass media. 198(40%) were unaware that cancer was abnormal growth of cells. 6(1%) knew the life time risk of cancer and only 208 (42%) thought that lifestyle as a youth had an influence. 141(28%) recognized the three commonest cancers. 311(40%), 280(46%) and 366(30%) were incognizant of the protective benefits of fruits and vegetables, breast-feeding and stopping smoking respectively. Knowledge of carcinogens was variable, with more than half being uninformed of the risk posed by OCP, excessive sunlight or shisha smoking, but more than three-quarter mindful of the hazards associated with cigarettes, pan and gutkka. Knowledge pertaining to cancer symptoms was poor, with nearly two-third unaware of anorexia, haematuria, blood in stools and hoarseness; and one-third of haemoptysis, weight loss, breast lump as being

worrisome. On management issues, 258(51%) believed a biopsy and 195(39%) that surgery causes dissemination. 181(36%) agreed to close family knowing the diagnosis. **Conclusions:** Significant gaps exist in the public knowledge concerning cancer care. Misgivings are common regarding impact of lifestyle, preventive measures, symptoms, biopsy, surgery and diagnosis sharing. There is a pressing need for public awareness programs.

Keywords: Public, Cancer, Knowledge

13.8

LUNG CANCER AT A TERTIARY-CARE HOSPITAL IN PAKISTAN

*Aisha Afzal, A Suleman Haque, Javaid Ahmad Khan,
Muhammad Irfan
Department of Medicine, Aga Khan University, Karachi*

Objective: Lung cancer is one of the leading causes of cancer-related death in Pakistan. There is dearth of local data on issues related to lung cancer. Aims: To study the risk factors, clinical characteristics, pathologic findings and outcome of patients with lung cancer.

Method: A retrospective review of lung cancer cases (histopathologically confirmed) seen at the Aga Khan University Hospital, Karachi.

Results: One hundred and forty-six cases were studied. Mean age \pm SD was 61 ± 11.2 years. 123 (84%) were men. 121 (83%) were current or ex-smokers and 25 (17%) never-smokers. Commonest comorbids were hypertension in 43 (30%) and previous TB in 42 (29%). Cough and weight loss were the most frequent symptoms in 116 (79%) and 99(66%) cases respectively. Anemia in 26(18%) and cachexia in 20(14%) were the commonest detected signs. CXR showed a central mass in 71 (49%) and a pleural effusion in 55 (38%). 114 (78%) underwent bronchoscopy. There were 27 (18%) cases of small cell carcinoma and 119 cases of non-small cell carcinoma (Squamous 62%, adenocarcinoma 20%, large cell or undifferentiated 19%. ECOG functional status was 2 and 3 in 59 (40%) and 51 (35%) cases respectively. 50 (34%) received chemotherapy, 26 (18%) radiation therapy and 29 (20%) underwent surgery.

Conclusions: Mostly men who are either current or ex-smokers are affected. Distribution of cell type and location are similar in Pakistan to other developed countries.

Keywords: Lung, Cancer, Pakistan

13.9

SIX-MINUTE WALK TEST PERFORMANCE IN HEALTHY ADULT PAKISTANI VOLUNTEERS

*Nisar Ahmed Rao, Muhammad Irfan, Ahmed Suleman Haque,
Ali Bin Sarwar Zubairi, Safia Awan
Department of Medicine, Aga Khan University, Karachi*

Objective/Background: Six-min walk test (6MWT) is useful in assessing functional exercise capacity. Previous authors have published predictive equations for 6MWT distance

(6MWD) among diverse populations groups with varying results. We aimed to determine the 6MWD for healthy Pakistanis, identify factors affecting 6MWD, compare published equations with the local data and derive an equation.

Methods: Subjects between 15 and 65yrs were prospectively enrolled after screening. A standardized 6MWT was administered. SpO₂, HR, BP and dyspnea scores were determined pre and post-test.

Results: 155(70%) men and 65(30%) women participated. Mean±SD age was 33±11yrs. Mean±SD 6MWD was 478±103m: for men 515±89m: for women 390±79m. Univariate analysis showed a direct relationship for gender($r=0.66, p<0.05$), height($r=0.478, p<0.001$) and weight($r=0.217, p<0.001$); and an inverse relationship with age($r=-0.258, p<0.001$). On multiple regression analysis, gender and age explained 36% of the variance in 6MWD. Comparison with published equations revealed a moderate overestimation of the 6MWD in our population. **Conclusions:** 6MWDs among Pakistanis are shorter than predicted by reference equations in literature. Gender and age combined explained 36% of the 6MWD variance. The proposed equation gives predicted (mean) 6MWDs for adult Pakistani naïve to the test when employing standardized protocol. Prospective validation of this equation in future larger community based studies is warranted.

Keywords: Six-minute, Walk, Pakistani

13.11

CAUSES OF SMOKING IN PAKISTAN: AN ANALYSIS OF SOCIAL FACTORS

Sobia Nizami¹, Zain A. Sobani¹, Emmon Raza¹, Noor ul Ain Baloch¹, Javaid A. Khan²

¹Medical College and Department of ²Medicine, Aga Khan University, Karachi

Objective: To determine the factors contributing to the initiation and propagation of smoking in visitors to a major tertiary health center in Karachi, Pakistan.

Method: Seven major contributing factors to the initiation and propagation of smoking were presented to consenting study participants (n=170) in a questionnaire. Participants were then requested to use their experience and opinion to rate each of the given factors on a scale of 1 to 5 regarding its importance as a causative factor in the initiation and propagation of smoking. Results were analyzed using SPSSv16.0.

Results: Preliminary analysis revealed occupational stress relief as the most important factor contributing to smoking with a mean score of 3.25 ± 1.32 . Peer pressure ranked second (Score 3.20 ± 1.42). Domestic stress relief ranked third with a score of 3.19 ± 1.32 . Smokers gave lower rating than non-smokers to most factors. Younger participants gave higher ratings to peer pressure, and most participants were found to have begun smoking at a young age.

Conclusion: Even though the addictive power of nicotine or stress may appear as a factor in middle aged smokers, the root of their habit lies in the initiation due to peer pressure.

The authors of this study recommend that any interventional strategy to prevent smoking should have a primary component targeting young peer groups and adolescents, with secondary components of cessation and support programs for work-related and domestic stress.

Keywords: Social Factors, Smoking,

13.12

A CASE OF CONSTRICTIVE PERICARDITIS PRESENTING AS CHYLOTHORAX

M. Naeem¹, Zain A. Sobani², Ali Zuberi¹, Saulat H. Fatmi³, Javaid A. Khan³

Department of ¹Medicine, ²Medical College and ³Surgery, Aga Khan University, Karachi

Objective: Chylothorax is a rare clinical condition, attributed to a damaged thoracic duct due to either malignant diseases or trauma (Cardiothoracic Surgery). It is characterized by aspiration of milky white fluid from the pleural cavity. Here we present the case of a 15 year old boy with chylothorax whose cause of effusion was identified as constrictive pericarditis.

Method: The patient presented to our out-patient pulmonology clinic with complaints of dyspnea on exertion and dry cough for last three months associated with recurrent pleural effusions. His Chest examination and x-ray findings were consistent with moderate size left pleural effusion. Thoracentesis of the pleural effusion revealed a milky white fluid which when analyzed revealed 112 mg/dl of glucose, 1036 mg/dl of proteins, 672 mg/dl of triglycerides and a total white cell count of 600 with 90% lymphocytes and 10% polymorphonuclear cells. Microscopy was negative with Gram and Ziehl Neelsen staining. The cytology was also negative for malignant cells. 2D-Echocardiography findings were suggestive of constrictive pericarditis, he was then referred to Department of Cardiothoracic Surgery for pericardiectomy. The patient has been under regular follow up for the last 8 months with no recurrence of symptoms.

Conclusion: The definitive treatment of chylothorax involves the identification and management of underlying pathology. The authors of the study recommend that when dealing with a case of chylothorax, constrictive pericarditis should be kept among the differentials.

Keywords: Constrictive Pericarditis, Chylothorax, Tb

13.13

DETECTION OF RESPIRATORY VIRAL PATHOGENS FROM CHILDREN IN PAKISTAN

Calvin S. Akhter¹, M. Kamran Raja¹, Romena Qazi², Syed Asad Ali¹

Departments of ¹Paediatrics & Child Health, ²Pathology & Microbiology, Aga Khan University, Karachi

Background: Rapid and sensitive tests for detection of respiratory viruses are needed to avoid indiscriminate use of

antibiotics and to avail new antiviral drugs effectively. To determine burden of different respiratory viruses in Pakistan laboratory set up was established to perform respiratory viral culture and real time RT-PCR at Aga Khan University. We report the methodology and results of the first 50 throat samples tested for respiratory viruses through viral culture.

Method: Throat swabs were obtained from children, who were admitted with respiratory illness or fever at the Pediatric ward of the Aga Khan University. After basic processing, the samples were inoculated in the commercially prepared R-Mix cell lines. After 24-48 hours of incubation, viral antigen specific murine monoclonal antibodies that are directly labeled with fluorescein for the detection and identification of different respiratory viruses (D3 Ultra Duet™ Respiratory Virus Identification kit) were used to identify positive samples. Screening was followed by typing of positive specimens with type specific reagent.

Results: Initially 50 throat swabs of children were processed according to standard laboratory practices for viral culture planting. Out of 50 we found 3 positive specimens infected with Parainfluenza II, RSV and Adenovirus.

Conclusion: Using viral culture, we were able to identify a respiratory virus in only 6% of the throat swabs obtained from children admitted with respiratory illness at Aga Khan University. Viral culture are less sensitive than real Time RT PCR, and we expect to identify more positives using the RT-PCR, testing of which is currently underway.

Keywords: DFA, Respiratory, Viral

13.14 GIANT PULMONARY CYST WITH MEDIASTINAL SHIFT IN A 12 ½ YEAR OLD GIRL

Asif Jafferani¹, Awais Ashfaq¹, Saulat H. Fatimi²
¹Medical College and ²Department of Surgery, Aga Khan
University, Karachi

Objective: Pulmonary cysts in children represent interesting entities. Mostly congenital bronchopulmonary foregut malformations, acquired cysts like pneumatocoeles have also been described.

Method: We present a case of a 12 ½ years old girl with acute onset respiratory distress symptoms harboring a huge pulmonary cyst exhibiting mass effects and mediastinal deviation. Following initial workup, cyst excision was carried out that revealed presence of fungal hyphae susceptible to Fluconazole therapy post operatively.

Conclusion: The case points out how a pulmonary cyst can also present in older children with symptoms of respiratory distress and mass effects.

Keywords: Pulmonary Cyst, Pneumatocoele, Mediastinal Deviation

13.15 COMMUNITY ACQUIRED PNEUMONIA: QUALITY OF CARE AT A TERTIARY CARE CENTRE

Farooq Oighor, Babar Dildar, Nawal Salahuddin, Ali Zubairi,
Javaid A Khan
Department of Medicine, Aga Khan University, Karachi

Introduction/Community Acquired Pneumonia: Quality of care at a tertiary care centre. Farooq oighor, Muhammad Naeem, Nawal Salahuddin, Ali Zubairi, Javaid A. Khan Section of Pulmonary & Critical Care, Department of Medicine, Aga Khan University, Karachi

Background: Community-acquired pneumonia is a common and potentially serious illness. It is associated with considerable morbidity and mortality. Early antibiotic administration, assessment of oxygenation status, obtaining blood cultures prior to antibiotics administration, pneumococcal vaccination and advice for smoking cessation on discharge are the standard of care. Objectives: To assess the quality of care provided to patients with CAP admitted to AKUH.

Methodology: This is a descriptive observational study of practice patterns against standards outlined by the American College of Chest Physicians in patients with CAP. All patients' =18 years of age requiring admission for CAP were included. Compliance with Antibiotics administration within 1 hour of arrival to ER, obtaining blood cultures prior to antibiotics administration, oxygenation assessment within 24 hours, smoking cessation counselling and pneumococcal vaccination prior to discharge were assessed. Proportion was used to obtain results.

Results: 56 patients were included in our study. Antibiotics within 1 hour administered to 51.78%, Blood cultures prior to antibiotics obtained in 19.64%, oxygenation status assessed in 100%. None of patients received pneumococcal vaccination. Smoking cessation counselling documented in 13.33%.
Conclusion: The quality of care provided to patients with CAP admitted to AKUH is not up to the standard of care.

Keywords: Community Acquired Pneumonia, Quality of Care, Tertiary Care Centre

14.1

AUTOMATION OF THE PROCESS OF LARGE VOLUME PARENTERAL SUPPLY FROM WAREHOUSE AND IMPACT ON COST RATIONALIZATION, INVENTORY MANGAMENT AND SYSTEM IMPROVEMENT

*Farhat Zaheer, Shaikh Hussam, Ehsan Raza Khan
Department of Pharmacy, Aga Khan University, Karachi*

Objective: Large volume parenterals (LVPs) or IV fluids play a major role in treatment plan of hospitalized patients and given intravenously to meet normal fluid requirement or to replenish substantial deficits or continuing losses. with increase number of patient census and hence consumption pattern , the need was felt to streamline the whole process of inventory management and procurement process in order to avoid frequent shortages and to resolve space constraint and maintenance issues due to over stock of dead items and larger space required for their storage and handling.: to automate lengthy procedure of LVPs procurement from warehouse with special emphasis on inventory management and cost reduction
Method: The whole chain of LVP supply from warehouse to pharmacy and from Main pharmacy to satellite pharmacies was redesigned. One year data regarding consumption pattern was gathered through system analysis and consumption based par-levels were defined in the system to meet demands accurately. The procurement process changed from manual requisition (based on self assumption) to consumption based auto-generation setup. In next phase, same process was replicate in satellite pharmacies and instead of generating transfer note; LVPs were delivered through auto-generation process based on consumption pattern of specific areas. This reduced staff efforts and time in preparing manual requisition.

Results: Automation of the process brings significant improvement in terms of inventory management, space constraint, availability of drug, cost effectiveness and time saving approach. Over all inventory cost of LVP reduces by 50% Frequent shortages of LVPs reduces from 54 times to 06 times

Conclusion: Technology/automation played a major role in removing inaccuracies and elimination of lengthy steps in procurement of drug supply (LVPs) and hence improves pharmacy services

Keywords: Pharmacy, LVP's, Automation

14.2

MODIFIED ROLE OF PHARMACY TECHNICIAN IN OPERATING ROOM PHARMACY

*Farhat Zaheer, Kashif Hussain, Yasir.Ali, Muhammad.Faheem
Department of Pharmacy, Aga Khan University, Karachi*

Objective/Background: Operating room pharmacy with its round the clock services to operating room and critical care units needed a modified and balanced role of total work force including pharmacists and technicians . therefore it was felt necessary to have some technicians trained as available back-up staff for the satellite pharmacy so as to manage drug-

distribution activities while providing opportunity for OR pharmacist to focus more towards clinical activities .**OBJECTIVE:** to upgrade pharmacy technician role by assigning drug distribution related activities and opportunity for the OR pharmacist to concentrate on the provision of clinical services.

Methodology: A 3 member team of technician were selected and trained to perform their assigned functions which include: 1. Controlled substance handling 2. Dispensation of specialized packages 3. Dispensation of stat medications against stat medication request form 4. Sterile drug preparation 5. Drug ordering and restocking as per defined par-levels 6. anaesthesia , OR , surgical day care drug stock replenishment 7. Checking of unit dose medication cassettes 8. floor-stock inspection of anaesthesia trolleys 9. Drug expiry control

Results: Modified role of technician in operating room pharmacy brings significant improvement in terms of work management, better utilization of available resources and provide good opportunity for pharmacist to concentrate on the provision of clinical services and improving patient care

Conclusion: Modified role of pharmacy technician in drug distribution and related activities plays a significant role in utilization of pharmacy resources with provision of more clinical oriented activities for pharmacists.

Keywords: Modified, Role, Pharmacy Technician

14.3

PHARMACY DISCHARGE MEDICATION DELIVERY ... PROCESS IMPROVEMENT

*Farhat Zaheer, Yasir Shafique, Naureen Wajid
Department of Pharmacy, Aga Khan University, Karachi*

Objective: Main objective was to bring improvement in process of discharge medication delivery with enhancement in pharmacist order review as well as dispensation timings in order to increase patient satisfaction and development in core process. **BACK GROUND:** Timely discharge medication delivery plays an important role in timely completion of patient discharge process and ultimately better bed management in the hospital... A gap was identified that take home medication delivery process takes an average of 1:42 hours to be dispensed in respective wards after physician order entry. The process ultimately extends patient length of stay in hospital and bed occupancy.

Method/Diagnostic journey: • Identification of hospital units with maximum number of take home orders • Identification of peak timings for discharge orders • Identification of peak timings for inpatient orders • Resources available in pharmacy at the time of peak hours • Identification of reasons behind delayed order processing and dispensing which includes internal and external factors like non-availability of medication , compounding orders , work load due to initial/stat orders , billing issues , physician order clarification , system slowness
Remedial journey: • Remedial journey begins with redesigning discharge medication delivery process by segregation of inpatient and discharge orders during peak hours with setup of discharge pharmacy • Appropriate back up support provided

during peak hours by staff reshuffling • Initially project started with C2, C1, B1 wards and then expanded to D2, A2, B2, PAEDS and C0 units •

Results and Benefits: • Restructuring of discharge process brings significant improvement in take home order processing, review and dispensation timings. • Pharmacist order processing time decreases from 22 minutes to 06 minutes, take home review time from 35 minutes to 15 minutes and take home delivery time from 1:42 hrs to 37 minutes • Improvement in stat medication processing and delivery time observed by reducing work load due to discharge orders • No additional resources required during redesigning process. Only reshuffling of staff at peak discharge time.

Conclusion: Innovation brings significant improvement in core process related to patient care. No additional resources required. Only reshuffling of staff and change in processes contribute significantly and enhance patient satisfaction level.

Keywords: Discharge, Pharmacy, Process Improvement

14.4

DRUG DOSE ADJUSTMENTS IN PATIENTS WITH RENAL IMPAIRMENT – NEW HORIZON FOR I.T. INNOVATION

Ahsan Salwa¹, Sheikh Abdul Latif¹, Raza Syed Shamim¹, Mehmood Shahid¹

Department of¹ Pharmacy Services, and² Information Technology Division, Aga Khan University, Karachi

Objective/Introduction: Patients which are known case of renal impairment obviously need dose adjustments. But those with borderline renal function by virtue of their age, diagnosis, co-morbidities or concurrent nephrotoxic medications are a group which is often not very closely monitored. In our setting, 550 bed tertiary care teaching hospital, Renal dose adjustment is third most common category of interventions made by pharmacists. But these were more eccentric to areas where there is presence of point of care pharmacy services. Need was identified that those wards and patients that are not directly monitored by point of care (clinical) pharmacist, shall have a proper monitoring for renally compromised patients. Our hospital has a computerized physician order entry and online laboratory system. Individual patients could be checked for their laboratory tests inclusive of creatinine as a marker of renal function; but there was no pharmacy-Laboratory interface to identify all (admitted) patients with abnormal creatinine value.

Method/Methodology: Pharmacy worked with IT to develop a laboratory-Pharmacy interface that may help in identifying patients with high creatinine value at a given date or time. This system was developed and termed as Integrated Laboratory Management System (ILMS). Pharmacists daily run the reports for getting patient details with high creatinine, and their drug profile is assessed for any possible dosage/frequency adjustments. These recommendations were communicated to physicians and orders were subsequently changed.

Results: For 6 months analysis, total 3850 patients with abnormal creatinine level were reviewed. Approximately 10%

required actual drug dose/frequency modification. Dose reduction also resulted in substantial cost saving especially when broad spectrum antibiotics or biological drugs were targeted. The average physician acceptance rate for interventions was 85%.

Conclusion: IT solutions in monitoring patients with compromised renal function proved to be very useful and user friendly. It helped in optimizing drug therapy, minimizing overdosing and proved to be cost effective.

Keywords: I.T. Innovation, Renal Dose Adjustment, Laboratory Interface

14.5

PREVENTION OF AWARENESS BY USING BIS MONITORING IN A PATIENT WITH HISTORY OF AWARENESS

Mohammad Yasir, Salma Sophie

Department of Anaesthesia, Aga Khan University, Karachi

Objective: We described a case of awareness in which risk was minimized by using BIS monitoring, in a patient with history of awareness in previous operations. The patient was a 50yr old obese female known case of hypertension and acid peptic disease, had hysterectomy and cholecystectomy 3yrs and 2 yrs ago respectively, gives a history of awareness in both operations. No details are available regarding the previous anaesthetic technique

Keywords: Awareness, BIS Monitoring, Cholecystectomy

14.6

CONVENTIONAL VERSUS DIGITAL MAMMOGRAPHY REDUCING RETAKE RATES

Zohra Sultan Ali Lalji, Waseem Akhtar, Imrana Masroor

Department of Radiology, Aga Khan University, Karachi

Objective: To determine the film retake rates and causes in digital mammography comparison to conventional mammography method.

Materials and Methods: The study was conducted at the Radiology department Aga Khan University. AKUH has shifted from conventional to digital mammography as modality in April, 2008. We studied mammography films that were conducted during the period of six months (1st Oct. 2007 to 31st Mar. 2008) preceding the shift to digital mode. Moreover, for comparison of post shifted (1st April 2008 to 31st Oct. 2008) that utilized digital imaging was also reviewed. As procedure, four films are routinely taken for each patient who undergoes mammogram. A Performa is developed to capture the information on independent variables. Measurements were done for number of mammography films re-take due to different quality control reasons for both the conventional and digital radiography in which quality was questionable. *Result:* During six months 107 mammograms were repeated in conventional mammography due to artifacts (16%), blur (0.94%), double exposed (0.94%), over exposed (14%),

position error by technologist (31%), position error by radiologist (10%), exposure selection error (1.88%), under exposure (22.6%). Positioning error and under exposure were the most frequently responsible factors of repetition as compared to any other factor. In digital mammography during six months 50 films were repeated, due to blur (4%), double exposed (2%), positioning error by technologist (84%) and positioning error by radiologist (10%), the most frequent cause was positioning error.

Conclusion: With digital mammography significantly lesser number of retakes as compare to conventional mammography; hence it minimizes the patients' radiations dose and cost as caused by discarded films. Positioning error remains a dilemma for retake even in digital mammography indicating the need for improvement in training programs and practice for mammography technicians.

Keywords: Digital, Conventional, Mammography

14.7

DOES INCREASING LEVEL OF EXPERIENCE OF RADIOLOGY RESIDENTS REDUCE FLUOROSCOPY TIME IN BARIUM PROCEDURES?

Hasan Rehman¹, Nadir Khan², Waseem Akhtar²

¹Medical College, and Department of ²Radiology, Aga Khan University, Karachi

Objective: In academic institutes a large number of fluoroscopy procedures are performed per year by resident. Our objective of our study is to see if there is any reduction in the duration of fluoroscopy for common procedures with increasing level of experience in radiology residents.

Materials and Methods: Retrospective study on which fluoroscopy examinations conducted for patients during a period of 3 months. Only adult patients were included who had complete procedure. Failed procedures were excluded. Data was obtained from fluoroscopic log books. *Result:* 427 procedures in two fluoroscopy units performed in 3 months. 217 were done by single resident. Total average fluoroscopic times for junior resident is 786 seconds and individual average times for Urethrogram is 139, for BEDC 94, Swallow 238, MCUG 192, NJ 36 and HSG 87. For senior resident is total average time is 677 seconds and individual for Urethrogram is 149, for BEDC 108, Swallow, 213, MCUG 113, NJ 39 and HSG 55. The average total and individual time patient was kept in room was 720 minute for junior resident and 578 minute for senior resident.

Conclusion: Overall the average fluoroscopy time for procedure was less for senior resident compared to junior residents. Overall patients also spent less time in fluoroscopy units when senior residents did procedures. Involvement of senior resident overall can bring patient time in room less and reduce radiation dose by reducing the fluoroscopy times.

Keywords: Radiology, Fluoroscopy Time, Residents

14.8

DETECTION OF BLADDER TUMORS IN PATIENTS USING TRANSABDOMINAL ULTRASOUND: CORRELATION WITH CYSTOSCOPY/HISTOPATHOLOGY

Muhammad Shahbaz Alam, Hasan Rehman, Nadir Khan, Hammad Ather, Mirza, Waseem Akhtar
Department of Radiology, Aga Khan University, Karachi

Objective: To assess the accuracy of trans abdominal ultrasound in detection of focal bladder tumors in patients with hematuria.

Material and Methods: We conducted retrospective analysis of focal urinary bladder abnormalities detected on trans abdominal ultrasound examination in patients referred to the department of radiology with complains of hematuria. Patients were excluded who did not have cystoscopy +/- histopathology. Of 800 ultrasound bladder, 36 patients were included from the period of September 2008 to September 2009 reported as focal lesions in urinary bladder. Data was collected on a structured Performa and evaluated by SPSS.

Results: Of 34 patients, 28 (82 %) were positive for bladder cancer on cystoscopy and histopathology. Biopsy of two lesions came out to be benign cystitis and in four cases, no mass lesion was seen on cystoscopy or biopsy. *Conclusion:* We found that ultrasound is a reliable tool for the evaluation of bladder tumors in patients with hematuria.

Keywords: Cystoscopy, Bladder Tumor, Ultrasound

14.9

TRAINING COMMUNITY HEALTH WORKERS TO DELIVER EARLY CHILD DEVELOPMENT INTERVENTIONS: EXPERIENCES FROM NAUSHEHRO FEROZE, SINDH

Muneera A. Rasheed¹, Aisha K. Yousafzai¹, Zulfiqar A. Bhutta¹, Robert Armstrong², Shahnaz Ibrahim¹
Department of ¹Paediatrics & Child Health, Aga Khan University, Karachi and ²University of British Columbia, Vancouver, Canada

Objective: More than 200 million children under 5 years of age in developing countries do not reach their developmental potential. Of these, a burden of 8 million is shared by Pakistan. An effective early child development programme requires direct learning experiences toward younger children, is targeted towards the disadvantaged and younger and has to be integrated within the health system. The Care for Development Module (CDI) developed by the UNICEF provides messages Early Child Development (ECD) messages which can be used as direct learning for parents. In Pakistan, we found an opportunity to integrate the ECD programme into the health system by collaborating with 'The 'National Programme for Family Planning and Primary Healthcare'. This programme was established in 1994, and is delivered by community based health workers called Lady Health Workers (LHWs) working

in rural and remote areas of Pakistan. For this purpose, the CDI module was locally adapted after a pilot study to be used by the LHWs.

Purpose: The purpose of the study is to conduct a trial to determine the effectiveness of integrating early child development interventions within a national primary healthcare programme in Pakistan. This paper describes training process of the LHWs to deliver the ECD messages based on adapted CDI module. It also includes recommendations how to scale-up for complete district.

Method: The training included formal training in the classroom, and mentoring to be able to deliver knowledge through individual and group counseling.

Results: This is a project in process. Certain issues that arose during the training process to date are discussed. These issues include more hands-on training with mother-child, ensuring frequent support and imparting complex ideas around maternal sensitivity and responsivity like verbal scaffolding, affective emotional response, and social engagement into simple words to a group with eight years of formal education and limited experience with child development, yet maintaining the quality of those ideas.

Conclusion: Training of LHWs is still in progress, but in this short period it seems that training LHWs in a rural community for adapted CCDI module was feasible. However, training needed to address the skills and demands necessary to deliver ECD messages and intervention along with other responsibilities the LHWs have. The major challenges and lessons will arise after a few months. The evaluation at that point will be able to present the most effective and feasible methods of training that could be used for scale-up.

Keywords: ECD, LHWs, Training

14.13 NURSES' AS A WOUND CARE MANAGER

*Nasreen Sulaiman, Amina Malik, Samina Lakhani,
Yamin Vellani
School of Nursing, Aga Khan University, Karachi*

Objective: Traditionally, the wound care was seen as a role of physicians only. However, nowadays with the expanding role of nurses, nurses are actively involved in the dressing of various kinds of simple and complicated wounds and conducting evidence based researches to introduce new methods of wound care. At the Aga Khan University Hospital, this role of dressing nurse was initiated in the year 1996. A separate nurse clinic for the patients with wound care management was started in the year 1998. A separate nurse was trained and certified for the management of simple and complicated of wounds of patients admitting in the hospital. Her role is to do various kinds of wound dressings of patients. Moreover, the concept of modern dressing was introduced through her among the residents and new interns joining the surgical unit. the objectives of the study were; to assess the role of nurses in wound management, to improve the practice and further enhancement of the role in the surgical unit.

Method: Cross sectional study design Survey and Case reviews were used as a method of data collection. descriptive statistics were used for data analysis

Results: Her role includes conducting classes and training for the doctors. Moreover, continual follow up with the patients and their home care is also part of her responsibility. She also provides consultancy for appropriate type of dressing on different kinds of wounds on regular basis. Nearly, she spent 9 hrs/day for this task. She also corresponds with different companies to provide facilities to patients in various wound care aspects. On a day, dressing nurse does dressings of 8-10 patients for every kind of bedsores, diabetic foot, carbuncle, breast abscess, incisional and surgical wounds, exudating wounds, fistulas, necrotizing wounds etc. her role is continually expanding day by day.

Conclusion: The role has not only enhanced the image of nursing but also improved the patient care levels, cost reduction in the patient care and increased patient satisfaction.

Keywords: Surgical Wounds, Dressing Nurse, Role Advancement

14.14 HARMONIC SCALPEL VERSUS ELECTROCAUTERY TONSILLECTOMY

*Naeem Sultan Ali¹, Shabbir Akhtar², Mubasher Ikram²
¹Alumni, ²Department of Surgery, Aga Khan University,
Karachi*

Objective: Despite refinement in surgical technique, instrumentation and anesthetic delivery for tonsillectomy, two areas of major concerns-bleeding and postoperative pain-remain significant challenges for the surgeon and the patient. We carried out prospective study to compare harmonic scalpel (HS) tonsillectomy with electrocautery (EC) tonsillectomy in terms of operating time, intra-operative blood loss, post-operative pain and secondary hemorrhage at Aga Khan University Hospital Karachi Pakistan from June 15th, 2006 to August 30th, 2008.

Method: It was a Quasi experimental study conducted in Department of Otolaryngology and Head Neck Surgery at Aga Khan University Hospital Karachi. Duration of study was from 15th June, 2006 to 30th August, 2008. A total of 60 patients divided into two equal groups were included in this study. All patients above 18 years of age regardless of gender with: Recurrent tonsillitis, obstructive sleep apnea, history of quinsy, suspected malignancy were included in this study. Patients having bleeding disorders or significant chronic illness that would interfere with expected recovery were excluded from this study. All the patients undergoing tonsillectomy and meeting inclusion criteria were recruited in the study and informed consent was obtained. A brief history and relevant clinical examination was carried out before surgery. Preoperative hemoglobin and hematocrit levels were assessed. Patients were divided in two groups by using random numbers table. Patients undergoing harmonic scalpel tonsillectomy were studied in group A and other patients undergoing electrocautery tonsillectomy were in group B. Patient were briefed about visual analog scale (VAS) for pain prior to surgery. Duration of surgical procedure was recorded from the time of insertion of mouth gag until the time of its removal at the end of procedure. Intra-operative blood loss was assessed by weighing standard tonsil swabs pre and post

operatively. Each swab weighing more than 1 g was considered containing 5cc of blood when fully soaked. Post operative pain was assessed at 6hr after recovering from anesthesia by means of a 10 point visual analog scale and same scale was also provided to patient for pain scoring on daily basis till follow-up. All patients were discharged on antibiotic, analgesia and standard instruction for diet. All the patients were examined 1 week later and their pain was reassessed using same methodology. Any episode of post operative bleeding was also noted down along with rest of the information in the proforma. Data Analysis Procedure: Data was analyzed on SPSS 16 software. Continuous variable like post operative pain (0 to 10 pain scale), operative time (in minutes) and intra-operative bleeding (in ml) was presented by mean SD and for statistical significance student "t" test was applied. Similarly, categorical variable like secondary hemorrhage was presented by frequency & percentage and "Chi square" test was applied. $p = 0.05$ was considered significant. **Results:** The mean operative time was less in electrocautery group (EC 3.57 minutes Vs HS 4.20 minutes; $p < 0.05$). The mean intra operative blood loss was less in HS group (EC 3.43ml Vs HS 2.40ml ; $p = 0.1009$). Post operative was lower in harmonic scalpel group as compared to electrocautery group on 1st, 2nd and 3rd postoperative day ($p < 0.05$). From 3rd postoperative day onwards, although harmonic scalpel group was slightly better in terms of pain on visual analog scale but it was not statistically significant. Post operative pain was present in all patients in HS but to a lesser extent than the EC group. There was no major post operative hemorrhage in HS that required surgical attention. HS has the advantage over the EC (3.3% vs. 10% respectively) when secondary hemorrhage after tonsillectomy is considered (EC 10% Vs HS 3% ; $p = 0.61$). **Conclusion:** Our findings are encouraging and suggest that the HS tonsillectomy provides advantage over EC in terms of with respect of less intra operative blood loss and decreased early post operative pain but operative time was less in EC group.

Keywords: Harmonic Scalpel, Electrocautery, Secondary Hemorrhage

14.15 INDUCTION POSITION FOR SPINAL ANAESTHESIA: SITTING VERSUS LATERAL DECUBITUS POSITION

Khurram Shahzad, Gauhar Afshan
Department Anaesthesia, Aga Khan University, Karachi

Objective: Spinal anaesthesia may be induced with the patient in lateral decubitus or sitting position. Induction position may affect the spread of local anesthetic drugs causing various block characteristics of sympathetic, sensory, and motor nerves. The objective of this study is to compare the effect of induction position on sympathetic, sensory and motor nerve blockade characteristics in elderly patients undergoing spinal anaesthesia

Method: A total of seventy, ASA I, II and stable III patients, aged >60 years of both genders undergoing spinal anaesthesia,

were included. Patients were assigned randomly to one of the two groups. In group A spinal anaesthesia was performed in sitting position while in group B in lateral decubitus position. Assessments of sensory, motor and sympathetic nerves (heart rate, systolic & diastolic blockade) were done for twenty minutes. Patients were also asked about their comfort level during induction of spinal anaesthesia

Results: No statistical differences were found for demographics and hemodynamic variables. For sensory block characteristics both the groups were well matched except onset of anaesthesia which was faster in sitting group. There was no difference in the motor block characteristic. Patients found both the positions comfortable with much satisfaction towards the lateral group.

Conclusion: Both the induction positions, sitting and lateral, have similar effects on distribution of isobaric local anesthetics causing neural blockade however, onset of sensory blockade is faster in sitting position & patients were found more comfortable in lateral decubitus position

Keywords: Spinal Anaesthesia, Lateral Decubitus Position, Sitting Position

14.16 TRACHEAL RECONSTRUCTION FOR COMPLEX ACUTE TRACHEAL STENOSIS

M. Qasim Raza¹, Alina Ghnai¹, Awais Ashfaq¹, Saulat H. Fatimi²
¹Medical College and ²Department of Surgery, Aga Khan University, Karachi

Introduction: Tracheal stenosis refers to a reduction in the size of the tracheal lumen and can be due to a myriad of reasons, but the most common to date remains trauma. In iatrogenic situations, internal trauma is most likely the culprit, resulting from prolonged intubation. Our case reviews a patient who developed severe tracheal stenosis (90% reduction in lumen size) within a month of a 3-day-long intubation and presented to our ER with dyspnea, orthopnea and stridor. After considering all possible conservative interventions, surgery was chosen to be the best option. The stenosed segment was resected and an end-to-end anastomoses was created across the resected segment. The patient returned a month after being discharged with similar complains of shortness of breath and a bronchoscopy revealed granulation tissue in the proximal trachea, causing 75% reduction in tracheal lumen. A tracheal dilation and tracheostomy were performed and the patient's symptoms significantly improved. The patient was then discharged with the tracheostomy.

Keywords: Trachea, Reconstruction, Stenosis

14.17 CAROTID CAVERNOUS FISTULA IN A PATIENT WITH CORONARY ARTERY DISEASE

Syed Shahabuddin¹, Omer Ashraf², Ehsan Bari¹, Hasanat Sharif⁴
Department of ¹Surgery, and ²Alumni, Aga Khan University,
Karachi

Objective: Carotid cavernous fistulas are abnormal communications between the carotid and cavernous vasculature, with potential for serious neurological and ocular sequelae. There is considerable literature on the neuro-radiological management of carotico- cavernous fistula depending upon their flow status. The coronary artery bypass grafting (CABG) for coronary artery disease (CAD) is a well established method of revascularization. However, the association of carotid cavernous fistula in presence of CAD is an infrequent occurrence. We present a case of coronary artery disease scheduled for bypass surgery, developed spontaneous bilateral carotid cavernous fistulas, highlighting a unique aspect of association between coronary and carotid disease.

Keywords: Carotid, Coronary, Fistula.

14.18 DEEP HYPOTHERMIC TOTAL CIRCULATORY ARREST FOR INTERNAL CAROTID ARTERY ANEURYSM EXTENDING INTO THE CRANIUM

Syed Shahabuddin¹, Abid Jabbar², Ijaz Hidayat³, Saulat Fatimi¹
Departments of ¹Surgery and ²Nursing Education Services,
Aga Khan University, Karachi

Objective: Cardiopulmonary bypass is commonplace for acquired and congenital cardiac procedure. It has also stretches to facilitate complicated non cardiac operations. Carotid artery aneurysms are both treated with surgical repair without cardiopulmonary bypass (CPB) and occasionally by utilizing CPB perfusion technique. We have successfully repair an internal carotid artery aneurysm extending into cranium in a 30 year old woman by establishing deep hypothermic circulatory arrest on cardiopulmonary bypass.

Keywords: Cardiopulmonary Bypass, Carotid Aneurysm, Deep Hypothermic Circulatory Arrest

14.19 EXTENDING THE SCOPE OF CARDIOPULMONARY BYPASS

Syed Shahabuddin, Mumeer Amanullah, Saulat Fatimi, Hasanat Sharif
Department of Surgery, Aga Khan University, Karachi

Introduction: Traditionally cardiopulmonary has been used for addressing congenital, valvular and ischemic heart disease. However, owing to technical advancement and increase safety

of cardiopulmonary bypass, its uses are stretched for non traditional cases.

Method: All patients undergoing non traditional cardiac surgery utilizing the cardiopulmonary bypass during the year 2009 were reviewed. Their preoperative presentation, operative strategy and immediate postoperative status were assessed. *Results:* A total of five such cases were identified. There were, three female and two male patients. Two patients presented with road traffic accident having aortic transection along with other injuries. They under went repair utilizing partial cardiopulmonary bypass. One patient presented with large PDA aneurysm and symptoms related to its pressure effect on respiratory system predominantly. He underwent repair first under partial left heart bypass and then hypothermic circulatory arrest. These three patients were done via left thoracotomy. Two patients underwent deep hypothermic circulatory arrest, one for removal of thrombus from right atrium after complicated liver abscess and hepatic vein thrombosis and other required vascular graft interposition in left internal carotid artery for aneurysm extending into cranium. The former was done with complete sternotomy and later was done with partial sternotomy. One patient required exploration for bleeding. Overall postoperative course was unremarkable and all patients were discharged home.

Conclusion: Our modest experience highlights the extension of the scope of cardiopulmonary bypass, facilitating to perform complex, technically challenging non cardiac procedures with safety.

Keywords: Cardiopulmonary Bypass, Non-Cardiac, Hypothermia

14.20 INCISIONAL HERNIA REPAIR: A COMPARATIVE ANALYSIS BETWEEN SUTURE AND MESH REPAIR

Hassaan Bari, Rehman Alvi
Department of Surgery, Aga Khan University, Karachi

Objective: The reported incidence of incisional hernia after abdominal surgery is 11 – 20 percent. Although many techniques of incisional hernia repair have been described, the results are often disappointing. Current literature reports recurrence rate of 30-50 % after primary repair and up to 34 percent after mesh repair. Also prosthetic repair is associated with a higher incidence of hematoma, seroma and infection. The purpose of this study was to compare the postoperative complications and recurrence rates after open incisional hernia repair with suture or prosthetic mesh placement and to identify risk factors responsible for postoperative surgical site infection after incisional hernia repair.

Method: All patients who had been diagnosed to have and operated for incisional hernia of the anterior abdominal wall at the Aga Khan University Hospital (AKUH) Karachi, Pakistan, between January 1994 and December 2004 were identified from the medical records maintained in the Department of Health Management and Information System. They were divided into two groups on the basis of type of hernia repair. Group I included all patients who underwent open prosthetic mesh repair and Group II comprised of patients

who had a traditional suture repair for incisional hernia. Data were analyzed using Statistical Package for Social Sciences (SPSS version 11.0).

Results: A total of 507 patients underwent open incisional hernia repair in the study period, out of which 335 patients underwent mesh repair (Group I) and 172 had suture repair (Group II). Postoperative complications were more frequently recorded in patients with suture repair (Group I: 26.8%, Group II: 36.6%, $p = 0.00$). The rate of early wound infections was not significantly different between the two groups ($p = 0.72$). However recurrence of hernia was significantly more common after suture repair (Group I: 9.9%, Group II: 27.3%, $p = 0.00$). A total of 89 patients developed surgical site infection out of 507 patients. Presence of co morbid ($p = 0.01$), emergency surgery ($p = 0.04$) and surgery of more than 180 minutes ($p = 0.04$) were the significant risk factors identified for development of surgical site infection postoperatively. **Conclusion:** As there was no difference in the development of postoperative complications after suture and mesh repair and recurrence rate was significantly more common after suture repair we recommend that mesh repair should be the procedure of choice for incisional hernia repair.

Keywords: Hernia, Mesh Repair, Infection

14.21

COMPARISON OF HEMODYNAMIC RESPONSE TO ENDOTRACHEAL INTUBATION ASSISTED WITH GUM ELASTIC BOUGIE VERSUS CONVENTIONAL INTUBATION IN PATIENTS UNDERGOING ELECTIVE SURGICAL PROCEDURES

Shahnawaz Ali, Fazal Hameed Khan
Department of Anaesthesia, Aga Khan University, Karachi

Objective: Laryngoscopy and intubation, one of the essential parts of anaesthesia in most of the surgical procedures can lead to a number of potential hemodynamic complications and side effects. Many drugs and equipments have been tested to attenuate the hemodynamic response due to it. Gum elastic bougie (GEB) is a semi-malleable stylet that may be introduced into the trachea without lifting the epiglottis after laryngoscopy and then an endotracheal tube can be rolled over it to intubate the patient. In current study GEB was given trial to evaluate its effects on laryngoscopy and intubation response in patients with normal airway.

Method: 100 patients with normal airways were randomly divided into two equal groups. Patients in conventional intubation (CI) group were intubated in a routine way. In GEB group, laryngoscopy was performed, GEB was introduced in the airway and an endotracheal tube was rolled over it. **Results:** Demographic data were comparable in both the groups. There was significant attenuation of systolic blood pressure at 1 minute after intubation in GEB group ($p=0.03$). Systolic and diastolic blood pressures, and mean arterial pressures remained lesser in GEB group than in CI group at all time points but it was statistically insignificant. Heart rate remained higher in GEB group but it also was statistically

insignificant. In GEB group 'laryngoscopy and intubation time' was significantly higher than in CI group ($p=0.026$). **Conclusion:** This present study concludes that intubation performed using gum elastic bougie blunts systolic and diastolic blood pressures and mean arterial pressures more as compared to the conventional intubation.

Keywords: Gum Elastic Bougie (Eschman Tracheal Tube Introducer), Hemodynamic Response, Laryngoscopy and Endotracheal Intubation

14.22

USE OF THE AREA UNDER A RECEIVER OPERATING CHARACTERISTICS (ROC) CURVE IN MEDICAL RESEARCH

Safia Awan
Department of Medicine, Aga Khan University, Karachi

Introduction: Receiver operating characteristic (ROC) curves are frequently used in medical research to evaluate classification and prediction models for decision support, diagnosis, and prognosis. The discrimination capacity of logistic regression models is often measured by cross-classifying observations and predictions in a two-by-two table. An alternative approach is described which measures discrimination capacity in terms of the area under a relative operating characteristic (ROC) curve relating relative proportions of correctly and incorrectly classified predictions over a wide and continuous range of threshold levels. In this paper, we will intricate on the meaning of the ROC curve, using the links between it and other statistical concepts. Although ROC graphs are apparently simple, there are some common misconceptions and pitfalls when using them in practice. The purpose of this paper is to serve as an introduction to ROC graphs and as a guide for using them in research.

Keywords: Receiver Operating Characteristic, Discrimination Capacity, Medical Research

14.23

COMMON STATISTICAL MODELLING TECHNIQUE IN MEDICAL RESEARCH – LOGISTIC REGRESSION ANALYSIS

Safia Awan
Department of Medicine, Aga Khan University, Karachi

Introduction: Regression methods are essential to any data analysis in medical settings to describe the relationship between a response variable and any number of predictor variables. Logistic regression analysis is considered the most common technique of model development for decisions. There have been numerous retrospective medical research studies published each year that review past medical records and charts of patients to help to determine the risk factors of diseases. Finding the risk factors and the potential risk factors can help

prevent the development of the disease. All of the diseases and nearly all of the risk factors considered are categorical variables (variables taking on two or more possible values). Hosmer and Lemeshow, two prominent statisticians, state that "the logistic regression model has become the standard method of analysis in this situation." the goal of the logistic regression analysis is to describe the relationship between an outcome (dependent or response variable) and a set of independent (predictor or explanatory) variables.

Keywords: Statistical Modeling, Logistic Regression, Retrospective

14.24 FACTORS INFLUENCING THE OUTCOME OF COLOSTOMY REVERSAL

Salma Khan¹, Rehman Alvi¹, Zara Awan²
Department of ¹Surgery, ²Medical College, Aga Khan
University, Karachi

Purpose: To determine the distribution of complications and the factors associated with colostomy reversal complications in the Aga Khan University Hospital Karachi, with special emphasis on the type and location of stoma, the operative technique and the effect of drain outcome.

Methodology: Case series involving retrospective collection of data via review of patient file records using a predefined data extraction sheets. Patients who underwent colostomy reversal during January 2000 to December 2007 and who were aged more fifteen years with a completely recorded follow-up of at least one month were included in the study. The data collection Performa included information about the demographics details of colostomy reversal including preoperative, intraoperative and postoperative variables; and the complications of reversal. Frequencies, measures of central tendency, chi-squared test and t-test were used as applicable.

Results: A total of 120 subjects underwent colostomy reversal but only 96 met the inclusion criteria. The mean age of the subjects was 40 years (Range: 17-76 years), with male subjects making a majority (n=72). The most frequent indication was traumatic bowel perforation (n=53). Loop colostomy was performed in 68 subjects and the sigmoid colon was used in most of the surgeries (n=50). The mean duration from the colostomy procedure to its reversal was 163 days (32-200 days). Mean hospital stay after the reversal procedure was 8.33 days (4-20 days). Complication occurred in 40 patients. Most common complications were wound infection (n=19) and incisional hernia (n=15). Those without complications had a hospital stay of 7 (± 2.4 days) days after the reversal procedure and those with complications of 9 days (± 2.8 days). This was found to be significant with a p-value of 0.037. The indication of the surgery was significantly related to the occurrence of local complications (p=0.028) and as the ASA score increased, so did the local complication rate (p=0.026). Presence of comorbid (p=0.17) had no effect on the outcome.

Leaving the wound open or closed (p=0.48), placement of drain (p=0.347), use of preoperative antibiotics (p=0.412) and use of bowel preparation before operation (p=0.84) are

insignificantly associated with the development of postoperative wound infection.

Conclusion: colostomy is commonly preformed procedure. complication rate Is 40% which is comparable with international study

Keywords: Colostomy, Intussusception, Adult

14.25 NON-INVASIVE PRENATAL DETERMINATION OF FETAL RHD GENOTYPING FROM MATERNAL PLASMA: FIRST PROSPECTIVE PRELIMINARY STUDY IN PAKISTAN

Nuruddin Mohammed, Fatima Kakal, Mehrin Somani,
Wajiha Zafar, Yasmin Khan
Department of Obstetrics & Gynaecology, Aga Khan
University, Karachi

Objective: Non-invasive prenatal diagnosis of fetal RHD status in D-negative women is a vital aid to the management of hemolytic disease of the fetus and newborn. The purpose of this study was to determine the accuracy of the non-invasive prenatal determination of real-time polymerase chain reaction based fetal RHD genotyping from maternal plasma.

Methodology: Cell-free plasma DNA from 21 D-negative women with D-positive spouse between 20-39 weeks of gestation was tested for the presence of exon 5 region of RHD gene using Real-time polymerase chain reaction. β -globin was employed as the house-keeping gene.

Results: Of the 21 D-negative women 13 and 8 neonates were determined to be D-positive and D-negative, respectively, by serologic studies on cord blood samples at birth. RHD status was correctly determined in 17 of 21 cases. There were three false-positive and one false-negative results. The sensitivity and specificity of the assay was 92.3% (95% CI: 62.1, 99.6) and 62.5% (95% CI: 25.9, 89.8), respectively. The positive and negative predictive value of the assay was 80% (95% CI: 51.4, 94.7) and 83.3% (36.5, 99.1), respectively.

Conclusion: Our preliminary study results demonstrate the feasibility of non-invasive prenatal diagnosis of fetal RHD status of D-negative mothers in Pakistan.

Keywords: Non-Invasive Prenatal Diagnosis, Rhd Genotyping, Cell-Free Fetal Dna

14.26 RESULTS OF RADIOLOGICAL PLACEMENT OF PERIPHERALLY INSERTED CENTRAL CATHETERS AT AGA KHAN UNIVERSITY HOSPITAL KARACHI.

Amin Rajani, Rana Shoaib, Ishitiaq Chisti, Tanveer ul Haq
Department of Radiology, Aga Khan University, Karachi

Objective: Venous access is a critical issue in the care and management of wide variety of patients. The insertion of central venous catheters for patients requiring long-term venous access is now common. Peripherally inserted central

catheters provide effective short- and intermediate term intravenous access in patients requiring therapies like IV antibiotics, chemotherapy, hyperalimentation and administration of other medications. PICCs have several potential advantages, including use of local anesthesia, a low risk of major hemorrhage, and no risk of pneumothorax. PICCs are now increasingly placed by interventional radiologists in angiography suite. With use of fluoroscopic and ultrasound guidance higher success rates are achieved as compared to bedside placement of these catheters. The aim of this study was to evaluate the success and immediate complication rates of radiologically guided PICC line insertion.

Method: Six months data was retrospectively evaluated of patients who underwent PICC insertion in interventional radiology suit of our department. All procedures were performed under strict aseptic measures after infiltrating local anesthesia. 4 Fr single lumen catheters were inserted in all patients under fluoroscopy guidance after ultrasound guided puncture of an arm vein. Clotting parameters of all patients were assessed prior to venous puncture. Tip of the catheters were placed in distal third of superior vena cava. **Results:** A total of 416 PICC lines were inserted in 337 patients over the study period. 279 (82.7%) patients underwent single insertion and 58 (17.2%) patients underwent multiple insertions of PICC. Among these 58 patients who had multiple insertions total 137 (32.9%) PICC lines were placed. Success rate for PICC insertion was 99.52%. Immediate complication rate for insertion of PICC was 0.48%.

Conclusion: Radiologically guided placement of PICC by interventional radiologists is a simple, safe and effective procedure in patients requiring long term venous access.

Keywords: Central Venous Access, Interventional Procedures, Venous Catheters

14.27

Complementary and Alternative Therapy (CAT) in Clinical Practice

*Shabana Saleem Lalji, Khairunnissa Hooda
Nursing Education Services, Aga Khan University, Karachi*

Introduction: Complementary and alternative medicine (CAM) is a group of diverse medical and health care systems, practices, and products that are not generally considered to be part of conventional medicine. CAM is usually referred as mind-body medicine because it is an approach to heal that uses the power of thought and emotions. Complementary medicine is used together with conventional medicine. An example of a complementary therapy is using aromatherapy to help lessen a patient's discomfort following surgery. An example of an alternative therapy is using a special diet to treat cancer instead of undergoing surgery, radiation, or chemotherapy. Recently, the status of (CAM) has gained a lot of recognition worldwide may be because it is considered cost-effective, efficient, less invasive, and more accessible. Example are acupuncture, naturopathy, herbalism, tradition Chinese's medicines, yoga, biofeedback, homeopathy, diet-based therapies, energy healing therapy. While providing holistic approach, nurses face

challenges when patient asked them to provide complementary therapies, because many of the complementary therapy (CT) does not have the scientific rationale which generates ethical dilemmas. CNO, In lieu of this concern has published a detailed guideline for nursing responsibilities in providing CAM which found very useful when it comes to professional accountability in relation to scope of nursing practice while caring for patients. As nurses' play a vital role in provide services they need to understand all aspects of CAM, including costs, patient knowledge, and drug interactions, if they are to promote holistic strategies for patients seeking to achieve a higher quality of life.

Keywords: Complementary And Alternative Medicine (CAM), Complementary Therapy (CT), Challenges

14.28

SURGICAL RESCUE OF EMBOLIZED AMPLATZER DEVICES

*Muneer Amanullah¹, Maria Siddiqui², Mehnaz Atiq³, Mubashir Zareen Khan¹
Department of ¹Surgey, ³Paediatrics & Child Health, Aga Khan University, Karachi, and ²Liaquat National Medical College*

Objective: Trans-catheter closure of ASD and PDA with Amplatzer septal/duct occluder (ASO/ADO) has been well established. It has been reported as a safe and efficient procedure with a high success rate. However the technique has also had occurrences of various adverse events which may manifest themselves in either early or late stages. A few reported ones include cardiac perforations, residual shunts, vascular trauma, thrombus formation, atrioventricular valve regurgitation and atrial arrhythmias with the ASO. Device related endocarditis, iatrogenic coarctations, hemolysis and impairment of blood flow in the pulmonary artery are associated with the ADO. Device embolization, however, is one of the major recognized complication common with both the ASO and ADO. Even with some studies portraying a relative incidence of 0.55%, embolisation still remains the commonest reason for immediate surgical intervention for retrieval of the ectopic device, correction of the defect and inspection of other intra-cardiac structures for injury. **Objective:** The aim of this study is to share the experience of management of embolised ASO/ADO and to emphasize the importance of surgical support complimentary to interventional procedures.

Method: Of the 173 cases of device closure performed from July 2006-December 2009, four patients had device embolization requiring immediate surgical retrieval. Case 1; 16 year old girl with a large Secundum ASD. ASO embolization and entrapment in the annulus of the tricuspid valve. Percutaneous retrieval attempts were abandoned as device changed its orientation and emergency surgical retrieval was required as patient developed PVC's. Case 2; 53 year old woman with a 15 mm secundum ASD. Embolization of device into the ascending aorta. Underwent device retrieval and surgical closure of ASD. Retrograde aortic perfusion dislodged the device further and it was later found in the left ventricle,

entangled in the chordae of the mitral valve. Case 3; 8 month old infant treated for a PDA with ADO. Device embolization into the descending aorta. Percutaneous retrieval attempts failed and led to hypo-perfusion in lower limbs, which led to immediate transference to surgery. Complicated with spells of bradycardia, arrhythmias, ventricular fibrillation and tachycardia. Case 4; 4 year old girl treated for hypertensive PDA with ASO. Dislodged device in the hilum of the right pulmonary artery. The process of device removal was complicated by massive bleeding from a tear in the pulmonary artery at the site of the cross clamp leading to bradycardia and hypotension. Emergency cardiopulmonary bypass (CPB) was established, pulmonary artery primarily repaired and PDA ligated.

Results: All four devices were retrieved successfully with a very low morbidity and no mortality.

Conclusion: Careful consideration should be given to surgical or trans-catheter closure of a heart defect. Life threatening complications although rare can occur, thus ASO/ADO deployment should only be entertained in a facility that can complement it with emergency surgical support. The cases demonstrate the importance of the timely action of transference to surgery as percutaneous retrieval attempts had proved futile in all of the above. Without a fully equipped surgical facility and experienced surgeons the patients' lives would have been jeopardized significantly. Hence the interventionalists and surgeons also need to work together for successful application of this technique.

Keywords: Septal Defect, PDA, Embolised Amplatzer Device

14.29

DID EXPERIENCE MAKE A DIFFERENCE IN PERCUTANEOUS CLOSURE OF ATRIAL SEPTAL DEFECTS?

Mehnaz Atiq¹, Sohail Abraar Khan², Fateh Ali Tipu², Muhammad Hamid³, Mansoor Khan³, Muneer Amanullah⁴
Department of¹Paediatrics & Child Health, ²Medicine, and ³Anaesthesia, and ⁴Surgery, Aga Khan University, Karachi

Objective: Secundum atrial septal defect (ASD) accounts for 10% of congenital heart defects at birth. Percutaneous closure of atrial septal defects (ASD) was first attempted in 1976 and has evolved over 3 decades as a safe alternative to surgery. This is largely due to growing experience of the operators and improved design of the devices. We undertook a study to evaluate how the learning curve and experience has affected percutaneous ASD closures in our centre.

Method: Eighty eight patients who underwent attempted percutaneous closure of ASDs over last 7 years were reviewed retrospectively. There were 36 males. Patients were divided into 2 groups "A" (initial 3 ½ years) and "B" (subsequent 3½ yrs) representing early and late experience of the operators. There were 33 patients in group A and 55 patients in group B. All patients had the ASDs closed with Amplatzer septal occluder except one with multiple ASD's who had a Cardioseal device placed

Results: The mean age in group A was 29±14 (range 8-56yrs) and 17±11 yrs (range 0.5-54yrs) in group B. Forty seven

patients were less than 15 yrs of age, the youngest being 6 months old. The mean size of ASD on transthoracic echocardiogram was 19±4 mm. The mean size of the ASD on transesophageal echocardiogram was 20±8 mm in group A and 22±12mm group B (p=0.03). Mean QP/QS in group A was 3.1±0.8 and 3.7±1.8 in group B. Balloon sizing was done in all patients in group A and 24 patients in group B. Ratio of device size to TEE size of defect was 1.45±0.2 in group A and 1.2 ±0.08 (p=0.04). There were failure of device placement in 2 patients in Group A and 3 in group B. Device embolization occurred in 2 patients in group B and none in group A. Both of the embolized devices were retrieved by surgery. Atrial fibrillation occurred in 3 patients in Group A and 1 in Group B. Combined procedures were done in 4 patients in Group B in whom ASD's were closed along with a PDA in 2 and balloon pulmonary valvuloplasty in 2. **Conclusion:** Surgical repair of secundum atrial septal defects has long been proven to be a safe procedure with low mortality. However morbidity related to cardiopulmonary bypass, post-pericardiotomy syndrome, arrhythmias, long hospitalizations and permanent sternotomy scar have all made percutaneous closure an attractive alternative. Our study showed closure of larger ASDs, younger patient age and use of relatively smaller device to defect ratio with experience. Embolizations were seen only in group B.

Keywords: Atrial Septal Defects, Amplatzer Septal Occluder, Interventional Cardiology

14.30

DUAL CHAMBER PACEMAKER IMPLANTS - A NEW OPPORTUNITY IN PAKISTAN FOR CHILDREN WITH CONGENITAL AND ACQUIRED COMPLETE HEART BLOCK.

Awais Ashfaq¹, Mansoor A Khan², Mehnaz Atiq³, Muneer M. Amanullah⁴
¹Medical College, Departments of²Anaesthesia, ³Paediatrics & Child Health, and ⁴Surgery, Aga Khan University, Karachi

Introduction: Implantation of cardiac pacemakers has been practiced for at least five decades with continuous developments of the hardware. The invention of dual chamber pacemakers has initiated a debate concerning its superiority over single chamber ventricular pacemakers. Throughout the world, surgeons have been using dual chambered permanent pacemakers with successful follow ups. However, Pakistan has not yet taken the advantage of such pacemaker devices. We report a series of three cases that underwent a dual chamber permanent pacemaker implantation for the first time in children less than 8 kg with successful follow ups.

Keywords: Dual Chamber Pacemaker Implants, Complete Heart Block, Pakistan

14.31

EARLY VENTRICULAR SEPTAL DEFECT REPAIR – A REASONABLE OPTION IN A DEVELOPING COUNTRY?

*Awais Ashfaq¹, Hassaan A. Zia¹, Muhammad M. Amanullah²
¹Medical College, and Department of ²Surgery, Aga Khan University, Karachi*

Objective: To assess and evaluate the effectiveness of early VSD repair in a developing country by comparing the outcomes in two age groups

Method: A total of 39 patients underwent VSD repair at a tertiary care hospital in Karachi over a period of 2.5 years. Patients were divided into Group 1 (< 2 yrs) and Group 2 (2-18 yrs). Pre-, intra- and postoperative variables were reviewed retrospectively for each patient and compared with the development of complications and the effect on postoperative recovery times. The data was analyzed using Mann Whitney test for continuous variables and Fischer's exact test for categorical variables.

Results: Mean age at surgery was 10.1 ± 7.0 months and 108.5 ± 54.0 months for both groups, respectively. 2 patients died. Procedure time was not affected by decreasing age ($p=0.622$) but Cardio pulmonary Bypass ($p=0.040$) and Aortic Cross Clamp time ($p=0.063$) were significantly affected. No associated significance was obtained when hospital stay ($p=0.085$) was observed. Increased duration of ventilation ($p=0.000$) and length of ICU stay ($p=0.003$) were highly significant for the younger age group. Presence of residual VSD ($p=0.025$) was also significantly affected by lower age. There was no significant difference in complications ($p=1.000$) among the 2 groups.

Conclusion: Age does not increase morbidity rates after VSD repair although postoperative recovery times are increased with decreasing age. This does not justify delaying VSD repair.

Keywords: VSD Repair, Effectiveness, Developing Country

14.32

SUCCESSFUL SURGICAL INTERVENTION OF TOTAL ANOMALOUS PULMONARY VENOUS DRAINAGE IN THE THIRD DECADE OF LIFE

*Awais Ashfaq¹, Syed Shahabuddin², Muneer Amanullah²
¹Medical College, and Department of ²Surgery, Aga Khan University, Karachi*

Introduction: Total anomalous pulmonary venous drainage (TAPVD) accounts for approximately 1.5% of all congenital heart diseases. It is usually diagnosed in the neonatal period and is rarely seen in adults. We report an unusual case of TAPVD who was successfully treated at the age of 28 years. We believe that this is the oldest person in the South Asian literature to undergo surgical correction of TAPVD.

Keywords: Surgical Intervention, Total Anomalous Pulmonary Venous Drainage, Third Decade of Life

14.33

TO ASSES ANTI CCP (ANTIBODY CYCLIC CITRULLINATED PEPTIDE) LEVELS IN PATIENT WITH SUSPECT ARTHRITIS DISEASE

*Shahmina Sadaf, Bushra Moiz, Salman Adil
Department of Pathology & Microbiology, Aga Khan University*

Objective: To assess anti ccp (antibody cyclic citrullinated peptide) levels in patient with suspect arthritis disease.

Method: Anti CCP test is based on electrochemiluminescence methodology and was performed on Cobas e601 instrument by Roche and RF test based on immuno turbidometry method and was performed on Hitachi 902 by Roche.
Results: 55 patients with suspected arthritis disease were included in the studies. 11 were male and 44 were female and their age range is 13-69yrs. Anti –CCP was positive in 20 patients (mean 243 ± 196) whereas negative in 35 patients. RF was positive in 33 patients (85 ± 92) and negative in 22. All patients positive for anti-CCP were also positive for RF. However, 13 patients with sero positivity for RF did not show Anti CCP antibody in the sera. Remaining 22 patients were sero negative for both RF and Anti CCP.

Conclusion: Estimation of Anti CCP antibodies has just been started in clinical laboratory of AKUH. The results seem to be promising in diagnosis of RHEUMATOID ARTHRITIS.

Keywords: ANTI CCP, RA, Test

14.34

COMPARISON OF MESH DATABASE WITH POPULAR SEARCH ENGINES FOR LITERATURE SEARCHING

*Afsheen Raza¹, Bushra Chaudhry²
Departments of ¹Pathology & Microbiology, and ²Biological & Biomedical Sciences, Aga Khan University, Karachi*

Background: Medical Subjects Headings and is the U.S. National Library of Medicine's controlled vocabulary used for indexing articles for MEDLINE/PubMed. It comprises more than 19,000 subjects heading and each subject heading is like a keyword abstract of the article. MeSh categories include anatomy, organisms, diseases and drugs which aids in relevant searching giving to the point results. *Objectives:* We aimed for a Comparison of MeSh database with Google Scholar and European Bioinformatics Institute for literature searching on Plasmodium vivax circumsporozoite protein (Pvcsp) gene diversity and its role in malaria endemicity. *Method:* The term Plasmodium vivax was entered as a subject heading in the Mesh database .To find out about the circumsporozoite protein gene diversity circumsporozoite protein, the Boolean AND relationship option was taken. Free full text and review articles were obtained. For highly specific results on the role of P.vivax genes in malaria endemicity, MeSh subheading option was employed. Similar term was entered on Google Scholar and EBI.Search results were compared to determine the database that gave the most concise and relevant result.

Results: One hundred and fifty eight search articles were retrieved when using the Boolean AND relationship option of the MeSh database. Of these five were review articles and thirty four were free full text articles. Similarly; concise results were obtained when the subheading option of MeSh was used. All the articles were relevant and discussed the role of Pvcsp gene diversity in determining malaria endemicity in a particular area. When compared with EBI, the same search term gave 262 results while Google Scholar gave 2,790 results. Thus, literature searching with EBI and Google Scholar were complicated and irrelevant.

Conclusion: MeSH is an excellent database for searching topics of interest since it allows concise and specific research in a reduced amount of time as compared to other popular search engines such as Google Scholar and EBI. Therefore, effective usage of MeSh database would allow students and researchers to perform their literature searching without confusion or noise.

Keywords: MeSh Database, Concise Research, Plasmodium Vivax Circumsporozoite Protein

14.35

IDENTIFYING EARLY WARNING SIGNS & PREVENTING CARDIOPULMONARY ARREST IN TELEMETRY & CARDIOLOGY UNIT IN A TERTIARY UNIVERSITY HOSPITAL

Shabana Saleem Lalji, Khairunnissa Hooda, Gulzareen Syed, Shahla Damjee
Nursing Education Services, Aga Khan University, Karachi

Objective: Adverse events are estimated to affect up to 17% of hospitalized patients and to cause up to 98,000 patient deaths per year in the United States. Unexpected codes in hospitalized patients are one of the most significant adverse events, carrying a risk of death that is reported to range from 50% to 80%. The purpose of this study was to evaluate staff competency and decrease the incidence of code in telemetry & Cardiology unit in a tertiary university hospital.

Method: In quarter 3, 2007 it was identified that only 45% staff were able to identify early warning signs of cardiopulmonary arrest. Therefore, the unit based quality improvement team stated that the staff competency would be improved from 45% to 80% in the year 2008. Clinical marker tool was designed to assist in the early identification of early warning signs in patients using a pre- and post-test design. Brain storming was done via multi disciplinary approach involving unit Head Nurse, Clinical Nurse Instructor, Clinical Nurse Specialist, & Manager. Cause and effect analysis was performed & existing processes and practices was reviewed. Orientation module for identification of early warning signs was introduced & Safety briefings were introduced based on the actual cardiac arrest scenarios with multi disciplinary team to reduce communication gap and to increase collaboration. In addition to that Staff confidence level was build up through continuous education sessions and mock clinical case studies. Moreover Individual staff assessment skills were checked & learning were addressed. SBAR module was administered on regular basis & Spot check was introduced

and practiced. Pocket guide was prepared for all the staff. Shift duties were done by management staff & members of CQI group to ensure continuity of learned skills. Furthermore Patients records were evaluated on regular basis & Spot check on utilized of SBAR communication

Results: Improved staff competency on identification of early warning signs from 45% to 86% in 2008 thus preventing incidence rate of code blue from 11.4 in 2007 to 8 in 2008 reducing further down to 3 for qtr 01 ,2009 at private wing III telemetry & Cardiology unit.

Conclusion: Implementation of early warning sign can decrease code rates, can empower staff, enhance expertise and communication skills, and support a culture of safety.

Keywords: Warning Signs, Cardiopulmonary Arrest, Competency

14.37

A NON-RADIOACTIVE APPROACH TO MEASURE HELICASE ACTIVITY

Sammer Siddiqui, Syed Ali, Shamshad Zarina
Department of Biological & Biomedical Sciences, Aga Khan University, Karachi

Introduction: The most widely used methods to measure helicase activity today are radioactivity based. Aside from the associated health hazards, radioactive tests also have a number of other disadvantages such as instability of substrate, lengthy preparation, gel electrophoresis based analysis and visualization by autoradiography. To avoid these disadvantages, we have tried a non-radioactive approach which uses fluorescence to measure helicase activity. SYBR Green I was used to evaluate the helicase activity of E1 and T- antigen proteins by measuring the intensity of fluorescence. SYBR Green I is a double stranded DNA specific dye that fluoresces upon DNA binding. SYBR Green I intercalation with double stranded DNA is lost when DNA is converted to single strands by a helicase and a decrease in fluorescence intensity can be used to measure its activity.

Methodology: In our study, SV40 T antigen was used as a helicase protein. The reaction was prepared by mixing the T-antigen, buffer, ATP and SYBR Green I, which was incubated at 37°C for 60 min. To check the activity of helicase, we used M13mp18 DNA and optimized the assay in the presence and absence of T-antigen. Fluorescence was measured using the Chameleon reader. To quantitate the rate of enzymatic activity, substrate release over time was measured. The amount of substrate release with time is directly proportional to the helicase activity.

Results: Experimental analysis showed a more than 3-fold decrease in absorbance with the addition of T-antigen. Furthermore, this assay was also used to quantify substrate release over time which was around 0.4 % per minute.

Conclusion: Our study shows that helicase activity can be measured using SYBR Green based fluorescence assay. Fluorescence based assay hold an enormous promise for drug and vaccine design.

Keywords: Hellicase, Flourescence Assay, SV40 T-Antigen

14.38

THE USEFULNESS OF LOW-DOSE CT PELVIMETRY AND TO CORRELATE THE RESULTS WITH OTHER MODALITIES

*Mudabbir Hussain, Zafar Jamil, Waseem Memon
Department of Radiology, Aga Khan University, Karachi*

Objective: To study the low dose ct pelvimetry and correlate the results with other modality

Materials & Methods: Study Duration: January 2009 to December 2009 Study type: Retrospective study Study site: CT Scan Suite Radiology Dept. AKUH, general X-rays. Machine model: 64 slicer MDCT Toshiba Aquillion No of patients: 50 Source of data collection: Radiology information system (RIS), questionnaire

Results: The suitability of CT for Pelvimetry was studied. For accurate measurement of the true conjugate and interspinous diameter, a lateral topogram and an axial CT slice were taken. The radiation dose was reduced from 1 mGy (in conventional system) to 0.1-0.2 mGy. The use of conventional X-ray pelvimetry is restricted because of the potentially harmful effects of ionizing

Conclusion: Pelvimetry by computed tomography (CT) are exact and simple techniques with low ionizing radiation. These new techniques offer distinct advantages over conventional X-ray pelvimetry. The CT has low radiation and less repetition chances that is why conventional X-rays pelvimetry is totally obsolete. In low dose CT scan accuracy is the key factor and bony margins are sharply defined.

Keywords: X-Rays, Radiation, Tomography

14.39

CARDIAC SURGERY DURING PREGNANCY: CASE SERIES AND REVIEW OF LITERATURE

*Lumaan Sheikh¹, Ransih D. A. Khuwaja², Ayesha Malik¹, Hasanat Sharif³
Department of¹ Obstetrics & Gynaecology, ²Medical College and ³Surgery, Aga Khan University, Karachi*

Objective: Cardiac Surgery during pregnancy remains a procedure entailing considerable risk of fetal morbidity and mortality and maternal morbidity. There is limited experience from the developing world regarding successful outcomes of such procedures; hence, we here present our experience in a tertiary care hospital of Pakistan for such procedures.

Method: We present here two cases which presented to us with worsening of valvular heart diseases during pregnancy. One presented at 22 weeks of gestation with Mitral Valve Stenosis and twin pregnancies and other at 25 week of gestation with calcific Aortic Stenosis. Valve replacement through Cardiopulmonary Bypass was planned, with fetal heart and uterine monitoring was instituted.

Results: Procedures were successfully carried out with no maternal or fetal mortality or morbidity. Obstetric course remained uneventful and both pregnancies were successfully

delivered through C-Section at 33+ weeks of gestation.
Conclusion: Cardiac Surgery during pregnancy requires the input of a multidisciplinary team to ensure successful maternal and fetal outcome.

Keywords: Cardiac Surgery, Pregnancy, Valve Replacement

14.40

SUCCESSFUL BALLOON ANGIOPLASTY FOR POST SURGICAL RECOARCTATION OF AORTA REPAIRED IN INFANCY

*Mehnaz Atiq¹, Saulat Fatimi², Muneer Amanullah²
Departments of¹Paediatrics & Child Health, and ²Surgery, Aga Khan University, Karachi*

Objective: Coarctation of the aorta (CoA) accounts for 5-8% of all congenital heart defects. CoA may occur as an isolated defect or in association with various other lesions, most commonly bicuspid aortic valve and ventricular septal defect. Recurrence of coarctation of aorta, defined as a peak-to-peak systole pressure gradient in excess of 20 mmHg, is a common problem if it is repaired in neonates and infants. The average recoarctations rates are 11-17% in neonates and infants younger than 1 year and 5.6% in children older than 1 year. The younger the child is at surgery, the higher the chance for recoarctation. We report 3 cases of post surgical re-coarctation successfully dilated with balloon angioplasty.

Method: Case 1 RMH presented at 2 months of age with symptoms of cardiac failure. He was evaluated clinically and by echocardiography and found to have severe Coarctation of aorta and severe left ventricular systolic dysfunction, ejection fraction being 40%. He underwent surgical correction of aortic Coarctation successfully with a residual post operative systolic pressure gradient of 30 mmHg across the Coarctation with normalization of left ventricular function. Follow up echocardiogram after 10 weeks showed moderate to severe recoarctation with a peak pressure gradient of 90 mmHg. The child underwent balloon angioplasty with a successful reduction in gradient to 25 mmHg which on echocardiogram done 8 weeks later was 20 mmHg. Case 2 IYA, a preterm girl, one of the twins was diagnosed at birth to have aortic Coarctation, persistent left superior vena cava and a large patent ductus arteriosus. She underwent surgery with ligation of PDA and repair of Coarctation of aorta. The child on serial follow up was found to be hypertensive and repeated echocardiogram confirmed recoarctation at 5 months of age she successfully underwent balloon angioplasty with a reduction in gradient from 35mmHg to 5 mmHg. Case 3 AMF was diagnosed as Coarctation of aorta and underwent surgical correction at 3 weeks of life due to congestive symptoms. The gradient went down from 90 mmHg to 35 mmHg post operatively with residual Coarctation. The child was followed up with medical therapy with beta blockers. However at 2 years of age he developed recoarctation with a gradient of 60 mmHg and underwent successful balloon angioplasty.

Conclusion: Balloon angioplasty is a successful intervention for surgical recoarctation of aorta. Repeated surgery is more

invasive and may be risky due to post operative adhesion formation.

Keywords: Recoarctation Of Aorta, Balloon Angioplasty, Interventional Cardiology

14.41

HEART: WHAT CAN BE SEEN ON NON CORONARY THORACIC MULTI DETECTOR COMPUTED TOMOGRAPHY SCAN

*Zafar Jamil, Amin Shah, Wasim Memon, Idrees
Department of Radiology, Aga Khan University, Karachi*

Objective: MDCT systems with fast scanning capabilities can acquire images of the thorax with reduced cardiac motion artifacts, enabling improved evaluation of the heart and surrounding structures in the course of routine thoracic CT. This describes the principles of including an evaluation of the heart in the course of a chest CT examination in terms of both examination technique and image interpretation. In addition, both the normal appearances and some of the most common abnormal appearances of the cardiac structures will be described

Material & Methods: Study Duration: January 2008 to December 2008 Study type: Retrospective study Study site: CT Scan Suite Radiology Dept. AKUH Study Population: All patients undergoing Thoracic CT. Machine model: 64 slicer MDCT Toshiba Aquillion No of patients: 100 Source of data collection: Radiology information system (RIS) *Results:* 23 Out of 100 patient are positive finding related to cardiac diseases including cardiomyopathy and ventricular aneurysms, the calculated ventricular ejection fraction, and cardiac output and ventricular mass, plus the analysis of myocardial, Heavy laminar calcification, Large volume pericardial effusion, Anomalous origin

Conclusion/Material & Methods/Study Duration: January 2008 to December 2008 Study type: Retrospective study Study site: CT Scan Suite Radiology Dept. AKUH Study Population: All patients undergoing Thoracic CT. Machine model: 64 slicer MDCT Toshiba Aquillion No of patients: 100 Source of data collection: Radiology information system (RIS)

Keywords: Population, Radiology, Cardiac

14.42

FOURTH GENERATION SPINAL INSTRUMENTATION: EXPERIENCE WITH ADOLESCENT IDIOPATHIC SCOLIOSIS AT A TERTIARY CARE HOSPITAL IN PAKISTAN.

*Akil Fazal, Riaz Hussain
Department of Surgery, Aga Khan University, Karachi*

Objective: To evaluate the radiological and functional outcome of surgical treatment of adolescent idiopathic scoliosis using

4th generation posterior spinal instrumentation at The Aga Khan University, Karachi. Design: Case series Place and duration of study: The Aga Khan University Hospital after a minimum of six months post-operatively over a study period of eight years (Jan 1999 to Dec 2006).

Patients & Methods: A total of twenty patients with adolescent idiopathic scoliosis were recruited into the study and evaluated for radiological and functional outcome. Radiological outcome was assessed using Cobb angle measurement pre and post-operatively hence assessing percentage correction. Functional outcome was determined using the Scoliosis Research Society (SRS) patient administered questionnaire. All patients were called to the clinic and asked to fill in the form. Those patients who were out of the city, were mailed the forms and requested on telephone to fill and return.

Results: Of the twenty patients operated on, 12 were female and 8 male. The average age at operation was 12.75 years. The mean Cobb angle was 69° pre-operatively and 8° post-operatively representing a percentage correction of 86%. The average duration of follow up was 3.55 years. There were no complications such as neurological injury, pseudarthrosis or implant failure. The average SRS score (on a scale of 1-5, with 5 being best) for pain was 4.5, self image was 4.3, functional status was 4.3, mental status was 4.2 and satisfaction was 4.8. There was no relationship between percentage correction of scoliosis and functional outcome. Those patients with a high pre-operative Cobb angle tended to have a better outcome for functional and mental status post-operatively. *Conclusion:* In the correct indications, 4th generation posterior instrumentation and fusion is a reliable and satisfactory technique to treat adolescent idiopathic scoliosis.

Keywords: Scoliosis, idiopathic, Pakistan

14.43

PATELLA RESURFACING VERSUS NONRESURFACING IN TOTAL KNEE ARTHROPLASTY FOR OSTEOARTHRITIS: EXPERIENCE AT A TERTIARY CARE INSTITUTION IN PAKISTAN

*Akil Fazal, Riaz Lakdawala, Tashfeen Ahmad
Department of Surgery, Aga Khan University, Karachi*

Objective: To determine the effect of patella resurfacing in patients offered Total Knee Arthroplasty for osteoarthritis. Design: Quasi-experimental Place and duration of study: The Aga Khan University Hospital from 01.03.07 to 01.01.08 *Patients & Methods:* Patients undergoing primary Total Knee Arthroplasty for osteoarthritis were assigned to either the patella resurfacing or nonresurfacing arm. Preoperatively, Knee Society Knee and Function Score were calculated. After six months post-operative Knee Society Knee and Function score as well as the Clinical Anterior Knee score was calculated and analysis done to check for differences.

Results: 30 patients were recruited in each arm. The mean pre-operative knee score was 40.4 for the resurfacing group and 40.60 for the nonresurfacing group (p=1.35). This improved post-operatively to 93.67 and 94.23 respectively,

with no difference between the two groups ($p=0.67$). The mean pre-operative function score was 45.50 for resurfaced patellae and 45.83 for nonresurfaced. This improved to 89.67 and 90.50 respectively, again with no difference ($p= 1.47$). Post-operative clinical anterior knee scores were a mean of 0.1 for resurfaced and 0.13 for nonresurfaced patellas, with no difference on analysis ($p=0.67$).

Conclusion: In patients undergoing primary TKA for osteoarthritis, there is no added advantage of performing resurfacing of the patella.

Keywords: Patella, Arthroplasty, Pakistan

14.44

ROLE OF LOW-DOSE WHOLE CHEST CT (LDCT) IN PATIENTS WHO UNDER WENT CARDIAC CT ANGIOGRAPHY EXAMINATION

*Syed Amin Sahn, zafar jamil, Wasim Memon
Department of Radiology, Aga Khan University, Karachi*

Introduction: Coronary CT angiography is primarily performed to evaluate cardiac vasculature and anatomy, but CCTA can not depict extra cardiac structures which may be influential in the management of the patient, such as great vessels, lungs, mediastinum, and upper abdomen, because CCTA is performed with a small field of view (FOV) to maximize the spatial resolution of the cardiac structures. The aim of our study is to highlight the role of low-dose whole chest CT in the detection of incidental extra-cardiac disorders and also to discuss whether to include LDCT in the CCTA protocol.

Objectives: The purpose of our study is to show the usefulness of nongated low-dose chest CT in coronary CT Angio patients.

Materials & Methods: Study Duration: January 2008 to December 2008 **StudyType:** Retrospective study **Study site:** CT Scan Suite Radiology Dept. AKUH **Study Population:** All patients undergoing CCTA. **Machine model:** 64 slicer MDCT Toshiba Aquillion **No of patients:** 100 **Procedure done:** CCTA along with LDCT **Source of data collection:** Radiology information system (RIS)

Results: In this study a total number of 32 (32%) extra-cardiac findings were detected in LDCT. The findings include infiltration, effusion, lymphadenopathy, mass, and emboli and many others such as hepatic or paravertebral tuberculosis mass lesions, pneumothorax, adrenal masses, aortic, aneurysms, thyroid pathologies, spinal changes, pulmonary edema, pneumonia and mesenteric inflammation, gallstones, and solitary pulmonary nodule.

Conclusion: Clinically significant extracardiac findings are common in patients undergoing CCTA with a considerable number of extracardiac findings being detected only on LDCT. We recommend performing whole thorax LDCT as an adjuvant along with CCTA protocol.

Keywords: Syed, Amin, Shah

14.46

EXTRA-CRANIAL INTERNAL CAROTID ARTERY ANEURYSM RESECTION & RECONSTRUCTION WITH P.T.F.E. GRAFT UNDER DEEP HYPOTHERMIC CIRCULATORY ARREST: A CASE REPORT

*Samiullah Khan Niazi, Ranish Deedar Ali Khawaja, Ziad Soophie, Saulat H. Fatimi
Department of Surgery, Aga Khan University, Karachi*

Objective: Extra cranial internal carotid artery aneurysm is a rare clinical entity and is reported to be 0.4% to 1% of all arterial aneurysm. We report a case of large extra cranial internal carotid aneurysm in a young female which was operated under deep hypothermic circulatory arrest for cerebral protection because of lack of cerebral blood flow from contralateral internal carotid artery. This is the second ever reported case for use of deep hypothermic circulatory arrest for high lying large intracranial internal carotid artery aneurysm.

Method/Case Report: A 35-year old, married female presented to vascular surgery clinic with history of a pulsatile swelling along left side of neck since past 12 years and new onset hoarseness. On examination she was hemodynamically stable with a prominent pulsatile swelling along her left neck which was originating about 4 cm above clavicle and extending up to angle of left mandible. Cerebral angiogram was done which showed a large internal carotid artery aneurysm measuring 7 x 5 cm, originating just at its origin, abutting external carotid artery. Since the cranial end of the aneurysm was not visible, it was decided to repair this under circulatory arrest. Patient was placed on cardiopulmonary bypass via mini-sternotomy and after dissection of the left neck vessels, patient was cooled to 18 degrees centigrade. At this temperature, circulation was stopped and giant carotid artery aneurysm was opened. The proximal and distal ends of the normal left internal carotid artery were identified. The aneurysm was resected and gortex graft was sewn to the proximal and distal ends of the carotid artery. Patient was re-warmed and was taken off from cardiopulmonary bypass. The rest of the intra-operative and post-operative course was unremarkable with no neurological sequel and she was discharged home in one week.

Keywords: Internal Carotid Artery, Aneurysm, Hypothermia Arrest

14.47

A NON-RADIOACTIVE APPROACH TO MEASURING VIRAL HELICASE ACTIVITY

*Sammer Siddiqui¹, Irfan Khan¹, Shamshad Zarina², Syed Ali¹
Department of ¹Biological & Biomedical Sciences, Aga Khan University and Department of ²Biochemistry, University of Karachi*

Introduction: The most widely used methods to measure helicase activity today are radioactivity based. Aside from the associated health hazards, radioactive tests also have a

number of other disadvantages such as instability of substrate, lengthy preparation, gel electrophoresis based analysis and visualization by autoradiography. To avoid these disadvantages, we have devised a non-radioactive approach which uses fluorescence to measure helicase activity. SYBR Green I was used to evaluate the helicase activity of simian virus 40 (SV40) T-antigen protein by measuring the intensity of fluorescence. SYBR Green I is a double-stranded DNA specific dye that fluoresces upon DNA binding. SYBR Green I intercalation with double stranded DNA is lost when DNA is converted to single strands by a helicase and a decrease in fluorescence intensity can be used to measure its activity. Methodology In our study, SV40 T antigen was used as a helicase protein. The reaction was prepared by mixing the double stranded substrate (described below) with the T-antigen, buffer, ATP and SYBR Green I, which was incubated at 37°C for 60 min. To check the activity of helicase, we used two different DNA substrates: unlabelled 40 mer, and cy5 labeled 22 mer. The assay was optimised in the presence and absence of T-antigen. Fluorescence was measured using the Chameleon reader. To quantitate the rate of enzymatic activity, substrate release over time was also measured.

Results: Experimental analysis showed a more than 3-fold decrease in absorbance with the addition of T-antigen, indicating release of single-strand product subsequent to helicase activity. Furthermore, this assay was used to quantify substrate release over time which found to be around 0.4% per minute.

Conclusion: Our study shows that helicase activity can be measured using fluorescence based assay. Fluorescence based helicase assay holds promise for use in screening for antiviral drugs and vaccines.

Keywords: Helicase, SV40 T-Antigen, Fluorescence Based Assay

14.48

APACHE2 AS PREDICTOR OF CPR OUTCOME IN INPATIENT SETTING

Muhammad Junaid Patel, Nadeemullah Khan, Waqar Kashif, Nawal Salahudin, Ayesha Sorathia, Mehmood Riaz, Muhammad Tariq, Ayesha Almas, Kamran Hameed, Syed Ather Hussain
Department of Medicine, Aga Khan University, Karachi

Objective: Outcome of cardiopulmonary resuscitation is poor worldwide. Estimated prediction about the outcome of Cardiopulmonary resuscitation can be utilized by physicians to make decision about its application or augments their confidence in making dialogue with the family. Aim of our study is to identify APACHE2 and other predictors of CPR outcome in hospitalized patients at a tertiary care center.

Method: Study design was retrospective, single center data analysis. It was conducted on adult inpatients in Aga Khan University Hospital who underwent cardiac arrest and received cardiopulmonary resuscitation during the period of June 1st 2002-june 30th 2007. Data was entered into SPSS version 14

for analysis. We used multivariate logistic regression analysis to find the predictors of CPR outcome in hospitalized patients.

Results: A total of 738 patients were identified. Overall mean age was 56 years, males being 66%. Electro Mechanical Dissociation was the most frequent single arrest type (53%), followed by asystole (28%). More than half of the patients were admitted with a non-cardiac diagnosis to the hospital (62%). Hypertension (18%) and Diabetes (17%) were the most common comorbidities. The intensive care unit (64%) was the most common location of cardiac arrest. Event was monitored on almost all of the patients (83%). Return of spontaneous circulation (ROSC) was observed in (46%) of patients with (13%) maintained ROSC for less than 20 min, (45%) for more than 20 min but less than 24 h and (18%) for more than 24 h. Overall 92% expired before hospital discharge. Mean APACHE score was 29 ± 8.65 of the patients who survived <24 h and 23 ± 8.50 of the patients who survived >24h. Multivariate logistic regression identified the following four factors as independent predictors of survival in our patients: pulseless VT/VF arrest [adjusted odd ratio (aOR):1.96, 95% CI: 1.16-3.31], Location of cardiac arrest, i.e. CCU [adjusted odd ratio (aOR):1.66, 95% CI: 1.001-2.76], shorter duration (< 10 mins) of CPR [adjusted odd ratio (aOR):3.002, 95% CI: 2.004-4.49] and APACHE2 score between 5-21 [adjusted odd ratio (aOR):2.93, 95% CI: 1.63-5.25] in outcome (survival >24 h vs. survival <24 h after CPR). *Conclusion:* Our study concluded that CPR outcomes in inpatient setting are dismal. Longer duration of CPR and higher APACHE2 scores are associated with poor outcome in hospitalized patients undergoing CPR

Keywords: CPR, APACHE2, ROSC

15.2

DECREASE IN UNJUSTIFIED USE OF N-ACETYL-CYSTEINE (NAC) THROUGH PHARMACIST INTERVENTION AND PATIENT COST SAVING

Shaikh Hussam Lateef, Abdul Latif Sheikh, Syed Shamim Raza, Muhammad Hammad, Syed Shaukat Ali Muttaqi, Shahjahan Khan

Department of Pharmacy, Aga Khan University, Karachi

Objective: The use of NAC reduced the incidence of contrast-induced nephropathy in patients undergoing primary angioplasty secondary to acute myocardial infarction and heart catheterization after its both intravenous and oral administration pre and post procedures. Measurement of serum creatinine was done to evaluate the renal impairment after the use of contrast dyes during such procedures. Serum creatinine is used currently as an effective tool to assess nephrotoxicity induced by the contrast medium and the kidney function. Serious adverse effects was observed by the point of care pharmacist during clinical round regarding body rash followed by phlebitis and reason was the unjustified use of NAC i.e. IV-NAC was given for a period of more than a day in patients with catheterization instead of oral use.

Method: Before and after Heart Catheterization and Angiography patient receives an IV dose of 600 mg - 1.2 gm BOLUS in 30-45 minutes and after the procedure the patients were given IV- Acetylcysteine 600 mg - 1.2 gm BID for 3-5 days and oral (same dose) as well. Cost was also compared in both the cases.

Results: Adverse Drug Reactions (ADR's) i.e. (Rashes leading to phlebitis and pain) after prophylactic administration of IV-Acetylcysteine 1.2 gm for reno-protection which were having heart catheterization and angiography. Both the patients observed ADR because of two reasons: Not following the proper guidelines for the prophylaxis of contrast induced nephrotoxicity. Administering the drug in a lesser time period or time period in between the dose after BOLUS is less. A (5%) decrease in the consumption of IV-NAC was observed after the intervention of clinical pharmacist during multidisciplinary rounds. Cost saving occurred because of decreased consumption of IV-NAC vs oral NAC.

Conclusion: There are a number of reasons for the adverse drug reaction/s that have been reported on the patient's in CCU, but according to the guidelines and research done on the prophylactic dose of NAC, usually an oral tolerating dose of 600-1200 mg Q12h X 4 doses 2 doses pre-contrast and 2 doses post-contrast is optimal and another option is IV Acetylcysteine 600-1200 mg IV x 1 over 15 minutes, then 600-1200 mg orally q12h x 4 doses post-procedure: (For a high risk patient with acute ST-elevation MI undergoing cardiac catheterization and IV formulation only available for this patient population). In addition to prevention of ADR's done through this intervention also cost effectiveness of the therapy was assured and a trend of decreased consumption of intravenous NAC was observed.

Keywords: N-Acetyl Cysteine, Nephroprotective, Clinical Pharmacist

15.3

RADIATION EXPOSURE TO ANAESTHETIST IN INTERVENTIONAL RADIOLOGY

Samina Ismail¹, Fauzia Khan¹, Nabeel Sultan¹, Mansoor Naqvi²
Departments of ¹Anaesthesia and ²Radiology, Aga Khan University, Karachi

Objective: This prospective study determines the level of radiation exposure of anaesthetists during interventional radiological procedures performed in cardiac catheterization lab (CCL) and endoscopic retrograde cholangiopancreatography (ERCP) suite and compares it with the current safety guidelines.

Method: Anaesthetist wore area specific lithium fluoride thermo luminescent dosimeter badges at standardized positions.

Results: A total of 1344 procedures were done in six months, anaesthetists were exposed to radiation in 6% in ERCP and 12.3% in CCL. The mean duration of procedures in the ERCP was 54.8 (29.1) minutes compared to 67.9 (42.8) minutes for CCL (p value of 0.058). The mean fluoroscopy time per procedure in ERCP was 5.5 (4.1) minutes compared to 12 (10.9) minutes in CCL (p value of 0.000). The combined net exposure over six months was 2.23 mSv in cardiac and 0.28 mSv in ERCP.

Conclusion: The combined exposure was less than the recommended 20mSv exposure per year.

Keywords: Interventional Radiology, exposure, Anaesthetist

15.4

AN OBSERVATIONAL STUDY OF ANAESTHESIA AND SURGICAL TIME IN ELECTIVE CAESAREAN SECTION: SPINAL COMPARED WITH GENERAL ANAESTHESIA

Samina Ismail, Anwar Huda
Department of Anaesthesia, Aga Khan University, Karachi

Objective: Neuraxial techniques are increasingly used in obstetric anaesthesia. In our hospital, time constraints are the main problem when planning anaesthesia for elective caesarean section. Neuraxial anaesthesia is believed to take longer than general anaesthesia. The objective of this prospective, observational study was to compare time to surgical readiness and total operating room time with spinal with general anaesthesia for elective caesarean section at a Pakistani university hospital for a period of six months.

Method: Two hundred and forty-five patients receiving either general or spinal anaesthesia were studied. The times of arrival and leaving the operating room, the start and completion of anaesthetic induction, surgical readiness, incision and completion of surgery, were noted.

Results: The times for surgical readiness (general: 16.8± 5.4 vs. spinal: 21.1±8.2 min), anaesthesia (general: 4.5±1.4 vs. spinal: 8.1± 3.8 min) and surgery (general 50.8±12.3 vs. spinal 54.8±14.0 min) were longer in the spinal group, but emergence time (general: 12.2±4.3 vs. spinal: 7.3± 2.7) was longer for general anaesthesia. No significant difference was found in the total operating room presence between the two groups (general 76.6± 14.4 vs. spinal 76.3±16.3 min).

Conclusion: In our hospital, the use of spinal anaesthesia was not associated with decreased intra-operative time efficiency compared to general anaesthesia for elective caesarean section.

Keywords: Cesarean Section, Anaesthesia Time, Surgical Readiness

15.5

PROMOTING SOCIAL CHANGE: CAPACITY BUILDING OF TEACHERS AS CHANGE AGENTS

Anita Allana², Nargis Asad¹, Dilshad Ashraf¹, Yasmin Sher Ali²

¹Department of Psychiatry and ²Working Group for Women, Aga Khan University, Karachi

Background: Teachers and educators influence gender roles of students thus impacting their educational outcomes. When considering Education for All (EFA) goal 5, which aimed to eliminate gender disparities in primary and secondary education by 2005 and now aims to achieve gender equality by 2015, it should be realized that teachers are a critical force for meeting the goal. In order to raise awareness of teachers and train them to address prevailing gender and social issues in academic settings and in society at large Aga Khan University, Working Group for Women conducted training with support of Global Fund for Women.

Objectives: • To raise secondary school teachers' awareness on prevailing gender and social issues • To build capacity and train teachers to address these issues • To build Networking and linkages between schools and service providers
Method: Training was interactive and participatory based on education and awareness sessions, lectures, video documentary, brainstorming sessions, small group exercises, in depth discussions and hands on activities

Results: • School teachers and educators should be gender sensitized in order to recognize gender disparities in academic settings. • Capacity building of teachers and academicians on gender and social issues is necessary to minimize gender discrimination. • Capacity building of teachers on gender related concepts, helps them develop gender sensitive lesson plans and better advocate for gender sensitive school processes and practices.

Conclusion: Gender sensitization should be a part of teacher training programs in order to enable teachers not to gender discriminate and give equal opportunities to girls and boys.

Keywords: Gender Sensitization, Teachers, Capacity Building

15.6

CEREBRAL TOXOPLASMOSIS IN A PATIENT WITH ACQUIRED IMMUNODEFICIENCY SYNDROME

Rohana Naqi, Muhammad Azeemuddin, Humera Ahsan
Department of Radiology, Aga Khan University, Karachi

Introduction: Toxoplasmosis in patients with AIDS, is caused by toxoplasma gondii. Human infection usually occurs via oral or trans-placental route¹. AIDS associated toxoplasma

encephalitis results from reactivation of chronic latent infection in more than 95 % of patients². In patients with AIDS seropositive for T.gondii, the risk for cerebral toxoplasmosis approaches 30%³. Toxoplasmosis is the most common cause of focal brain lesions in patients with AIDS and frequently localizes to the basal ganglia, although other sites in the brain and spinal cord may be affected.

Method: Cerebral toxoplasmosis most commonly affects patients with advanced HIV immunodeficiency. Toxoplasmosis in patients who are immunocompromised can be severe and debilitating particularly in those with CNS involvement, condition may be fatal. We report a case of 40 years old man who was a known case of HIV, now presented with cerebral toxoplasmosis. His MRI scan showed multiple ring enhancing lesions with extensive surrounding edema in supratentorial as well as infratentorial region. Lesions were mainly located in the periventricular region as well as at the grey-white matter junction and showed enhancement in the periphery as well as a tiny nodular enhancement in the centre. Patient was started on Septran DS, empirically for toxoplasmosis and steroids to reduce intracranial pressure. On follow up MRI scan after 10 days there was reduction in size, number and enhancement of the masses with decrease in the surrounding edema. Patient was also clinically stable, oriented and his fever settled. He was discharged from hospital on same medication and advise to continue regular follow-up.

Keywords: A.I.D.S., Toxoplasmosis, Magnetic Resonance Imaging

15.7

CENTRAL NERVOUS SYSTEM INVOLVEMENT IN MULTIPLE MYELOMA

Rohana Naqi, Muhammad Azeemuddin, Humera Ahsan
Department of Radiology, Aga Khan University, Karachi

Introduction: Multiple myeloma is a disease characterized by proliferation of malignant plasma cells and a subsequent overabundance of monoclonal paraprotein¹. Multiple myeloma accounts for 1% of all malignant diseases and represents about 10% of all hematological malignancies². The predominant sites of involvement are vertebral column, ribs, skull, pelvis and femora. Extra osseous myeloma deposits are occasionally found, most commonly in the lungs, nasopharynx or paranasal sinuses³. Intracranial structures are very rarely involved by multiple myeloma⁵. The median interval from diagnosis of MM to the documentation of CNS involvement is reported to be around 8.5 months⁶. The most common presenting symptoms in case of intracranial involvement include extremity weakness, change of mental status, and cranial nerve palsies. The prognosis is extremely poor; with the median overall survival from the time of diagnosis of CNS involvement is only 1.5 months⁶.

Method: Involvement of the central nervous system by multiple myeloma (MM) is considered extremely rare. MRI is the imaging modality of choice to detect and differentiate myeloma at these unusual sites. We present a case of sixty year old man who is a known case of multiple myeloma. In this case report MRI findings in central nervous system in myeloma lesions

are reported. The purpose is to increase the awareness of the clinical presentation, neuro-radiological findings and follow-up of multiple myeloma with intracranial growth. There are only a few reported cases found concerning MM with intracranial involvement in the literature. There is no such published literature available in local literature from Pakistan.

Keywords: Multiple Myeloma, Central Nervous System, Magnetic Resonance Imaging

15.8 CEREBRAL NOCARDIOSIS

*Rohana Naqi, Humera Ahsan, Muhammad Azeemuddin
Department of Radiology, Aga Khan University, Karachi*

Introduction: Nocardiosis is an opportunistic infection caused by Gram-positive, weakly acid-fast filamentous aerobic organisms. It occurs commonly in immunocompromised patients. Rarely, it is also seen in immunocompetent individuals. The most common disease sites include lung, skin and CNS. The CNS is involved in approximately 44% of cases, usually in patients having pulmonary infection but this was not so in our case who thus had an unusual clinical presentation. The imaging findings of Nocardiosis are not specific, this may vary from cerebritis to frank abscess formation. **Method:** We report a case of 73 years old man who is a known case of rheumatoid arthritis for more than 15 years and was on Methotrexate and Prednisolone. Now presented with generalized tonic clonic seizures. His MRI scan showed a ring enhancing lesion with mild surrounding edema in right posterior parietal cortex. Based on the finding the most probable diagnosis of cerebral abscess was suggested. Patient underwent right sided craniotomy with aspiration of abscess. Gram staining showed branching Gram-positive rods, consistent with cerebral nocardiosis. He was started on Septran D.S. On follow-up examination, the patient shows marked improvement clinically and was discharged in stable condition on long term antibiotic therapy.

Conclusion: This case was presented to highlight the importance of including nocardia on the differential diagnosis especially in patients who present with abnormal MRI scan findings that mimic tuberculoma, neoplastic disease. Clinical awareness of this condition could expedite the diagnostic process and help improve morbidity and mortality.

Keywords: Nocardiosis, Central Nervous System, Magnetic Resonance Imaging

15.9 POSTERIOR REVERSIBLE ENCEPHALOPATHY SYNDROME: A CASE SERIES IN PATIENTS WITH ECLAMPSIA

*Rohana Naqi, Humera Ahsan, Muhammad Azeemuddin
Department of Radiology, Aga Khan University, Karachi*

Introduction: Posterior reversible encephalopathy syndrome (PRES) is a diverse clinico-radiologic syndrome. It describes

a usually reversible neurologic syndrome with a variety of presenting symptoms. The findings on neuroimaging in PRES include non-enhancing white matter abnormalities that appear as areas of low attenuation on CT scan and appear hypointense on T1-weighted imaging and hyperintense on T2-weighted imaging MRI. The lesions are mainly seen in the posterior regions of the cerebral hemispheres. These abnormalities partially or completely resolve on follow-up scanning thereby suggesting subcortical edema without infarction. The hypothesis is that the typical changes noted in the occipital lobes in cases of eclampsia are reversible and is also associated with clinical improvement.

Method: Posterior Reversible Encephalopathy Syndrome (PRES) refers to a clinico-radiologic entity with characteristic features on neuroimaging and non-specific symptoms comprising headache, confusion, visual disturbances and seizures. The lesions in PRES are thought to be due to vasogenic edema, predominate in the posterior cerebral hemispheres, and are reversible with appropriate management. We report 3 cases of acute PRES who had eclampsia and presented with recurrent episodes of seizures and hypertension. Their MRI scan showed diffuse abnormal signal intensities involving predominantly deep white matter of the occipital lobes. Based on the findings the most probable diagnosis of PRES was suggested. They were started on antihypertensive drugs. On follow-up examination after 5-7 weeks, the patients showed marked improvement clinically and on neuro-imaging and were discharged in stable condition.

Keywords: Eclampsia, Posterior Reversible Encephalopathy Syndrome, Magnetic Resonance Imaging

15.10 SPINAL CHANGES IN PATIENTS WITH ANKYLOSING SPONDYLITIS ON MRI: A CASE SERIES

*Rohana Naqi, Humera Ahsan, Muhammad Azeemuddin
Department of Radiology, Aga Khan University, Karachi*

Introduction: Seronegative spondyloarthritis is a general term. Five subgroups of spondyloarthritis are distinguished: ankylosing spondylitis, reactive arthritis (Reiter syndrome), Psoriatic arthritis, Arthritis associated with inflammatory bowel disease (e.g. Crohn's disease or ulcerative colitis), and undifferentiated spondyloarthritis. Ankylosing Spondylitis is a common chronic inflammatory disease that affects young male and female patients. The leading clinical symptom is inflammatory back pain. The disease starts in the sacro-iliac joints and spreads to the spine in the majority of patients. Individuals with the HLA-B27 antigen have a 20 fold greater risk of developing spondyloarthritis. The axial skeletal manifestations of AS include sacro-iliitis, spondylitis, spondylodiscitis, and spondyloarthritis. Another major characteristic and pathognomonic sign of AS is new bone formation. Osteoproliferative processes occur often at previously inflamed areas and are detected by imaging techniques as syndesmophytes, calcification and ankylosis of spinal joints, entheses and ligaments.

Method: Magnetic Resonance Imaging appearances are described in three cases of Ankylosing Spondylitis (AS). The

different appearances of AS on magnetic resonance imaging are described and their significance in relation to the pathology of this condition is discussed. MRI is increasingly used to detect changes in the spine of patients with AS. Spinal changes associated with spondyloarthritis are florid anterior spondylitis (Romanus lesion), florid discitis (Andersson lesion), ankylosis, insufficiency fractures of the ankylosed spine, syndesmophytes, arthritis of the apophyseal and costovertebral joints and enthesitis of the interspinal ligaments.

Keywords: Magnetic Resonance Imaging, Ankylosing Spondylitis, Andersson lesion

15.11

FUNGAL ABSCESS IN BRAIN

*Rohana Naqi, Humera Ahsan, Muhammad Azeemuddin
Department of Radiology, Aga Khan University, Karachi*

Introduction: Fungal infections of the central nervous system are rare and are invariably secondary to primary focus elsewhere. Except for people with long standing diabetes, they are most frequently encountered in immunocompromised patients.

Method: We report a case of 62 years old female patient known hypertensive, diabetic and BOOP came with the complaints of altered sensorium for 1 day. At the time of admission she was drowsy, not oriented, irritable and not following commands. She had decreased power in all the four limbs. She underwent MRI brain with Gadolinium which revealed a lesion in the left parieto-occipital region. Unenhanced T1-weighted imaging showed hypointense signal. T2-weighted imaging demonstrated a heterogenous mass with irregular margins a hyperintense centre with a hypointense rim, as well as a large amount of surrounding vasogenic edema. At T1-weighted imaging performed after the I/V injection of Gadopentetate dimeglumine, only peripheral enhancement was seen. This area was diffusion positive and on Susceptibility weighted images, wall of this lesion was showing low signals representing hemorrhage. Single and multivoxel MR Spectroscopy was also performed of this lesion from its centre and it shows a very low choline, creatine and NAA and high lactate along with lipid. Based on these findings Fungal brain abscess was suggested. Biopsy confirmed brain abscess with hyphae.

Keywords: Magnetic Resonance Imaging, Fungal Abscess, Central Nervous System

15.12

VERTEBRAL ARTERY DISSECTION PRESENTING PRESENTING WITH IPSILATERAL RADICULOPATHY

*Rohana Naqi, Humera Ahsan, Aamir Hameed, Mubashira Hashmi
Department of Radiology, Aga Khan University, Karachi*

Introduction: Dissection refers to the separation of the intimal lining of an artery from the subjacent media and media from the adventitia. Generally dissections are classified as traumatic

and spontaneous. Dissection of Intracranial arteries happen mostly in the territory of the vertebral arteries. **Method:** Spinal manifestations of vertebral artery dissection are rare events and are typically symptomatic with neck pain and ischemic brain injury. The following is a case report of 57 year male patient presenting with unusual paresis of left upper limb due to occlusion/dissection of left vertebral artery with local compression of C5 and C6 as the cause of cervical radiculopathy. He underwent MRI and MRA of brain, cervical spine and neck. Imaging revealed left vertebral artery was hypoplastic with loss of normal signal void. There were abnormal intramedullary signals from C3 – C7 level which were disproportionate to the amount of degenerative changes, suggestive of cord ischemia or secondary to vertebral artery occlusion/dissection. On MRA posterior circulation shows non-visualization of left vertebral artery and Posterior inferior cerebellar artery. On Magnetic resonance angiography of neck, the left vertebral artery appeared to be small in caliber, narrowed at its mid portion and occluded in its upper part, most likely due to dissection.

Conclusion: Vertebral artery dissection should be suspected in young to middle aged patients presenting with the spinal manifestations. Vertebral artery dissection with local compression of C5 and C6 can cause cervical radiculopathy. Such cases should be evaluated through MRI / MRA and vertebral angiography should also be undertaken

Keywords: Vertebral artery Dissection, Spinal Manifestation, Magnetic Resonance Angiography

15.13

Relationship between Magnetic Resonance Angiography and Diffusion Positive Ischemia in Acute Stroke Patients

*Rohana Naqi, Muhammad Azeemuddin, Humera Ahsan
Department of Radiology, Aga Khan University, Karachi*

Objective: The purpose of the study is to assess the relationship between Arterial Disease on Magnetic Resonance Angiography and Diffusion positive infarction in patients with acute ischemic stroke.

Patients and Methods: The MR studies of 124 patients who underwent MR imaging studies within the first 24 hours of stroke were reviewed. MRI and MRA were read by 2 observers. The duration of study was 10 months. 124 patients with signs and symptoms of cerebral ischemia were referred for study. In 21 patients MRA could not done because of poor cooperation. 103 patients completed all aspects of the study; Spin Echo MR imaging, Diffusion Weighted Images, and Magnetic Resonance Angiography.

Results: In all patients with diffusion positive ischemia, on MRA arterial lesions were present in 91 (88.3%) of the 103 patients, while no lesion was identified in the other 12 (11.6%) the patients. In 53 (51.4%) patients the arterial lesion corresponded with the acute infarctions, and in 28 (27.1%) patients no relationship between the stenosed segment and acute infarction were found. In 10 (9.7%) patients diffuse atherosclerosis was found with no significant focal lesion. **Conclusion:** Correlation between MRA and the MR Diffusion restricted acute infarction provides evidence of an arterial basis for this MR finding in acute stroke. Discordance between

MRA lesions and Diffusion Restricted acute infarction can be due to an arterial branch occlusion which is often undetected by MRA or from cardio embolism.

Keywords: Diffusion Weighted Images, Magnetic Resonance Angiography, Acute Stroke

15.14

To assess the MRI of pituitary adenoma with reference to serum prolactin level. Data from a tertiary care hospital

*Rohana Naqi, Muhammad Azeemuddin, Humera Ahsan
Department of Radiology, Aga Khan University, Karachi*

Objective: The aim of this study is to assess the MRI of pituitary adenoma with reference to serum prolactin level. Data from a tertiary care hospital.

Methods: This is a retrospective study from 19th April 2006 to 23rd April 2009. Seventy patients underwent MRI brain for pituitary gland during this period at our centre. Out of these 70 patients, 8 were in-door patients, 15 were outside referrals and 47 were referred from clinics in our centre. It included 50 female patients and 20 were male, age range 3-75 years. Inclusion criteria were all patients referred to the radiology department with relevant clinical symptoms and/or deranged serum prolactin level. Patients who were claustrophobic or had a pacemaker, aneurysm clip, metallic foreign body in the orbit or with no laboratory investigation were excluded from the study.

Results: Total number of cases included 70 patients. Normal examination was noted in 29 (41.4 %) patients. We found microadenomas in 23 (32.8 %) patients, macroadenomas in 16 (22.8 %) and pituitary cyst in 2 (2.8 %) patients.
Conclusion: We conclude that the use of MRI for the identification of microadenomas should not be used as a screening tool. Secondly in a tertiary care hospital, functioning pituitary tumors are more often seen than non-functioning tumors.

Keywords: Magnetic Resonance Imaging, Pituitary Adenoma, Serum Prolactin Level.

15.15

CHILDHOOD INJURIES IN PAKISTAN: RESULTS FROM TWO COMMUNITIES

*Seema Lasi, Dr, Ghazala Rafique, Habib Peermohammed
Department of Community Health Sciences, Aga Khan University, Karachi*

Objective: Injuries are a leading cause of death and disability, with a toll of more than 5 million deaths each year. It is a significant public health problem in terms of morbidity, mortality and lifelong disability. The study aims to determine the incidence, the nature and the extent of childhood injuries in two suburban and rural communities of Pakistan.
Method: The findings of this study are based on a cross-sectional survey of 2292 children, 1+ to 8 years old. The information was sought retrospectively from the primary

caregiver about the occurrence of injury that required medical consultation (formal or informal) during the past three months.

Results: The Incidence rate of non fatal injuries that required care outside home for children 1+ to 8 years old was 19.7 injuries /100 person years (95% CI 16.41-23.51) (Suburban area 26.5 injuries / 100 person years (95% CI 21.31-32.63) & rural area 12.1 injuries /100 person years (95% CI 8.68-16.66). The most common non fatal injuries were falls (526/1000), burns and scalds (175/1000) and road traffic injuries (96/1000). One fatality due to drowning was also reported during the study period. Difference among sex was found to be highly significant. Boys (605/1000) were at higher risk for occurrence of injuries as compared to girls (395 /1000). The data also revealed that a greater number of injuries (610/1000) were found to have take place at home.
Conclusion: The magnitude of childhood injuries in the two communities is significant as compared to the findings of the National Health Survey of Pakistan (1990-94). Majority of these injuries occurred inside the houses, which raises a lot of questions in relation to the household hazards and adequacy of safety and childproofing measures among these households. There is a need to develop community-based interventions creating awareness about the consequences of childhood injuries and educating families about preventive measures in order to reduce the incidence of injuries during early and middle childhood.

Keywords: Injuries, Disability, Non fatal

15.16

DIFFUSION WEIGHTED IMAGE (DWI) FINDINGS IN METHANOL INTOXICATION

*Rohana Naqi, Humera Ahsan, Muhammad Azeemuddin
Department of Radiology, Aga Khan University, Karachi*

Introduction: Methanol is a toxic substance with extremely devastating effects upon exposure. Methanol toxicity is a very acute and dangerous emergency that can cause intense damaging effects to the CNS and should be dealt with urgent and prompt treatment.

Method: The case described is a victim of such poisoning. MRI brain revealed bilateral Putamenal hemorrhage which is a classic hallmark finding. It is associated with surrounding edema. It shows hyper-intense signals on T1 and isointense on T2 Weighted images. Additional Diffusion weighted imaging showed Diffusion positive Bilateral lesions (possibly infarctions) in both the frontal and occipital lobes that were not evident on MRI with or without contrast. This can be explained in the part that methanol is implicated in causing sub-cortical infarction aside from the classic findings as described earlier. Apart from these manifestations methanol poisoning can also cause intraventricular hemorrhage, cerebellar necrosis, diffuse cerebral edema, optic nerve demyelination or necrosis

Conclusion: Methanol toxicity is a very acute and dangerous emergency that can cause intense damaging effects to the CNS and should be dealt with urgent and prompt treatment. Although methanol poisoning causes a wide variety of CNS effects, all such findings cannot be always demonstrated on

routine neuroimaging alone. Advance techniques might be required to reveal additional changes if present however the classic hallmarks of optic nerve demyelination and Putamen necrosis are easy to pick up on MRI brain and the requirement to further investigate should depend on the need if it arises.

Keywords: Diffusion Weighted Image, Methanol Intoxication, Central Nervous System

15.17

TO COMPARE THE ANTIEMETIC EFFICACY OF DEXAMETHASONE AND METOCLOPRAMIDE IN PREVENTION OF PONV AFTER LAPAROSCOPIC CHOLECYSTECTOMY

Riaz Ahmed Solangi¹, Hamid Iqil Naqvi², Aliya Ahmed¹
¹Department of Anaesthesia, Aga Khan University and ²Tabba Heart Institute, Karachi

Objective: A number of antiemetics have been tried to decrease incidence of postoperative nausea and vomiting after laparoscopic cholecystectomy. Metoclopramide is routinely given by many anaesthetists, but it has many adverse effects and its duration of action is short. So we are comparing the antiemetic efficacy of dexamethasone with metoclopramide.

Method: It was prospective randomized double blind clinical trial. 60 adult ASA-I and II patients, of either sex, were divided in two groups, A and B. All patients were premedicated with midazolam 7.5 mg orally. After 10-15 minutes of induction, either dexamethasone 8mg or metoclopramide 10mg was given intravenously. Anesthesia was maintained with Isoflurane 1%, N₂O 60% and O₂ 40%. Patients were shifted to recovery room after extubation and score of nausea and vomiting was recorded there and then in the ward for 24 hours

Results: The incidence of PONV during the first 12 hours was significantly lower in the dexamethasone group (p=0.003). After 12 hours no statistically significant difference was found between groups. Lesser use of rescue antiemetic was seen in dexamethasone group in first 12 hours of postoperative period.

Conclusion: Prophylactic dexamethasone, significantly reduces the incidence of PONV in first 12 hours after laparoscopic cholecystectomy when compared to metoclopramide.

Keywords: Antiemetic, Nausea and Vomiting, Dexamethasone

15.19

AUDIT OF POSTOPERATIVE NAUSEA AND VOMITING AFTER LAPAROSCOPIC CHOLECYSTECTOMY

Azhar Rehman, Suresh Kumar, Saeed uz Zafar, Aliya Ahmed
Department of Anaesthesia, Aga Khan University, Karachi

Objective: Postoperative nausea and vomiting (PONV) is a common cause for patient dissatisfaction after surgical procedures. A high incidence of PONV (53-72%) has been reported following laparoscopic cholecystectomy. The objectives of our audit were to evaluate the frequency of PONV following laparoscopic cholecystectomy at the Aga Khan University Hospital (AKUH), and to evaluate the

practice of prophylactic antiemetics during these procedures. **Method:** All patients aged 20-70 years, ASA I-III, male and female, undergoing laparoscopic cholecystectomy from February 01, 2008 to May 31, 2008 were followed up in the recovery room and six and 12 hours postoperatively. Patients on regular antiemetics were excluded. Patient's demographics, use of prophylactic antiemetic, postoperative antiemetics prescribed, PONV score and need for additional antiemetics were noted.

Results: Ninety six patients were followed up. Prophylactic antiemetics were administered in 74 (77.1%) patients. Drugs used were metoclopramide and/or dexamethazone. 34 patients (35.4%) had no PONV, 34 complained of mild nausea on inquiry, 15 (15.6%) reported nausea without inquiry, eleven (11.6%) had one to two episodes of vomiting and two (2.1%) had severe repeated vomiting. Postoperative antiemetics were given to 53 (55.2%), while 43 (44.8%) did not require any antiemetic. There was no difference in PONV score of those who received or did not receive prophylactic antiemetic. **Conclusion:** The overall frequency of significant PONV after laparoscopic cholecystectomy was 29.2%. The prophylactic antiemetics routinely used in our centre do not seem to have an effect on reducing this frequency, but this aspect needs further evaluation through randomized controlled trials.

Keywords: Postoperative Nausea and Vomiting, Laparoscopic Cholecystectomy, Antiemetics

15.21

USING TELEHEALTH TO DIAGNOSE RADIOLOGICAL PROVEN PNEUMONIA AMONG CHILDREN AGED < 2 YEARS IN SELECTED DISTRICTS OF PAKISTAN

Asif Raza Khowaja, Syed Mohiuddin, Waseem Mirza, Naila Nadeem, Yousuf Husen, Anita Zaidi
Department of Paediatrics & Child Health, Aga Khan University, Karachi

Background: Childhood pneumonia remains a public health concern in Pakistan. Given the scarce expertise and resources in the field of radiology, an inappropriate diagnosis of pneumonia results in poor case management, underestimation of incidence; and associated mortality of radiological proven pneumonia in Pakistan.

Objective: To estimate the proportion of radiological proven pneumonia among children aged < 2 years; and to compare interpretation accuracy between Medical Officers (MOs) and pediatric radiologists. **Methods:** A sentinel surveillance was established in July 2008 to-date, involving Tele-radiology (store-and-forward tele-health) at 16 in-patient healthcare facilities in selective districts in Pakistan. The chest x-rays of children with clinically severe pneumonia cases are obtained, and scanned. The images are interpreted by trained Medical Officer at remote hospitals, and emailed to two pediatric radiologists for blinded interpretation stationed at Aga Khan University, Hospital Karachi. For quality assurance, 10% concordant, and 100% discordant images are forwarded to a senior radiologist (gold standard) for final interpretation. The findings are communicated in real time to primary physicians at remote hospitals.

Results: The study is in progress, however, one-year analysis revealed 676 age-eligible children presented with severe pneumonia and x-rays were obtained. The MOs at primary hospitals interpreted 84% CXRs as pneumonia, whereas, only 27% of total were confirmed by expert pediatric radiologists. The proportion of discordant findings between two expert radiologists was 25%; out of which 15% were later confirmed pneumonia by a senior radiologist.

Conclusion: Tele-radiology is a cost effective and efficient mechanism to obtain true estimates for radiological proven pneumonia and facilitate appropriate diagnoses that influence timely case management. This system may benefit in our local context, where healthcare expertise and resources are scarce.

Keywords: Teleradiology, Childhood Pneumonia, Radiological Proven Pneumonia

15.22

BELIEF IN PRAYERS & THEIR ROLE IN HEALING

Waris Qidwai¹, Rumina Tabassum², Raheela Hanif², Fahad Hanif Khan²

Departments of ¹Family Medicine, Aga Khan University, Karachi and ²Dow University of Health Sciences, Karachi

Objective: To obtain the prevalence of offering prayers for healing. To study patients' perceptions regarding healing effect of prayers.

Method: A questionnaire was designed that included the demographic profile of patients comprising age, sex, marital status, religion, religious sect, ethnic group, education & occupation as well as questions in accordance to the study objective. It was administered to 400 patients at Community Health Center, Aga Khan University in July, 2008. **Results:** The mean age of the study population is 34.33 years, majority of the patients were males (65%) with 65.6% having grade XII or more education. Prayers for healing is practiced by 96.5% of the participants & 95.8% believe that it does cause healing. 92.8% of participants believe that religion gives us the concept of healing through prayers. According to 97.5% of the participants medical treatment should be combined along with prayers for healing.

Conclusion: Prayer is perceived & practiced as complementary medicine.

Keywords: Healing, Prayers, Alternative Medicine

15.23

PENALIZED MULTINOMIAL MIXTURE LOGIT MODEL

S. Bashir¹, E. M. Carter²

¹Department of Community Health Sciences, Aga Khan University, Karachi, and ²University of Guelph, Ontario, Canada

Objective: Normal distribution based discriminant methods have been used for the classification of new entities into different groups based on a discriminant rule constructed from the learning set. In practice if the groups are not

homogeneous, then mixture discriminant analysis of Hastie and Tibshirani (1996) is a useful approach, assuming that the distribution of the feature vectors is a mixture of multivariate normals.

Method: A new logistic regression model for heterogeneous group structure of the learning set is proposed based on penalized multinomial mixture logit models.

Results: This approach is shown through simulation studies to be more effective. The results were compared with the standard mixture discriminant analysis approach using the probability of misclassification criterion. This comparison showed a slight reduction in the average probability of misclassification using this penalized multinomial mixture logit model as compared to the classical discriminant rules. It also showed better results when applied to practical life data problems producing smaller errors.

Conclusion: We have shown that the use of penalized multinomial mixture logit models help in the improvement of classification performance, when the groups are not homogeneous. The proposed model performed better when the data were generated from mixtures of logistics or t-distributions, as well as in the Forensic Glass data problem and two cancer data sets classification.

Keywords: Mixture Models, Em Algorithm, Logit Models

15.24

CENTRAL NERVOUS SYSTEM INVOLVEMENT IN ERDHEIM CHESTER DISEASE

Rohana Naqi, Muhammad Azeemuddin

Department of Radiology, Aga Khan University, Karachi

Introduction: ECD is a rare form of non-langerhans histiocytosis which is a focal or systemic infiltrative disorder resulting from xanthogranulomatous tissue deposition. Age at diagnosis ranges from 7 to 84 years (mean age, 53 years) with a male to female ratio of 1:3. Clinical manifestations range from asymptomatic or minimally symptomatic bone pain or hypopituitarism to severe multisystem involvement, including long bones, skin, lung, soft tissues and brain. However very rare cases present with CNS signs, most commonly diabetes insipidus with or without associated visible hypothalamic lesions. Involvement of the dura or orbit is very rare.

Method: Erdheim Chester Disease is characterized by the presence of lipid-laden histiocytic infiltration of multiple body systems. We report a rare case of non-langerhans histiocytosis, consistent with ECD in brain, which presented with lesions resembling multiple meningiomas. MR imaging demonstrated multiple extra-axial masses along the bilateral cerebral convexities, intraventricular region, tentorium and falx. Biopsy of one lesion revealed ECD.

Conclusion: We describe a case of ECD presenting as multiple extra-axial lesions that appeared similar to meningiomas involving the cerebral convexities, intraventricular, tentorium and falx. This entity should be considered in case of multiple dural lesions.

Keywords: Erdheim Chester Disease, Central Nervous System, Magnetic Resonance Imaging.

15.26**TRAINING STAFF IN CLINICAL PHARMACY – OPTION FOR DEVELOPING WORLD**

Ahsan Salwa¹, Sheikh Abdul Latif¹, Shafiq Yasir¹, Ahmer Syed Abdul Quadir²
Departments of ¹Pharmacy, and ²Psychiatry, Aga Khan University, Karachi

Introduction: In Pakistan, the Inception of Pharm.D is only 5 years old. Academia is still grappling with the clinical oriented curricula. There is no formal (post graduate) training program for clinical pharmacy offered by pharmacy schools/universities in Pakistan. Neither any specialty based residency programs are in place for hospital pharmacists. In our hospital, Department of Pharmacy Services has an in-house training program for clinical pharmacists and is credentialed for providing the same. Currently Department of Pharmacy has been providing clinical pharmacy services to intensive care units, special care units and units like pediatrics, Gastroenterology and internal medicine units. However when the Psychiatric Unit requested to engage a pharmacist for assisting physicians in optimizing the psychiatric regimens, need was identified to have a more sophisticated training mechanism for such a complex and sensitive specialty.

Method: Health Information Management Services (HIMS) of the hospital was contacted to obtain top 5 diagnoses in psychiatry. Using authentic resources like American Psychiatry Association, a training module was prepared utilizing most recent and updated clinical guidelines for the top diagnoses. A psychiatrist was requested to mentor the team of pharmacists. Pharmacists reviewed the guidelines and at the end of each module, discussed with the mentor. This was followed by a written assessment of the module. At the end of 6 weeks intensive training and assessment pharmacists were credentialed and deputed in psychiatry unit.

Results: Analysis of 2 months post deputation of pharmacists in psychiatry unit revealed that the interventions in this specialty increased from zero to 69% of admitted psychiatric patients per month. Main categories of intervention included: Drug interaction, Wrong drug ordered, therapeutic drug monitoring, dose omission prevented, duplication of same class, pharmacotherapeutic recommendations and substitution to formulary drugs. Psychiatrists rated the services as “very valuable” in terms of optimizing regimens, minimizing duplications, dose standardizations and providing information to healthcare staff.

Conclusion: Point of Care Pharmacy service in Psychiatry is a valuable service to be initiated as psychiatric patients are on complex medication regimens and there is potential for frequent Drug Related Problems. Moreover, Pharmacist-Physician partnership proved to be a useful tool for training staff in clinical pharmacy in circumstances where formal training resources are not available or non affordable.

Keywords: Clinical Pharmacy, Training, Mentorship

15.28**NEUROSARCOIDOSIS**

Rohana Naqi, Muhammad Azeemuddin
Department of Radiology, Aga Khan University, Karachi

Introduction: Sarcoidosis is a systemic granulomatous disease of unknown origin, characterized by the presence of non-caseating granulomas in affected organs. Lesions are commonly seen in the lungs, lymphatic system, eyes, skin, liver, spleen, salivary glands, heart, nervous system, muscles and bones¹. Sarcoidosis can affect patients of all ages and races but is most common in the third and fourth decades. Women are more frequently affected than men. The exact cause of sarcoidosis is unknown. Genetic factors confer increased susceptibility. Neurosarcoidosis has been described in 5% of patients with sarcoidosis. It is estimated that less than 1% of patients have isolated central nervous system involvement, without systemic evidence of disease².

Method: We report a case of Neurosarcoidosis in absence of pulmonary features. It is estimated that less than 1% of patients have isolated CNS involvement, without systemic evidence of disease. Thus this case had an unusual clinical presentation. This is a case of 28 years of age female, presented with headache for 6 months. Her MRI Brain showed multiple ring enhancing lesions in left cerebellum and vermis. Patient underwent posterior fossa craniotomy with biopsy of left cerebellar lesion which revealed non-caseating chronic granulomatous inflammation, consistent with sarcoidosis. *Conclusion:* Neurologic involvement is a significant cause of mortality and morbidity in patients with sarcoidosis and isolated neurological symptoms are sole presenting abnormality in absence of pulmonary or other systemic findings. However with timely diagnosis, can be successfully managed with corticosteroid therapy.

Keywords: Neurosarcoidosis, Cerebellar Isions, Magnetic Resonance Imaging

15.29**PLEURAL EFFUSION IN DENGUE: KARACHI PERSPECTIVE**

Munawar Khursheed, Kiran Ejaz, Ambreen Raza
Department of Emergency Medicine, Aga Khan University, Karachi

Introduction: Pleural effusion is an invaluable finding in discerning DHF from DF at a much earlier stage and can therefore serve as a guiding tool in diagnosis. In the Asian population Pleural Effusion with Dengue Syndrome has a different presentation. In a regional study, right sided minimal pleural effusion was reported in 2(6.25%) patients out of 32 on the second to third day of fever. Methodology Retrospective chart review of 663 patients from January 2005 to September 2008 was done for this cross sectional study. Data was collected with a pretested questionnaire. Altered haemo concentration was defined according to the WHO criteria, that is thrombocytopenia of <100,000 and Hct of = 20% of the population. Odds ratio and Chi-square test was applied

according to nominal variables, taking 0.005 as level of significance.

Results: Out of 663 patients, 354 (53%) did not have any radiological study. Among the remaining 309 (47%) patients, 299 (97%) got their CXR and 10(3%) had ultrasound abdomen. Pleural effusion was positive in 50 (16%) patients. 31(62%) patients were male and 19 (385) were female. Their mean age was 32±15. Out of 50 patients who have pleural effusion 23 (46%) reported right sided, 9 (18%) showed left sided and 18 (36%) on both sided.

Conclusion: The presenting features of Pleural Effusion with Dengue Syndrome in our population are atypical but as it is a self-limiting, mild aspect of DS, one should be able to weigh the importance of radiological modality like US Chest.

Keywords: Pleural Effusion, Dengue, Karachi

15.30

PANCREATIC LYMPHANGIOMA: A CASE REPORT WITH REVIEW OF LITERATURE

*Shaista Afzal, Imrana Masroor, Gulnaz Shafqat, Naila Nadeem
Department of Radiology, Aga Khan University, Karachi*

Objective: Lymphangioma is a rare benign tumor which develops as a consequence of lymphatic malformation and blockage of lymphatic flow. Less than 100 cases of pancreatic Lymphangioma are reported in literature upto now without any local case report. . We present a case of pancreatic Lymphangioma incidentally discovered in an elderly lady with review of literature.

Method/Case Report: On routine physical examination of an 84 year old female the general physician discovered an epigastric mass on palpation. Ultrasonography showed a heterogeneous mass in the region of pancreas showing multiple cysts of varying sizes. CT scan was carried out that showed a large microcystic mass with enhancing septae arising from pancreas. The final diagnosis was Lymphangioma. Surgical excision was not done due to the close proximity of the lesion to the adjacent structures and as the patient high risk for surgery.

Results/Discussion: Pancreatic lymphangioma is a rare occurrence and an account for less than 1 % of cases. It is found more commonly in females the ratio being 29:16. The age of the patients ranged from 2-81 years. Size of the tumour varies from 3-20 cm in diameter. The tumour is commonly located in the region of body and tail of pancreas. Most of the time the patient is asymptomatic. The radiological imaging modalities that have been used to evaluate pancreatic lesions are ultrasound, CT scan and MRI/MRCP. CT scan shows a well circumscribed encapsulated homogenous polycystic with thin septae in or adjacent to pancreas the appearance similar to cystadenoma. The final diagnosis is histopathological with tumour cells showing CD 31 positivity. Complete surgical excision is the curative treatment

Conclusion: From this case and review of literature we can conclude that pancreatic lymphangioma a rare tumour that should be considered in the differential diagnosis of a multiloculated cystic pancreatic mass.

Keywords: Lymphangioma, CT Scan, Pancreatic

15.31

ASSESSMENT OF QUALITY OF LIFE BEFORE AND ONE MONTH AFTER CORONARY ARTERY BYPASS GRAFTING: A PROSPECTIVE STUDY IN KARACHI, PAKISTAN

Rozina Barolia

School of Nursing, Aga Khan University, Karachi

Objective: Historically health sciences have been measuring their outcomes in terms of mortality and morbidity. Although both these measurements remain important; there is an increasing trend towards using illness or its treatment interferes with a person's day to day life. The present study's focus is to take the case in view, which is among the most common procedures performed in the world and it is one of the possible treatments of coronary artery disease (Dantas and Ciol, 2008). The outcomes of CABG have been widely assessed in terms of mortality, morbidity, recurrence of symptoms, change in quality of life and the physical and psychological influences; however, the change in patients' perceived quality of life and patients' concerns at one month after surgery have never been assessed in Pakistani cultural context. The purpose of the present study was to assess and compare the change in health related quality of life of patients before and one month after CABG in a tertiary care university hospital in Karachi, Pakistan. In addition the study attempted to assess the influence of selected patient's characteristics (i.e. age, gender and participation of cardiac rehabilitation) on patient's quality of life at one month after CABG. Moreover, the study also aimed at identifying patients' concerns at one month post surgery. *Method:* The study utilized prospective single group study design. A convenient sample of 65 participants was followed from before to one month after surgery. Patients were interviewed using World Health Organization Quality of Life BREF (WHOQOL BREF), a cross culturally valid measure of quality of life at both points.

Results: The analysis of the data did not demonstrate any significant improvement in patients' perceived quality of life at one month post CABG; however the study found significant improvement in patients' satisfaction from health, physical health, psychological health and satisfaction from social relationship at one month post surgery. Post surgical pain, dissatisfaction with sleep, dissatisfaction with capacity to work and increased frequency of negative feelings were found to be important concerns for these patients at one month post CABG. In addition, there was a significant difference observed by age groups on the satisfaction with social relationships with younger patients (<= 60 years) being more dissatisfied with their social relationships. Similarly, women had significant lower post operative scores in psychological health domain. Like wise, attendees of cardiac rehabilitation showed significant higher scores on psychological health domain than those who did not participate in structured cardiac rehabilitation program.

Conclusion: Findings from this study can assist nurses, doctors and family members to gain a perspective of early recovery and rehabilitation of post CABG patients. The results have important implications as health care providers can strengthen existing systems to address patients' concerns during recovery.

Keywords: CABG, Quality of Life, Cardiac Rehabilitation

15.32**AN EXPERIENCE OF ELECTIVE TRACHEOSTOMY IN MECHANICALLY VENTILATED CHILDREN FROM DEVELOPING COUNTRY**

Prem Kumar Maheshwari, Muhammad Rehan Khan, Anwarul Haque

Department of Paediatrics & Child Health, Aga Khan University, Karachi

Introduction: Tracheostomy is a rare and considers being a risky procedure in developing countries. There is also lack of studies/experience from pediatric intensive care about role of tracheostomy and outcome of children underwent for this procedure.

Objective: So the aim of this study was to analyze data about indications, complications and outcome related to tracheostomy.

Method: The authors retrospectively review the charts of twenty five patients in five years who underwent for tracheostomy in pediatric intensive care unit between years 2005 -2009.

Results: All tracheostomy were electively done under general anesthesia. The main indication for tracheostomies was prolonged ventilation in neurologically impaired patient. The male were predominant that is sixty percent of total. There was no death related to tracheostomy. The most common complications noted were tube blockage and aspiration pneumonia that were 20% and 12% respectively. All patients were discharged home without oxygen and ventilatory support.

Conclusion: We found that tracheostomy is safe procedure with low complication rate in pediatric intensive care unit and should be opted in patient requiring prolonged ventilation, because of limited financial support and limited bed availability in pediatric intensive care unit in developing countries

Keywords: Tracheostomy, ICU, Pediatric

15.33**NON FATAL INJURIES AMONG INFANTS: FINDINGS FROM TWO COMMUNITIES**

Seema Lasi, Ghazala Rafique, Habib Peermohammed
Department of Community Health Sciences, Aga Khan University, Karachi

Introduction: Injuries during infancy are very much underestimated due to high numbers of infectious and birth related causes of illness and death, however, they are at its highest as compared to the rest of childhood. The study aims to determine the incidence, nature and the extent of Infant injuries in two suburban and rural communities of Pakistan.

Methodology: A cross-sectional study was conducted on a cohort of 316 infants. The information was collected from primary caregivers based on any injury that has occurred to their infants during the last 03 months that required treatment in or out of home.

Result: The Incidence rate of non fatal injuries for infants was 16.7/100 person years (Suburban area injuries 24.3/100

person years and rural area 9.8 injuries/100 person years). The male to female ratio was 1:2.2 and the suburban to rural ratio of injuries was 2:1. Sixty-nine percent of infants were alone at the time of injury without an adult supervision. The most frequent place for occurrence of injury was courtyard and bedroom. Injury on head was reported by 38.5 percent cases. For 31 percent cases medical care was sought whereas the rest were either treated at home or were taken to traditional healers. The mean days of recovery were 09±10.

Conclusion: Injuries during infancy may cause lifelong consequences as this is the time when rapid brain development is taking place. The magnitude of infant injuries is quite significant in the suburban and rural community of Pakistan.

Keywords: Infant Injuries, Non Fatal, Incidence Rate

15.34**KERATOELASTOIDOSIS MARGINALIS IN A PATIENT OF ALKAPTONURIA**

Sadia Masood¹, Dilawar Abbas Rizvi², Rehan Uddin²
¹Department of Medicine, Aga Khan University and ²PNS Shifa Naval Hospital, Karachi

Introduction: Alkaptonuria is a rare disorder of protein metabolism. We reported a case of alkaptonuria who presented with lesions of keratoelastoidosis marginalis.

Case report: A 48-year-old man presented with thickening of palm and soles and recurrent joint pain with difficulty in walking. On interrogation he told that urine became dark if it stands for sometime which was confirmed clinically. On examination he had bluish black pigmentation on photo exposed areas and swollen knee joints. The pigmentation was suggestive of ochronosis. Both sclera were discolored without visual impairment. Hands showed hyperkeratotic plaques with bluish tinge along the margins of palms and fingers suggestive of keratoelastoidosis marginalis. Nails were markedly discolored. Left knee joint was swollen, tender with restricted movements. X ray of lumbar spine showed intervertebral disc calcification and screening tests for alkaptonuria confirmed the diagnosis. Discussion Alkaptonuria is a rare autosomal recessive disorder, caused by deficiency of homogentisic acid deoxygenase. It is characterized by deposition of homogentisic acid in fibrous and cartilaginous tissues, which manifest clinically as dark urine (homogentisic aciduria), distinctive cutaneous pigmentation (ochronosis) and arthritis. Our patient had alkaptonuria along with keratoelastoidosis marginalis, which is a type of solar elastosis. The clinical morphology of hand lesions along with pigmentation of ochronosis deserve to be mentioned because these are unusual and have not been previously reported. However further cases are needed to establish this association.

Keywords: Alkaptonuria, Pigmentation, Keratoelastoidosis

15.36
HYPERKALEMIA INDUCED CARDIAC
ARRHYTHMIAS: TREATMENT AND OUTCOME

Amber Mehmood, Tahir Khan, Sana Shahbaz, Kiran Ejaz
Department of Emergency Medicine, Aga Khan University,
Karachi

Introduction: One of the most common electrolyte imbalance dealt by Emergency Departments is hyperkalemia (Potassium (K⁺) level > 5.0 mmol/ L). Hyperkalemia has a wide range of presentations depending upon the level of potassium. Severe hyperkalemia (K level > 6.5 mmol/ L) can cause serious arrhythmias including ventricular fibrillation and asystolic arrest. Therefore it is important to correct hyperkalemia promptly and treat the underlying cause. In a vast majority of patients the underlying cause is drug induced hyperkalemia with pre-existing or new renal failure. Simultaneous prescriptions of NSAIDs, digoxin or heparin, associated renal failure, diabetes mellitus, type IV renal tubular acidosis, old age, dehydration and severity of heart failure greatly magnify the risk of developing severe hyperkalaemia.

Objectives: The objective of the study is to assess the treatment and outcome of patients presenting to ED with hyperkalemia induced cardiac arrhythmias.

Methodology: This is a retrospective chart study that includes all the adult patients presenting to Aga Khan University Hospital's Emergency Department with hyperkalemia induced cardiac arrhythmias. Those who went LAMA or are transferred out are being excluded. The data will be collected from July 2008 till September 2009, with a preformed questionnaire. Data entry and analysis will be later done with SPSS version 16.

Expected Results: Overall survival of patients will be noted and compared for different levels of potassium. Treatment modalities and their efficacy will be discussed.

Conclusions: Study under process.

Keywords: Hyperkalaemia, Cardiac Arrhythmias, Treatment

15.38
INFILTRATED LEISHMANIA RECIDIVANS ON FACE:
A RARE CLINICAL PRESENTATION

Sadia Masood¹, Dilawar Abbas Rizvi², Rehan Uddin²
¹Department of Medicine, Aga Khan University and ²PNS
Shifa Naval Hospital, Karachi

Introduction: Cutaneous Leishmaniasis is a parasitic disease transmitted by bite of sand flies. We reported a case of Leishmania recidivans on face which was previously treated as a case of lupus vulgaris.

Case report: A 7-years old boy presented with 14-months history of erythematous infiltrated plaque with superficial desquamation on left cheek. The lesion initially started as small asymptomatic, papule on the cheek and gradually increased in size. He was previously diagnosed as a case of Leishmaniasis and partially treated for that. But the lesions persist and someone prescribed antituberculous therapy and he used that therapy for nine months. On examination there were infiltrated, edematous plaque with lesion of Leishmaniasis

recidivans at margins. Extracellular amastigotes were seen in tissue smears stained with Giemsa stain. Histological examination revealed granulomatous infiltrate, consisting of lymphocytes, histiocytes and multinuclear giant cells. The patient received therapy with meglumine antimoniate intralesionally, with a gradual reduction of the swelling.

Discussion: A clinical course of lupoid leishmaniasis is probably related to changes in cell-mediated immunity. In Pakistan, an endemic country for leishmaniasis, the possibility of lesion should be kept in mind while diagnosing common dermatological diseases like chronic eczema, and uncommon disorders like lupus vulgaris. Clinically and histologically it is similar to lupus vulgaris, which is thus the most important differential diagnosis. We reported this case because of its quite unusual clinical course, unusual clinical presentation, and the localization on an unclothed part together

Keywords: Cutaneous Leishmaniasis, Recidivans, Infiltrated Plaque

15.39
FREQUENCY AND CLINICAL VARIANTS OF SPECIFIC
DERMATOSES IN THIRD TRIMESTER OF PREGNANCY

Sadia Masood¹, Dilawar Abbas Rizvi², Saadia Tabassum³
¹Department of Medicine, Aga Khan University, ²PNS Shifa
Naval Hospital, and ³Liaquat National Hospital, Karachi

Introduction: Pregnant women are susceptible to various physiologic and pathologic cutaneous changes. These are due to different metabolic, vascular, endocrine and immunological alterations. These dermatoses are generally benign, but they cause substantial anxiety in the pregnant mother. Recognition of these changes is important for correct diagnosis, as some require appropriate management due to risk of maternal or fetal complications. The objectives of this study were to determine the frequency of patients with dermatoses in third trimester of pregnancy and also to identify various clinical varieties of dermatoses.

Setting: Department of Dermatology and Gynaecology & Obstetrics PNS Shifa, Karachi.

Subject and Methods: Two hundred pregnant women in their third trimester were included in the study. Diagnosis was based on history, clinical examination and some relevant investigations. Patients with physiological dermatoses and dermatoses which flare up during pregnancy were excluded... Skin biopsy for histopathology was also done where necessary. **Results:** It was a six month study. 200 patients were evaluated in this study. Ages ranged from 17 to 36 years (mean = 27.3). 5 patients had prurigo of pregnancy (2.5 %), 4 had dermatoses associated with Intrahepatic cholestasis (2 %), 3 patients had polymorphic eruption of pregnancy (1.5%) and 1 patient had pruritic folliculitis of pregnancy (0.5 %).

Conclusion: In my study 6.5% patients presented with specific dermatoses. Prurigo of pregnancy was the commonest. Polymorphic eruption of pregnancy was more common in primigravida while dermatoses with intrahepatic cholestasis were more often seen in multigravida.

Keywords: Pregnancy, Dermatoses, Third Trimester

15.40 CHALLENGES VIS-À-VIS COMMUNITY-BASED GROWTH MONITORING AND PROMOTION

*Seema Lasi, Ghazala Rafique, Ayisha Khan
Department of Community Health Sciences, Aga Khan
University, Karachi*

Introduction: Undernutrition is a major problem among under five children in Pakistan. The country is among the world's 20 countries which house more than 80 percent of undernourished children. Annually, 740,000 children die due to various causes; half of these deaths are attributable to malnutrition. At present 08 million children in the country are suffering from some degree of undernutrition. Community-based Growth Monitoring and Promotion (CbGMP) is an important strategy to combat undernutrition and to promote growth and development among community children. The main purpose of this programme is to determine whether a child is growing normally or has growth problem or trend towards growth problem that should be addressed immediately. *Methodology* A model of Community-based Growth Monitoring and Promotion Programme is developed by The Aga Khan University- Human Development Programme which is successfully implemented in 02 communities of Pakistan on more than 3000 children. The challenges that were part and parcel of this CbGMP were inaccuracies or non availability of children's Date of Births (DOB), provision of accurate and easy to handle measuring instruments, efficient use of Growth Monitoring Charts, availability of Nutrition Educational Material, training of CWs and management Information system. Results Each and every problem was carefully analyzed and solutions were sought in participation with community workers and caregivers. Written protocols and training manuals were developed for community workers. Booklets, Posters and leaflets were also developed for caregivers and community members.

Conclusion and Discussion: A model of community-based GMP is available for replication and scaling-up within Pakistan.

Keywords: Under Nutrition, Community-Based, Growth Monitoring and Promotion

15.41 IMPACT OF AKU-SON, KARACHI PAKISTAN: ON EMPOWERMENT OF NURSES IN THEIR PERSONAL AND PROFESSIONAL LIFE: A CASE STUDY APPROACH

*Saleema Gulzar¹, Nasreen Sulaiman¹, Salma Rattani¹, Asif Raza¹, Rozina Karmaliani¹, Kausar S Khan²
¹School of Nursing and ²Department of Community Health Sciences, Aga Khan University, Karachi*

Objective: Empowerment is a buzzword nowadays in both developing and developed world. Nursing as female dominated profession often suffers disempowerment at various levels due to various cultural and societal reasons. In Pakistan, where the male dominance highly prevails, nurses as women carry a double burden of subordination; as women in the society

and as nurses been subordinated to the medical profession. The Aga Khan University School of Nursing (AKUSON) has been striving hard to uplift nurses and nursing profession image in the country through its academic and service excellence. The purpose of the study were; to analyze the process of empowerment, nurses' experiences of empowerment both at personal and professional level, outcomes of AKUSON's struggle towards nursing empowerment, and to recommend future directives for further development, democratization and good governance within the nursing professional bodies (PNC, PNF) in Pakistan.

Method: A case study was carried out under the grant project of WEMC (Women Empowerment in Muslim Context) to measure the university's impact on nurses and nursing profession empowerment within the country in the last 27 years. Purposive sampling was used for data collection. Focus group discussion, Key informant interviews and document reviews were used as a method of data collection. Data was analyzed under various themes and categories using NVIVO 2.0 soft ware package.

Results: Results indicated that AKUSON has played a pivotal role in enhancing the legitimacy of nursing as a profession for Muslim women.

Conclusion: It was recommended that nursing professional bodies at national level need to be more strengthen and play an active role for nurses and nursing profession empowerment overall in the country. Note: This poster is an output of the Research Programme Consortium on Women's empowerment in Muslim Contexts, led by City University of Hong Kong. It has been made possible by funding from the UK Department for International Development (DFID) for the benefit of developing countries. The views expressed are not necessarily of DFID.

Keywords: Nursing, Empowerment, Professional life, Working Woman

15.43 SPATIAL DISTRIBUTION OF MYOCARDIAL ISCHAEMIA INDUCED BY EXERCISE INDICATED BY DEPOLARISATION VECTORS: COMPARISON WITH MYOCARDIAL PERFUSION SCAN

*Camer Vellani¹, Sarah Haroon², Santosh Kumar¹, Mohammad Yusuf³
Departments of ¹Medicine, ²Medical College, and ³Information Technology, Aga Khan University, Karachi*

Introduction: Search at AKU for a low cost reliable alternative to myocardial perfusion scan (MPS) for identifying the location of myocardial ischaemia led to a study of depolarisation vectors. Since the vectors reflect the sequence of depolarisation, which is dependent on the Purkinje network, and ischaemia diminishes myocardial excitability, reversible changes in the magnitude and/or direction of the resultant vectors induced by exercise should indicate the spatial distribution of ischaemia.

Methods: ECG signals of 3 simultaneous, orthogonal, bipolar leads (McFee and Parungao 1961) were digitised at intervals of 1.5 ms. The magnitudes and directions of the electrical vectors in three planes were derived from the digital arrays

of 30-60 averaged QRS complexes for each stage of the Bruce protocol. Software developed at AKU identified QRS complexes, averaged and aligned the data points, computed the magnitudes and angles of vectors in horizontal, frontal and sagittal planes, and enabled comparison of the data during exercise with the values prior to exercise. Males were studied: (a) 38 of 100 patients undergoing myocardial perfusion scan; (b) 15 of 26 volunteers aged 22-30 years who exercised regularly. Others were excluded because of signal artefacts or inability to exercise.

Results: MPS showed reversible defects during peak exercise in 8 patients. Two also had irreversible defects; one was consistent with the standard ECG. The correlation of spatial distribution of ischaemia identified by depolarisation vectors with MPS is under review; the conclusions will be presented in the poster.

Keywords: Vectorcardiography, Depolarisation, Ischaemia

15.44 DISABILITY DIMENSION: CARE GIVERS OF DISABLED CHILDREN

Zia Furrugh¹, AK Yousuf Zai²
Departments of ¹Community Health Science, and ²Paediatrics
& Child Health, Aga Khan University, Karachi

Introduction: Double burden of disability and gender has often been discussed in the Western literature, but rarely explored in the context of a developing country. The power relations impact on caregivers (mostly women) of disabled children. Marginalisation (Smith et al. 2004), Poverty (DFID, 2000; Elwan, 1999), Education (UNESCO, 2000), Access (Ubido et al. 2002; May-Teerink, 1999), Mental illness (Grassi et al. 2001), Sexuality and Abuse (Nosek et al. 2002; 2001) are also contributing for the barriers in mainstreaming in society. According to International classification of functioning (ICF), health and disability reveal that disability is not only limit the body functioning but it also effects the participation. *Methodology:* Our areas of research were to review current policies in Pakistan and understand the extent of their implementation at the community, district, provincial and federal levels and to identify the needs of caregivers of disabled children and adults using Participatory Reflexion Analysis (PRA) tool.

Findings: The most important reality enlightened by the caregivers (Mother of disabled children) was the care takers of children with disability (CWD) are become empowered with their disabled children and they took life as challenge. A review of priority action and programs regarding disabled women and girls from National Plan and Action (NPA) also shared with the caregivers of CWD and they comment on that there is no implementation of such programs. *Conclusion:* The care givers of CWD became empowered because of their disabled children, they have alot of double burden and have so many constrains for the participation in performing their role in society.

Keywords: ICF, CWD, Caregivers

15.45 CHALLENGES IN DAILY LIVES OF WOMEN FROM RURAL SINDH

Aziza Burfat
Department of Community Health Sciences, Aga Khan
University, Karachi

Introduction: Women's Empowerment in Muslim Contexts (WEMC) is a study that focuses on challenges that women face in access to decision making forums and resources like those of health and education. The project considers violence against women and cultural and religious mis-interpretations as a means to legitimize control of women. This writing looks at the challenges for women's empowerment with respect to their daily lives.

Methodology: Field work was conducted with women in a remote village of Dharo Mahesar, rural Khairpur. The participatory rural appraisal (PRA) tools were used in group discussions with 30-40 women aged 15 – 70 years and having varying marital status.

Results: Findings: Most women faced challenges from family and community members. Men in roles of father, husband or brother and even women living in the neighborhood (Para) posed hurdles in the name of religion and culture. Women related that they could not make any decision without permission from men in their family. The women were not even allowed to choose their own dresses and men usually went to the market to buy clothes for their women. No female in the village was permitted to go out of the house without a veil (Burqa) and both young girls and old women wore white burqa so that "no one would know that girl is going in it [burqa]". Women were also not allowed to go to health or educational centers while in personal life they had no say in selection of their life partner, using family planning methods for birth spacing or even making decisions about their children's future.

Conclusion: Conclusion: It is clear that women are expected to adhere to cultural norms not only in community settings but also in their personal lives. This poses questions about societal considerations of women as beings or merely as things that must be controlled and possessed.

Keywords: PRA, Burqa, Para

15.46 FREQUENCY OF OBESITY IN SCHOOLGOING CHILDREN AND ADOLESCENTS

Soobia Raza
Department of Family Medicine, Aga Khan University, Karachi

Introduction: Globally, the prevalence of childhood and adolescent obesity is increasing rapidly. Recently, it has become an important public health concern because obesity at an early age is considered to result in obesity in later life. Because of this fact, it has become increasingly important to identify risk factors predisposing to obesity and to identify youth who are obese or at risk of becoming obese. Due to lack of data regarding the distribution of risk factors in

Pakistani children and adolescents, we require relevant research in our setting.

Objective: This study was designed to determine the frequency of obesity in children and adolescents in three different schools of Karachi and to determine associated factors for obesity in these children.

Method: A cross-sectional study was conducted from March 2008 to May 2009, which were visited with prior consent from the school director. All students aged 6-18 years, who gave consent, had their heights and weights measured and their body mass indices were calculated. Informed consent forms were distributed to the selected students to be read and signed by their parents, after which self administered questionnaires were distributed.

Results: After adjusting for the effects of other variables, the odds of being young, of being Urdu speaking and taking less than two snacks in a day was higher in obese than in non-obese children (OR 3.49, 2.49 and 2.05 respectively). *Conclusion:* Our study indicates that ethnicity (Urdu-speaking), younger age and less number of snacks are significantly associated with obesity.

Keywords: Obesity, Childhood, Adolescent

15.47

PREFERENCE OF MIXED GENDER SEATING OVER SAME SEX SEATING BY STAFF WORKING IN A PRIVATE SECTOR ORGANIZATION

Mir Asghar Ali Khan

Department of Paediatrics & Child Health, Aga Khan University, Karachi

Introduction: In today's competitive world, organizations are striving hard to develop ways and techniques to retain good quality staff and to keep their morale high by providing a congenial and an enabling environment. Human Resource is undoubtedly one of the most important input of an organization that enables to progress. In the context of Pakistan, it is vital to understand what style of seating helps staff in raising morale and having an enabling environment.

Objective: This study intends to understand whether people prefer to have a mixed gender seating over a same sex seating, and to ascertain how positively (if) mixed gender seating affects in providing an enabling environment.

Method: The present research study adopts quantitative paradigms. The study uses Surveys as quantitative mode of enquiry. More specifically it is a cross-sectional survey on a targeted sample of one private organization of Karachi. 50 subjects were studied using questionnaire as an instrument. Nominal and Ordinal scales were used to record feedback from the respondents. Data was entered and analyzed in SPSS Version 13.0 and Chi-square test was used to ascertain level of significance of the study's main hypothesis. Additionally, Chronbach's Alpha test was also used to validate reliability of the questionnaire. Due ethical consideration was given by verbal assurance to the respondents about the safety of data and non-commercial use of the findings.

Results: The hypothesis was tested at two difference significance levels (Alpha 0.05 and 0.001). Interestingly at both the levels the results have accepted the hypothesis. The

results strongly suggest that staff working in a private sector organization does prefer a mixed gender seating over same sex seating arrangement.

Conclusion: The results of the study conclude and endorse that mixed gender seating is preferred over same sex seating, by staff working in a private sector organization.

Keywords: Gender, Seating, Management

15.48

FAMILY CENTERED ROUNDS IN PEDIATRIC INTENSIVE CARE SETTINGS AT THE AGA KHAN UNIVERSITY HOSPITAL, KARACHI

Laila Akbar Ladak¹, Shahirose Premji¹, Anwar ul Haq³, Muneer Amanullah², Khairulnissa Ajani¹

¹School of Nursing, Departments of ²Paediatrics & Child Health, and ³Surgery, Aga Khan University, Karachi

Objective: To determine whether family centered rounds implemented in the Pediatric Intensive Care Unit and Pediatric Cardiac Intensive Care Unit improves parents' and health care professionals' satisfaction, decrease patients' length of stay, and improves time utilization when compared to traditional practice rounds.

Method: A non randomized control trial, where during phase I (April to May, 2009) traditional bedside rounds were practiced, and during phase II (June to July, 2009) family centered rounds were practiced. A convenient sample of 82 parents and 25 health care professionals were recruited. Data were collected on the second day of rounds. A t test was used to compare parental satisfaction and time duration and a paired t test was used to compare health care professionals' satisfaction between rounds. Wilcoxon rank sum test was used to analyze differences between rounds in patients' length of stay and time utilization

Results: Overall, parents were satisfied with traditional as well as family centered rounds; however parents' ratings during the family centered rounds were significantly higher for some parental satisfaction items including evidence of team work in the medical team (p=0.007), use of simple language during the rounds (p=0.002), and preference for family centered rounds (p=0.000). No significant differences were found in health care professionals' satisfaction between rounds. Patients' length of stay was significantly reduced in family centered rounds group while no significant difference was found in the time duration of rounds. Family centered rounds served as an opportunity for parents to correct patient history or documentation.

Conclusion: Parents preferred family centered rounds whereas, health care professionals did not. Family centered rounds were a resource for parents reflecting their need for information, communication, and involvement in decision making during their child's hospitalization. The findings of this study suggest that family centered care rounds may be used as a quality care measure.

Keywords: Family Centered Rounds, Parental Satisfaction, Health Care Professionals' Satisfaction

15.50

PREVALENCE AND DETERMINANTS OF VIOLENCE AMONG EMERGENCY MEDICAL CARE PROVIDERS IN KARACHI, PAKISTAN

Emad uddin Siddiqui¹, Kiran Ejaz¹, Muhammad Umer Shehzaad², Junaid A. Razzak¹, Seemin Jamali¹

¹Department of Emergency Medicine, Aga Khan University, Karachi and ²Sutherland Hospital, Australia

Background: Workplace violence persists in our noble profession. Emergency Departments stays at highest risk. Commonest violence encountered by females is verbal violence. Victims give various physiological, emotional and social reactions. Behaviour exhibited is 'to work harder and be more organized' and 'to work more carefully to avoid criticism'. Sorrowfully, 10% 'consider committing suicide.' It remains a major concern for the healthcare professionals in the tertiary care hospitals in our society.

Objective: To determine the prevalence and determinants of work place violence among emergency medical care providers in tertiary care hospitals of Karachi, Pakistan.

Methodology: The study was conducted in Emergency Departments of Civil Hospital Karachi, Jinnah Post Graduate Medical Centre, Aga Khan University Hospital and Liaquat National Hospital. Interviews after written consent was taken from all level physicians, registered nurses, nursing aids, porters, guards, unit receptionists and housekeepers. Stratified cluster sampling with a sample size of 384 was adapted. Level of significance is kept at 95% Confidence level. Analysis was run with SPSS version 16.

Results: Among the responders 220(57%) were aged between 25-34 years. Male enumerated 250(65%). Out of 384 a staggering 274(71%) participants stated that during the previous year they had been exposed to verbal abuse. Seventy six (20%) respondents reported physical attacks. Out of these, 31(41%) were attached with a weapon. Of 76, 24(32%) felt that it was useless to report the incident.

Conclusion: Verbal violence is common in our setting in comparison to physical violence.

Keywords: Prevalence, Determinants, Emergency Personnel

15.51

INTUBATION IN EMERGENCY DEPARTMENT: INDICATIONS, SUCCESS RATE AND COMPLICATIONS

Nadeem Ullah Khan, Muhammad Furqan, Junaid A. Razzak, Humaid Ahmed, Kiran Ejaz
Department of Emergency Medicine, Aga Khan University, Karachi

Introduction: Emergency Intubation is a highly skilled life saving procedure involving risks especially when performed in an emergent situation. American and Canadian Emergency Physicians perform it themselves. In England and Wales, anesthetist performs most with only few exceptions. The success rate and complication varies in different settings. We could not find the success rate and complication of Intubation procedure done in emergency department in our part of the world.

Objective: To find out the Indication, success rate and complications of emergency intubation, in a private, tertiary care hospital of Karachi, Pakistan.

Method: This is a retrospective case series of all patients who underwent emergency intubation at emergency department of this institute, during the study period from June 1998-June 2003. Patients of either gender and of all ages were included. Indication, method, success rate and complication of the procedure were recorded. Data analysis was done with SPSS 16.

Results: During the study period 275 (55/year) intubations were performed. Male accounted 62% of the population. Rapid sequence intubation was the commonest type (72%) of intubation and 97% times performed by anesthetists. Overall 21 (7.6%) complications occurred in eighteen patients. Rate of complication in those who achieve airway in 1st attempt was 3.9%, 38% in 2nd attempt and 50% in 3rd or 4th attempts. Night shift (14/171) reported more complications.

Conclusion: In our setting Rapid sequence intubation was the commonest type of intubation and the overall success rate and complications were comparable to other studies.

Keywords: Intubation, Success Rate, Complications

15.52

QUEBEC PLATELET DISORDER

Anwar Hussain Abbasi¹, Quratulain Shaikh¹, Syed Ather Hussain²

Departments of ¹Medicine, and ²Obstetrics & Gynaecology, Aga Khan University, Karachi

Method: Quebec platelet disorder is the rare autosomal dominant disorder of platelet function which is characterized by increased bleeding after any injury or trauma. A case of Quebec platelet disorder is hereby reported. A 33 years old woman presented with history of epistaxis and gum bleeding since childhood and menorrhagia and bleeding per vaginum after puberty, also had history of excessive blood loss after birth of child. Her coagulation profile was normal but platelet function testing by platelet aggregation assay showed abnormal aggregation of platelet with epinephrine. This type of response is seen in rare autosomal dominant disorder called "Quebec platelet disorder.

Keywords: Quebec Platelet Disorder, Platelet Function Test, Bleedingtime

15.53

FOCUSED ABDOMINAL CT SCAN FOR ACUTE APPENDICITIS IN PEDIATRIC POPULATION

Waseem Akhtar¹, Sumera Ali², Arshad³, Farzana Nawaz Ali², Naila Nadeem¹

Departments of ¹Radiology, ²Medical College, and ³Surgery, Aga Khan University, Karachi

Objective: To evaluate the focused abdominal CT scan [FACT] in clinically equivocal cases of acute appendicitis in pediatric population.

Method: A cross sectional study was conducted on 84 patients (42 males and 42 females), aged between 1 and 15 years who underwent FACT scan examination for clinically equivocal signs and symptoms of acute appendicitis, at the Radiology department of Aga Khan University, Karachi, from August 2007 to November 2008. CT findings were compared with histopathology and clinical follow up.

Results: The sensitivity of focused CT for acute appendicitis was found to be 91%; specificity was 69% and accuracy of 76% while PPV and NPV were 58%, 94% respectively. The kappa statistics between CT and histopathology was 1, representing excellent agreement for acute appendicitis (p-value <0.001).

Conclusion: Focused unenhanced CT is a quick, accurate and non invasive modality for the assessment of clinically equivocal cases of acute appendicitis.

Keywords: Acute Appendicitis, Radiography, CT, Focused

15.54

PARENTS' PERCEPTIONS AND PRACTICES REGARDING CONSANGUINITY: CASE CONTROL STUDY OF β -THALASSEMIA

Madiha Beg¹, Amna Rehana Siddiqui¹, Khabir Ahmad², Khadija Nuzhat Humayun³

Departments of ¹Community Health Sciences, ²Surgery (Ophthalmology), and ³Paediatrics & Child Health, Aga Khan University, Karachi

Background: β -Thalassemia poses an increasing problem for Eastern Mediterranean Region, especially in Pakistan. Demographic and Health survey (1990) of Pakistan reports more than 50% of marriages are consanguineous in Pakistan.

Objectives: To determine factors related to perceptions and practices related to consanguinity among parents of children suffering from Thalassemia and comparing with parents of children not suffering from Thalassemia.

Methods: Parents of Thalassemic children (Cases) aged 2 to 10 years of age will be selected from a Blood Transfusion Center using random sampling techniques from a list of registered patients in last one year. Parents of children (Controls) visiting general clinic for common illnesses will be selected using an alternate algorithm starting with a random number generated from computer. Trained interviewers will conduct interviews after taking informed consent to determine social and demographic characteristics of cases and controls. Perceptions about consanguinity and changes in practices will be ascertained of study participants. Further awareness regarding susceptibility and seriousness of Thalassemia, and barriers to changes in behavior related to premarital screening and consanguinity will be determined. Enabling and reinforcement environment for positive attitude will also be assessed. A sample of 315 cases and 630 controls will be utilized to determine socio-behavioral factors associated with Thalassemia. The relationship of each perception and behavior with having a child with Thalassemia compared to control will be evaluated by univariate and multivariate analytical

techniques.

Results: Results of study will be used to develop interventional programs targeting high risk population who are vulnerable to this genetic disorder. Educational strategies can be tested and initiated to achieve favorable changes in practices related to consanguinity. Further studies could be generated using this database in future to develop control strategies against Thalassemia.

Keywords: Beta-Thalassemia, Case-Control Study, Consanguinity

15.55

ANTIBIOTIC SELECTION AND OUTCOME FOR PNEUMONIA AND SEPSIS IN EMERGENCY DEPARTMENT OF AGA KHAN UNIVERSITY HOSPITAL

*Najia Ali, Munawar Khursheed, Kiran Ejaz
Department of Emergency Medicine, Aga Khan University, Karachi*

Introduction: The choice of antibiotic in emergency department is guided by the patients' predisposing condition, infection severity and recent hospital admission for sepsis and pneumonia. Best antibiotic selection is a corner stone of therapy in such patients. American studies have reported low impact of blood cultures on antibiotic therapy, by rarely altering antibiotic management even in patients with positive cultures. Pneumonia (42.6%) is the commonest sources of sepsis as shown in Australian study. Similar trends are seen in our set up.

Objective: To determine current antibiotic usage trends and outcomes in patients presenting to the emergency department with sepsis and pneumonia in tertiary care setting of Karachi, Pakistan. **Methodology:** This case series of 95 Sepsis and Pneumonia patients admitted through the emergency department was done in May 2009. Study period was Jan 2008 to March 2008. Data was collected with a structured questionnaire and later analyzed with SPSSv16. Results: Mean age of presentation was 62±16 years. Out of these 40(42%) and 55(58%) females. 71 (75%) of the patients were admitted with Pneumonia and 24(25%) with sepsis during the study period. 87(92%) received empiric antibiotics in Emergency Department. Levofloxacin was the most commonly used, 46(48%) followed by Ceftriaxone 32(34%) and Tazocin 32(34%). Outcome of these patients are still being studied and will be analyzed later.

Conclusion: Empiric antibiotic selection for pneumonia and sepsis mostly comprises of Quinolones and Third Generation Cephalosporins, although the study period limits us to make a decisive conclusion. Outcome on this ongoing study will be reported on its completion.

Keywords: Sepsis, Emergency, Antibiotic

15.57 PATIENT'S RIGHTS AND DUTIES; KARACHI PERSPECTIVE

Zainab Akbar¹, Kiran Ejaz², Nida Waki¹, Hina Faruqui¹, M. Shahid Shamim, Mumawar Khursheed²

¹Dow University of Health Sciences Department and Department of²Emergency Medicine, Aga Khan University, Karachi

Background: For many years it was a misconception that patients are not well aware of their rights and duties. The theory of paternalism dictated the medicine man and still continues to do so in third world developing nations. **Objective:** To assess the general public's awareness and knowledge regarding their rights and duties as patients in a cosmopolitan city of Karachi, Pakistan.

Method: After institutional permission, a 10-questions survey instrument was designed and piloted. Data was collected at a public awareness program open for all dwellers of Karachi. The basic principles of ethics namely, autonomy, beneficence, confidentiality, 'do no harm' and equality were considered as the patient's rights. 'Doctor-shopping', non compliance with physician advice, hiding information from ones' physician and asking for medical coverage were among the patient's duties. With a 90% confidence Level, 269 was the calculated sample size.

Results: Out of the total, 200(74%) knew that they have right over their doctor's decision. Most thought their physicians did not share their information with others. Many, 167 (62%) thought that their doctor do not give favor to others over them. Just 18(7%) reported non-compliance, while 102(38%) revealed that they did consult and followed medications of two physicians for the same disease, simultaneously. 19(7%) were of the opinion that one should hide important information from their physician.

Conclusion: Contrary to our thinking our general population is aware of their rights and duties.

Keywords: Medical Ethics, Rights, Duties

15.60 DECOMPRESSIVE CRANIECTOMY IN MIDDLE CEREBRAL ARTERY INFARCTION

Manzar Hussain, Ehsan Bari
Department of Surgery, Aga Khan University, Karachi

Background: Middle cerebral artery infarctions are amongst important etiologies of stroke. About 10-15% of all supratentorial infarctions are of the middle cerebral artery (MCA) territory. Life-threatening, space-occupying brain edema occurs in up to 10% of patients with supratentorial infarcts and is traditionally associated with a high mortality rate of up to 80%. Management of these patients is currently being changed to an earlier and more aggressive treatment regimen. Early surgical decompression has recently been proven effective to reduce mortality and increase the number of patients with a favorable outcome in randomized controlled trials and is now the "antiedema" therapy of first choice for

patients with large middle cerebral artery infarction aged 60 years or younger. We are presenting a series of 14 patients who underwent decompressive craniectomy for MCA infarction resistant to medical therapy. To our knowledge this is the largest series from Pakistan, evaluating the role of decompressive craniectomy in malignant cerebral artery infarction with special reference to clinical outcome. **Objective:** To assess the clinical outcome using kernofsky's performance scale, in patients undergoing decompressive craniectomy for malignant middle cerebral artery infarction.

Method: The study was conducted at the Aga Khan University hospital section of neurosurgery department of surgery. Since it involved only the collection of data it was conducted under waiver of consent. It involved the retrospective review of files and charts. The demographic details, including age and sex were collected. Other parameters were presenting complaints along with presenting GCS and pupils (both size and reactivity) the initial radiological findings. Whether their level of consciousness deteriorated or not, the details of procedure with respect to the side of decompressive craniectomy along with whether duroplasty was performed or not. Any associated complications like tracheostomy, wound infection, redo surgeries or hydrocephalus were also recorded. The clinical outcome was assessed using kernofsky's performance scale. Score of more than or equal to 60 was considered good, while the score of 40-50 was considered farther data was analyzed using spss version 16.0. the protocol followed at our institute is that the patient with mca stroke is admitted under neurology care. The neurosurgical team is called when the intracranial pressure is refractory to medical management, which includes, steroids, osmotic diuretics (mannitol). +/- hyperventilation.

Results: There were 11 males and 3 females. 8 of them were less than 40 years of age and 7 were elderly. Ten of them were not comatose at the time of their presentation in the emergency department. 8 of them had their pupils reactive to light equally, while 6 had their pupils either fixed and dilated or anisocoric. 10 of these patients deteriorated in their serial neurological examination before surgery. 8 had right and 6 had left sided MCA infarction causing significant mass effect and clinical and radiological signs of deterioration. 9 patients survived and 5 of them died. kernofski's performance scale of =60 was taken as good outcome/w 40-60 as fair and the rest was taken as bad outcome. 6 had good, 5 had poor and 3 had fair outcome. All 6 patients who had good outcome were operated within 72 hours of their presentation. 2 fair and 3 poor within 72 hours. In =72 hours group 2 had poor and 1 had fair outcome. Amongst the less than 40 year age group 5 had good outcome, 2 had fair and 1 had poor. In =40 year's age group 1 had good 1 had fair and 4 had poor outcome. 3 patients had good 1 had fair and 1 had poor outcome in the BERL group. In the other group 3 patients had good, 2 fair and 4 poor. Mean drop in gcs was 3-4 points in those who had good outcome and 5-6 points in those who had bad outcome. In those who had GCS >8 before surgery 3 had good outcome, 1 had fair and 1 had poor outcome.

Conclusion: Decompressive craniectomy in the setting of malignant middle cerebral artery infarction is a life saving procedure. A reasonably good outcome can be expected amongst the survivors. Young age (less than 40 years) and early surgery (within 72 hours of presentation) offers better

functional outcome. Papillary abnormalities do not influence the functional outcome.

Keywords: MCA Infarction, Decompressive Craniectomy, Antioedema Therapy

15.61

INTRACEREBRAL MIGRATION OF STRAY BULLET LEADING TO SUDDEN WORSENING

Manzar Hussain, Ehsan Bari

Department of Surgery, Aga Khan University, Karachi

Objective: We report a case of a 14 year old boy who sustained a stray bullet to cranium and remained stable neurologically for about 24 hours and later on deteriorated and expired
Method: patient was admitted with the diagnosis of spent bullet. C.T brain showed right frontal intracranial bullet. during his hospital stay he deteriorated and dropped his GCS. repeat C.T scan showed intracranial bullet migration in the same hemisphere.

Results: Patient immediately underwent bifrontal decompressive craniotomy along with right frontal lobectomy. Post operatively patient showed no signs of improvement and was declared dead after fulfilling brain death criteria.

Conclusion: Penetrating trauma to the brain is a major event and demand vigilance on the part of the physician. Bullet migration cannot be taken lightly as it may have devastating consequences. Any event that leads to stress can cause migration of bullet with fatal consequences.

Keywords: Migrating Bullet, Pediatric Population, Stray Bullet

15.62

TO DETERMINE THE IMPACT OF DAILY VS WEEKLY PHARMACIST RUN WARFARIN THERAPEUTIC MONITORING PROGRAM

Muhammad Hammad, Shaikh Hussam Lateef, Shahjahan Khan, Syed Shamim Raza, Abdul Latif Sheikh

Department of Pharmacy, Aga Khan University, Karachi

Objective: Therapy with Warfarin is a challenging task. Owing to its complex dosing protocols, magnitude of drug-drug and drug-food interaction, narrow therapeutic index and unpredictable pharmacokinetic features, maintaining the therapeutic INR requires constant individualized and dedicated therapeutic monitoring. The pharmacist run therapeutic drug monitoring (TDM) program for inpatients was being carried out on weekly basis in Aga Khan University Hospital (AKUH) where patients on warfarin were monitored by the pharmacist once a week. The TDM activity was rescheduled and started on daily basis.

Method: Pharmacy & Therapeutics Committee of AKUH approved TDM of warfarin, carried out on weekly basis. A report is run via computerized physician order entry system (CPOE) of all the patients on warfarin therapy. Every patient is analyzed as per the guidelines of the American Heart Association (AHA) and concerned physicians are approached

for necessary interventions in the therapy. The activity was redesigned to be carried out on daily basis. A 6 month data of weekly TDM activity was collected and compared with the data of daily TDM activity. Analysis was made via excel spread sheet and SPSS along with graphical presentations. Monitoring parameters were number of patients with increased, decreased and normal INR, and number of adverse reactions due to irregular INR values.

Results: The comparison showed an overall increased number of patients monitored along with an increased number of TDM related pharmacist interventions due to the daily activity. A Total of 164 patients assessed during weekly monitoring (WM) Vs 429 patients in daily monitoring (DM) over 6 months (Fig1). Like wise, 10 (6%) patients were identified with supra-therapeutic INR in WM Vs 41 (9.5%) in DM and 24 (14.6%) with sub-therapeutic INR Vs 121 (28.2%) (Fig2). A total of 8 adverse drug events (ADEs) were reported due to irregular INR during WM & 4 ADEs were reported during DM of warfarin therapy. (50 % decrease in ADEs after revamping of the TDM program , Fig3).

Conclusion: Revamping of TDM activity results in more effective therapeutic monitoring of warfarin. It minimized the possibility of patients getting discharged without being monitored through TDM activity. Increased number of pharmacist interventions in daily TDM group depicts the room for improvement in monitoring which was fulfilled. Moreover, there was significantly reduced number of ADEs reported (50% less) due to abnormal INR, after the initiation of daily TDM activity.

Keywords: Therapeutic Drug Monitoring, Warfarin Therapy, Optimization of Warfarin Therapy

15.63

THE IMPACT OF NEONATAL CLINICAL PHARMACIST TO OPTIMIZE THE DRUGS' THERAPY IN NICU OF THE AGA KHAN UNIVERSITY HOSPITAL, KARACHI

Muhammad Hammad, Shaikh Hussam Lateef, Shahjahan Khan, Syed Shamim Raza, Abdul Latif Sheikh

Department of Pharmacy, Aga Khan University, Karachi

Objective: Iatrogenic injuries related to medication usage are important problem among the hospitalized patients. Neonates are a special population of the patients, with rapidly changing physiology and are at a greater risk of medication errors, if not intercepted. The repertoire of drugs used in Neonatal Intensive Care Units (NICU) is limited compared to the drugs used in pediatric or adult age groups. The majority of drugs used in neonates require prudence with respect to selection of the drugs & specific considerations based on gestational age, post-partal age, renal status, drug-drug interactions, drug dilutions, optimal duration of the therapy, drug administration etc. Off-labeled uses of the drugs and narrow therapeutic index drugs require qualified supervision by the drugs expert[3]. In order to address & resolve these problems, Neonatal Clinical Pharmacist (NCP) could be utilized to enhance the safe medication practices in this age group & ultimately, to improve the patient care

Method: Department of Pharmacy at AKUH contributed a

great deal to enhance the patient safety & safety. The department trains the selected pharmacists for the clinical activities in different wards of the hospital. Clinical Pharmacist for the NICU was trained & credentialed to participate in the multidisciplinary clinical rounds. A retrospective data analysis was made of the documented interventions by the NICU pharmacist during multidisciplinary rounds. The data of last 12 months was analyzed. The interventions then were categorized according to the nature of intervention into the following categories.

Results: A total of 186 interventions were documented during the period of 12 months (Feb, 2008 to Feb, 2009). Category wise (Fig 01), those interventions were; Adverse Drug Reactions Prevented 10 (5.3%), Culture Sensitivity Not Followed 25 (13%), Drug- Drug Interactions Identified 10 (5.3%), Duplication Of The Same Class 2 (1%), Electrolytes Not Required 4 (2.1%), Indication Not Treated 10 (5.3%), Intravenous To PO Switch Over 1 (0.5%), No Indication Of The Drug 20 (10.75%), Pharmacotherapeutic Recommendations 18 (9.6%), Renal Dose Adjustment 19 (10.2%), Wrong Patient Selected, Wrong Dose, Wrong Route, Wrong Timings etc Were 16 (8.6 %) and Miscellaneous 46 (24.7%).

Conclusion: The concept of NCP is a diversified multipurpose model. NCP is instrumental in making drug therapy optimization and playing a key role while working together with the physicians to select the appropriate drugs, monitor the therapeutic outcomes, antibiotic rationalization and preventing the occurrence of ADRs. Moreover, the neonatal pharmacist assisted the nursing staff to prepare the right drug dilutions, fluid management and proper drug administration. Likewise, the latest and pertinent drug and toxicology information was also disseminated to physician and nurses.

Keywords: Clinical Pharmacy, Neonatal Pharmacist, Neonatal Clinical Pharmacist

15.64

INCOMPLETE, ATYPICAL KAWASAKI DISEASE OR EVOLVING SYSTEMIC JUVENILE

*Shakeel Shaikh¹, Sidra Ishaque², Taimur Saleem³
Department of ¹Paediatrics & Child Health, ²Alumni and ³Medical College, Aga Khan University, Karachi*

Objective: Kawasaki disease is an acute febrile condition seen in children. However, it is also well recognized that some patients do not fulfill the classic diagnostic criteria for the diagnosis of Kawasaki Disease. The incomplete form of Kawasaki Disease is termed as 'Incomplete KD' or 'Atypical KD'. We present a case of a 6 year old child with a history of prolonged fever, periorbital, oral and lip changes, changes in the extremities and an erythematous, maculopapular rash. **Results:** Based on the physical exam and her echocardiogram that showed right coronary artery dilatation, Intravenous immune globulin was administered in this patient. This patient was refractory to two doses of Intravenous immune globulin and therefore was started on methylprednisolone, to which

she responded dramatically. The diagnostic dilemma primarily arose when this child presented with joint pain a day after her discharge from the hospital and a positive laboratory workup. **Conclusion:** So, was this a case of incomplete Kawasaki refractory to Intravenous Immunoglobulin therapy or systemic juvenile idiopathic arthritis? We suggest that physicians should be cognizant of the fact that they must individualize every patient's management to the best of their knowledge and judgment, rather than merely going by the guidelines.

Keywords: Atypical Kawasaki Disease, Juvenile, Idiopathic Arthritis

15.65

BIOPSY PROVEN CASE OF JUVENILE DERMATOMYOSITIS: A CASE REPORT FROM A DEVELOPING COUNTRY AND LITERATURE REVIEW

*Sidra Ishaque¹, Shakeel Ahmed², Rehan Ali²
¹Alumni and Department of ²Paediatrics & Child Health, Aga Khan University, Karachi*

Objective: Dermatomyositis is an idiopathic inflammatory myopathy with characteristic skin manifestations. Juvenile Dermatomyositis (JDM), an important subtype of dermatomyositis is a multisystem disease characterized by inflammation of muscle, skin and gastro-intestinal tract. Muscle biopsy is the definitive test in establishing the diagnosis of JDM and in excluding the many other causes of myopathy. **Method:** A 14 year old female child, with a history of fever, joint pain, easy fatigability and a rash since the age of 3 years is described.

Results: Relevant examination findings comprised of a fever of 38.4°C and a discoid, erythematous, violaceous rash involving the dorsum of her hands and fingers. Bilateral depigmentation and dermal thickening of her knuckles was present. A generalized erythema involving the shoulders and the back was also present. Joint and muscular system examinations revealed a bilateral asymmetric weakness of the proximal muscles of the lower limbs. Gower's sign was hence found to be positive. Examination of the upper limbs revealed permanent contractures of the elbow and of the metacarpo-phalangeal and inter-phalangeal joints. Laboratory examination showed elevated activities of creatinekinase (337mg/dl), lactate dehydrogenase (2229mg/dl) and aldolase (8.7 mg/dl). Antibody workup yielded positive results for RF and ANA.

Conclusion: Both electromyography (EMG) and muscle biopsy were suggestive of a chronic inflammatory process involving the muscles, most likely dermatomyositis. The muscle biopsy still remains the 'gold standard' for diagnosing dermatomyositis.

Keywords: Juvenile Dermatomyositis, Muscle Biopsy, Inflammatory

15.70**HOW TO BREAK SAD NEWS TO FAMILY?***Shirin Badruddin¹, Lalkhan²**¹Alumni and Department of²Surgery, Aga Khan University, Karachi*

Objective: Eighty years old female patient with diagnosis of COPD, receiving oxygen via BIPAPq4. Family asked about patient prognosis and nurse gave false reassurance. This was not a one issue; I also came across the similar issue after three days. 45 years old male patient was admitted with the diagnosis of renal cell carcinoma and was metastasized all over the body. He was on BIPAP. Consultant has explained family superficially in medical jargons. Later when family asked, nurse response was same as was with the first patient. List the rationales for selecting this issue. Identify the process of need assessment for selecting this issue. Explore some research findings related to this issue. Discuss significance of this issue in nursing by integrating model. Identify the causes for giving false reassurance. Identify practical strategies to address this issue. Explore recommendations to address and modify the nursing care practice. Describe the implementation process integrating Lewin's force field model for change. Discuss process of evaluation and measures for sustainability.

Method: need assessment done: Interviews from staff, preceptor and CNT. Discussion with staff members. Observation Real life experience Survey questionnaire

Results/Pre Test Results: The common reasons of giving false reassurance are: 30% were afraid of sharing sad news 25% were uncomfortable 25% thinks its not our work and we should give false reassurance 15% doesn't have any knowledge. Out of 100, 47% were comfortable in delivering sad news and 53% were uncomfortable.

Post test: 83% were comfortable in discussing actual reality to family

Conclusion: Nursing and medical team should design established protocols that include appropriate backup for staff who may be involved in the giving of sad news. Presence of nurse during breaking bad news and doctors round should be mandatory. One important family member should be present during doctors round. Breaking sad news should be taught to nursing students as part of curriculum. Such sessions should be arranged in ward area to discuss such issues. If we chose to turn the light off in the room and look out of the window then it is possible to see most of what is happening outside ourselves. This type of hologram is analogous with the therapeutic relationship if we choose to turn the light off on our selves, then we are in with a chance of perceiving what is happening outside ourselves in the world of feeling and thinking through the 'lenses' of clients to ensure respect for their dignity as human beings and promote healing as well as to prevent further hurt and pain.

Keywords: Sad news, delivery, multidisciplinary team

15.71**CONCEPTUALIZATION AND OPERATIONALIZATION OF A BACCALAUREATE NURSING CURRICULUM IN PAKISTAN: CHALLENGES, HURDLES AND LESSONS LEARNT***Jacqueline Dias, Khairunissa Ajani, Yasmin Mithani
School of Nursing, Aga Khan University, Karachi*

Background: Baccalaureate nursing education is the way forward for nursing in Pakistan. The Higher Education Commission along with Pakistan Nursing Council developed a four year curriculum for baccalaureate nursing education in the country. Purpose of the Study Nurse education in the country in Pakistan will be highlighted. The development and structure of the curriculum will be described.

Sources of Evidence/Main Arguments: The Aga University School of Nursing implemented this baccalaureate nursing curriculum on October 13, 2008. This conceptual paper will describe the challenges, hurdles and lessons learnt along the way from conceptualization to operationalization and delivery of this four year baccalaureate curriculum.

Conclusion: The challenges and issues will be highlighted as they have presented over the last eighteen months. The experiences and lessons learnt will go a long way in assisting other schools of nursing in the country and the region in implementation of their baccalaureate nursing programs.

Keywords: Curriculum and Instruction, Educational Administration, Learning and Teaching

15.72**ADVANCING ACADEMIC STRATEGIES FOR GLOBAL NURSING: SETTING OF STANDARDS AND QUALITY ASSURANCE MECHANISMS FOR NURSING EDUCATION IN PAKISTAN***Jacqueline Dias
School of Nursing, Aga Khan University, Karachi*

Background: Strengthening the quality of nursing education has become a concern of paramount importance for nurse educators. Quality of nursing education entails setting of standards.

Purpose of study: The nursing curriculum needs to be dynamic and proactively respond to change in order to be relevant. The desired characteristics of such a nursing curriculum include the promotion of critical thinking, lifelong learning and enhancement of technology, communication, collaborative and leadership skill. This paper illustrates the nature, range and variety of national, regional and international academic strategies for global nursing through the setting up of standards at one university in Karachi, Pakistan.

Source of Evidence/Main Argument: This institution promoted an ethos of global citizenship by reaffirming a sense of identity and self esteem, valuing all faculty and students, acknowledging the importance of personal and social education and an openness to learn from others around the globe. These standards were integrated and evaluated within the university's vision and mission and threaded through the nursing curriculum. By

highlighting the contribution of networking and collaboration both faculties and students were alerted to the concept of becoming global citizens. The outcome is the shaping of a nursing curriculum that creates a global community of nurses who support and improve nursing practice, education and leadership worldwide with a belief that each one can make a difference.

Conclusion: Similar standards may be used by nursing institutions nationally, regionally and internationally as exemplified by this university.

Keywords: Setting of Standards, Quality Assurance Mechanisms, Education in the Globalization

15.73

ESTABLISHMENT OF CLINICAL GENETICS & METABOLIC SERVICE IN PAKISTAN- NEEDS & CHALLENGES

Bushra Afroze

Department of Paediatrics & Child Health, Aga Khan University, Karachi

Objective: Establishment of clinical genetic & metabolic service in developing countries poses major challenges as it competes with other health priorities like control of infectious diseases, malnutrition and immunization programs. Developed countries have recognized genetic diseases as an important contributing group in infant mortality & morbidity. In Pakistan genetic diseases are expected to be more rampant & contributing significantly in the seriously high infant mortality rate due to consanguinity reaching up to 70 %.

Method: Clinical genetic & metabolic clinic was started in Pediatric unit, AKUH in October 2007. Medical charts of patients seen over a period of two years were reviewed from Oct 2007 till Sep 2009.

Results: A total of 463 patients were seen over 24 month period. This included 256 new patients, 168 follow-ups and 39 couples sought antenatal counseling. Out of new patient only 23% agreed or could afford investigations, which were sent to overseas labs. A final diagnosis was made for only 15% of patients. Glycogen storage disorder (GSD) was the most common diagnosis in the cohort and 7 cases were diagnosed. Exact type of GSD was not delineated because of non-availability of the enzymatic or molecular testing locally & parents could afford further testing for GSD overseas. Second most common metabolic disorder found was methylmalonic aciduria and classical homocystinuria (cystathionine beta synthetase deficiency); 4 cases of each condition were detected. Three cases were diagnosed for each of these conditions; Glutaric aciduria type I, beta ketothiolase deficiency, Gauchers disease and mucopolysaccharidoses each. Two cases of propionic acidemia, 2 cases of isovaleric acidemia and 2 cases of urea cycle defect picked up. Further one case of Farber disease, MCAD, LCHAD, Alkaptonuria and Carnitine transporter defect were diagnosed. Out of 39 couples who sought antenatal counseling because of deaths of previous offspring; none had a diagnosis for their deceased

children.

Conclusion: In a country like Pakistan; where treatment options are limited and non-affordable to majority of population, prevention is the solution to tackle the high burden of genetic disorders in the presence of high consanguinity. Prevention can be offered in the form of specific antenatal counseling and testing, which is only possible if an exact diagnosis is established in the proband. To establish Clinical Genetic & Metabolic service in Pakistan we need to take following steps:- - Increase awareness among health care providers for metabolic & genetic disorders. - Gather resources to establish diagnostic capacity for genetic disorders within the country. - To ensure the availability of medicines and special milk products for diagnosed patients at an affordable cost.

Keywords: Metabolic Disorders, Pakistan, Inborn Errors of Metabolism

15.76

USE OF NITROUS OXIDE FOR INHALATIONAL INDUCTION

Anwar-ul-Huda¹, Fauzia Anis Khan¹, Amna Rehana Siddiqui²
Departments of¹Anaesthesia, and²Community Health Sciences, Aga Khan University, Karachi

Objective: Pediatric anesthesiologists differ in their practice for using nitrous oxide either with sevoflurane or other agent at the time of induction. Currently, there is no general consensus about the use of nitrous oxide in pediatric patients. The objective was to study the inhalational anesthesia induction time and to compare the short term side effects in pediatric patients using sevoflurane with or without nitrous oxide
Method: This was a randomized clinical trial done at Aga Khan University, Karachi during April to August 2008. Institutional ethical committee approval and written informed consent were taken. Patients were grouped to either intervention group (Sevoflurane and nitrous oxide) or control group (Sevoflurane alone). We measured induction time as our primary outcome while secondary outcomes included change in hemodynamics, duration of intravenous cannulation and laryngeal mask airway (LMA) insertion and occurrence of any adverse event.

Results: Median induction time in both groups was 120 seconds each that was not statistically significant different between the two groups. Combined adverse events were also not found to be statistically significant different between two groups (25 vs 29 %).

Conclusion: Addition of nitrous oxide to sevoflurane in pediatric patients did not provide any significant advantage in terms of induction time and hemodynamic effects.

Keywords: Inhalational Anesthesia, Induction, Nitrous Oxide

15.77 USE OF ANALGESICS AMONG DOCTORS, NURSES AND PARAMEDICAL STAFF AT GOVT HOSPITALS.

Syed Muneeb Younus
Department of Paediatrics & Child Health, Aga Khan
University, Karachi

Objective: To rank the type of analgesic in term of frequency used by doctors, nurses and paramedical staff. To compare the differences in use of analgesic among doctors, nurses and paramedical staff.

Method: During the study period, total 1000 doctors, nurses and paramedical staff were interviewed about analgesics which they use most of the time needed. These subjects were approached randomly and evaluated on the basis of age, duration of pain, frequency of analgesic used and benefits with analgesics.

Results: Out of the total 1000, there were 350 doctors, 450 nurses and 200 paramedics were interviewed. Regarding doctors, pain complaints most of the time were headache and work exhaustion, 98% of them uses analgesic on SOS basis. 40% take acetaminophen, 30% ibuprofen, 16% mefenamic acid, 4% aspirin and diclofenic, 3.3% flurbiprofen and piroxicam and 2.6% use COX 2 -I . Regarding nurses, out of 450, 70% were below 40 years of age. Major pain complaints were backache and cyclic pain. 42% of nurses use mefenamic acid, 25% panadol, 18% ibuprofen, 6% aspirin and diclofen and 3% COX 2-I. Regarding paramedical staff out of 200, 60% of them were below 40 years. Main complaints were mostly joints pain, body ache and backache. 30% use diclofen, 28% panadol, 24% aspirin, 10% mefenamates and 4% ibuprofen and COX 2-I . Regarding paramedical staff out of 200, 60% of them were below 40 years. Main

Conclusion: 1. Most of the doctors use Panadol for pain relief, 2. Most of the nurses uses mefenamic acid & 3. Most of the paramedical staff uses diclofenic sodium at JPMC and CIVIL HOSPITAL, KHI

Keywords: Analgesia, Government Hospital, Doctors, Nurses, Paramedics

15.78 INCIDENCE OF PERIPHERAL INTRAVENOUS CATHETERS (PIVCS) RELATED INFECTION IN PEDIATRIC PATIENTS ADMITTED AT TERTIARY CARE HOSPITAL IN KABUL, AFGHANISTAN.

Doulat Hirani, Hamidah Ashiqali Ismail
Alumni, Aga Khan University, Karachi

Objective: Peripherally inserted catheters are essential for infants & children in the neonatal intensive care unit and medical surgical unit for administration of medications, parenteral nutrition and blood transfusions. The aim of the study was to recognize the incidences of PIVCs infection and its causes and identify the strategies for its prevention in pediatric patients.

Objectives: To analysis the reason of phlebitis To minimizes

the risk of infection by timely identification of phlebitis
Method: Prospective quantitative study

Results: 212 PIVCs were identified having infection (Phlebitis). Among these 81 were from ICU and 131 were from medical surgical unit. The reason of phlebitis was improper dilution of antibiotics, quality of PIVC and patient diseases status.
Conclusion: Incidence of PIVCs related infections in pediatric patients are high as compare to the adult patients. Upon investigation few interventions were implemented to improve the care and decrease occurrence of PIVCs infection. However further study is warranted to determine the effectiveness of the interventions and timely identification of the infection which may decrease the risk of this potentially life-threatening complication.

Keywords: Phlebitis Causes, Prospective Quantitative Study, Strategy

15.79 TO DEDUCE THE FREQUENCY OF USING OF GUTKA, CHALIA IN ADOLESCENT AND CHILDREN

Hamidah Ashiqali Ismail¹, Kiran Mehboob², Zara Meghani³,
Anis Fatima

²Nursing Education Services, Aga Khan University, Karachi,
¹Memon Medical Institute, ³Aga Khan Health Services
Pakistan and Army Institute⁴

Objective of the study: To deduce the frequency of using of *gutka*, *chalia* in adolescent and children. To evaluate the effect of behavior model in relation of *gutka*, *pan*, *chalia*.
Method: To achieve the objective a descriptive analytical design was used in rahi goath Karachi. Peoples age group 6-15 of either gender drawn fulfilling the inclusion and Sachadina para, and exclusion criteria were above the age of 15 and not whole *rahi goth* , questionnaire along with demographic data, using that was tested as Pilate project as well, regarding frequency of *Chalia* and *Pan Gutka* use, practices of this habit in friends and family. Verbal consent was obtained from the participants. Time phrase: 26 December 2006 to 25 January 2007.

Result: A total of 47 peoples were interviewed over a period of four weeks of age group 3-15years, 20 were males and 24 were females. Seventeen were at age group 6-10 years, and 27 were 11-15 year, 22 were illiterate and 22 were literate. Post intervention during evaluation we found some expected and unexpected results. Our quantitative analysis showed that 23% people have quit, 84% want to stop chewing *gutka* and *supari* and 86% have tried to stop chewing *gutka* and *supari*. It shows that our health education sessions did worked because before that the participants reported that they are not aware about the danger affects of *pan*, *gutka* and *chalia*. Besides the subjective data during our observation we noticed that most of the people had stopped chewing tobacco, *gutka*, *pan* and *supari*. Their teeth were cleaned. They encouraged others in quitting tobacco, *gutka*, *pan* and *supari*. Some people were still chewing tobacco, *gutka*, *pan* and *supari* but they are trying to quit gradually.

Keywords: Gutka, Behaviour Modle, Addiction

15.80
DIGEORGE SYNDROME IN TWO CHILDREN
PRESENTING WITH TETROLOGY OF FALLOT

Mehnaz Atiq¹, Umair Khalid², Taimur Saleem²
*¹Department of Paediatrics & Child Health, and ²Medical
College, Aga Khan University, Karachi*

Objective: The deletion of 22q11 may occur in patients with three syndromes including DiGeorge syndrome, Velocardiofacial syndrome and Conotruncal anomaly face syndrome. The diagnosis of DGS may not always be made at the birth of the child. We present here two confirmed cases of Digeorge Syndrome from Pakistan who initially presented with Tetralogy of Fallot

Method: Our first case was born at our hospital; the presence of an ejection systolic murmur led to an echocardiographic study which confirmed the diagnosis of Tetralogy of Fallot. An absent thymus was discovered at the time of the operation for the correction of the cardiac abnormality. A FISH test to confirm Digeorge Syndrome was ordered on the basis of this intra-operative finding as well as the incidence of hypocalcemic seizures in the immediate post-operative period.

Results: Our second case a one day old baby boy who presented to our institute with cyanosis and tachypnea. Hypoxia and systolic murmur were present. Evaluation using echocardiography confirmed the diagnosis of Tetralogy of Fallot and Absent Pulmonary Valve Syndrome. This baby had persistent hypocalcemia in the neonatal period and at 4 months of age. An absent thymus was noted at the time of operation for correction of Tetralogy of Fallot. The child's FISH was sent for confirmation of Digeorge Syndrome.

Conclusion: Both the children have been receiving calcium and vitamin D supplementation and have been doing well at subsequent follow-ups. To the best of our knowledge, these are the first reported cases of Digeorge Syndrome with Tetralogy of Fallot from our region.

Keywords: DiGeorge Syndrome, Tetralogy of Fallot, Hypocalcemia

15.83
ANAESTHETIC MANAGEMENT OF A CHILD WITH
MASSIVE EXTRACRANIAL ARTERIOVENOUS
MALFORMATION: A CASE REPORT

Faisal Shamim, Hameedullah, Azhar Rehman
Department of Anaesthesia, Aga Khan University, Karachi

Objective: Vascular tumors affect the region of the head and neck commonly but arteriovenous malformations (AVM) are rare. Vascular malformations are often present at birth and grow with the patient, usually only becoming significant later in childhood. Embolization alone has been the mainstay of treatment in massive and complex arteriovenous malformations. We are presenting a case of massive extracranial (cervical) arteriovenous malformation in seven year old boy causing significant workload on right heart and respiratory distress. The anaesthetic management of angioembolization

under general anaesthesia and anaesthetic concerns regarding preparation and management of these cases are presented in this report.

Keywords: Arteriovenous malformation, Anaesthetic management, Angioembolization

15.84
BOVINE CONTEGRA VALVED CONDUIT
ENDOCARDITIS CAUSED BY AN UNUSUAL MICRO-
ORGANISM, GEMELLA MORBILLORUM: A CASE
REPORT

Nadeem Aslam, Mehnaz Atiq Ahmed
*Department of Paediatrics & Child Health, Aga Khan
University, Karachi*

Objective: Different techniques are used for the right ventricular outflow tract reconstruction, including homo- or porcine xenografts, which have several limitations. Contegra, a bovine jugular vein graft, is an interesting alternative to overcome these limitations with a naturally integrated valve in it. Isolated pulmonary valve endocarditis is extremely rare.

Method: Descriptive Study - Case Report.

Results: We report the case of a 17 years old male with endocarditis of bovine Contegra valved conduit, five years after revision surgery of right ventricular outflow tract reconstruction, ventricular septal defect correction and patent ductus arteriosus ligation, secondary to a rare micro-organism, Gemella morbillorum.

Conclusion: We report a complex patient with endocarditis of bovine Contegra valved conduit by a rare pathogen. We believe that the presentation of this case highlights the importance of unusual organisms in the diagnosis of endocarditis.

Keywords: Endocarditis, Valve, Rare Organism

15.85
CHALLENGES IN DAILY LIVES OF WOMEN FROM
RURAL SINDH

Aziza Burfat, Ayesha Aziz
*Department of Community Health Sciences, Aga Khan
University, Karachi*

Introduction: Women's Empowerment in Muslim Contexts (WEMC) is a study that focuses on challenges that women face in access to decision making forums and resources like those of health and education. The project considers violence against women and cultural and religious mis-interpretations as a means to legitimize control of women. This writing looks at the challenges for women's empowerment with respect to their daily lives.

Methodology: Field work was conducted with women in a remote village of Dharo Mahesar, rural Khairpur. The participatory rural appraisal (PRA) tools were used in group discussions with 30-40 women aged 15 – 70 years and having

varying marital status.

Results/Findings: Most women faced challenges from family and community members. Men in roles of father, husband or brother and even women living in the neighborhood (Para) posed hurdles in the name of religion and culture. Women related that they could not make any decision without permission from men in their family. The women were not even allowed to choose their own dresses and men usually went to the market to buy clothes for their women. No female in the village was permitted to go out of the house without a veil (Burqa) and both young girls and old women wore white burqa so that "no one would know that girl is going in it [burqa} ". Women were also not allowed to go to health or educational centers while in personal life they had no say in selection of their life partner, using family planning methods for birth spacing or even making decisions about their children's future.

Conclusion: It is clear that women are expected to adhere to cultural norms not only in community settings but also in their personal lives. This poses questions about societal considerations of women as beings or merely as things that must be controlled and possessed.

Keywords: PRA, Burqa, Para

15.86

SAFEST, COST EFFECTIVE AND SUSTAINABLE METHOD OF WATER PURIFICATION TO PROTECT HEALTH

Zehra Parvani

Nursing Education Services, Aga Khan University, Karachi

Objectives: •To test the effectiveness of boiling water •To prove it as safest, cost effective and sustainable method of purification •To compare the effectiveness of boiling water with filtration *Methodologies:* To experiment two samples of boiled and two samples of filtered water collected from two houses of Karachi, Pakistan in February, 2007 according to the convenience. To ensure boiled and filtered water were from the similar source of water provision, each sample of boiled and filtered water was collected from the same house. Samples of boiled and filtered water were tested for total coli forms through membrane filter techniques then. Results were further analyzed through gram staining of four samples. *Results:* Membrane Filter Technique indicated presence of pink color colonies of coli form in the filtered water where as, boiled water was free from any bacteria. Similarly, Gram staining revealed the presence of uncountable bunches of gram negative bacteria (coli form) in the filtered water but the boiled water was pure from coli forms. Hence, it was proved that the boiled water is a safest, cost effective and sustainable method of water purification. Whereas, filtration requires significant cost, proper maintenance and it does not screen out the bacteria from water. Thus, it is recommended that boiling water should be considered most effective method of water purification and people should be aware about the consumption of boiled water as safest and cost effective.

Keywords: Safest, Method, Water Purification

15.87

WHY NURSES ARE LEAVING: SYSTEMATIC REVIEW

Zehra Parvani

Nursing Education Services, Aga Khan University, Karachi

Purpose: The aim of this literature review is to clearly identify and outline the factors of turnover among nurses and provide nursing recruitment departments with the information which influence job satisfaction and increase nurses' retention. *Methods:* To review the literature supporting reasons for nurses leaving their job and nurses high turn over Medline, CINAHL, Pubmed, Science Direct and Cochrane Databases were used. The key words "nurses", "turn over", "reasons", "job dissatisfaction" and "leaving" were used to search the articles of last 29 years from 1990 to 2009.

Results: Findings indicate that the Job dissatisfaction, high market demand, lack of recognition by peers and management, work load, lack of respect, non supportive management, burn out, lack of autonomy, poor nurse doctor collaboration, lack of recognition by patients, lack of facility for continuing education and poor incentives are the reasons for nurses high turn over.

Conclusion: This systemetic review concludes that the similar turnover problems are common throughout the world. Therefore, it is recommended that proper interventions should be done by the nursing leaders to to retain nurses and enhance their job satisfaction as without nurses it is not possible to provide quality care to patients.

Keywords: Nurses, Turnover, Reasons

15.88

ANESTHETIC MANAGEMENT OF A PREGNANT PATIENT WITH CONGENITALLY CORRECTED TRANSPOSITION OF THE GREAT ARTERIES FOR EMERGENCY CESAREAN DELIVERY: A CASE REPORT

Saad Ahmed, Faraz Shafiq, Zul Sibtain

Department of Anaesthesia, Aga Khan University, Karachi

Introduction: The congenitally corrected transposition of the great arteries (CCTGA) is a rare form of congenital heart disease based on malrotation of the embryonic cardiac tube leading to atrioventricular and arterioventricular disconcordance. Both the great vessels and ventricles are transposed, thus the blood remains in a series as opposed to parallel circulation. It may be associated with ASD, VSD, severe pulmonary stenosis and congenital heart block. These findings in association with increased sympathetic activity of the pregnancy and labor can predispose to dysrhythmias leading to cardiac failure. Patients with decreased cardiac function may have a decreased tolerance for changes in volume status during perioperative period. *Case:* We are reporting the anesthetic management of a 20 year old woman known case of CCTGA. She presented at her 36th weeks of pregnancy with labor pains and fetal distress, for which emergency caesarean section was planned. Her congenital cardiac anomalies were ASD, VSD leading to right-left shunt. Our anesthetic management was general anesthesia with intubation

and controlled mode ventilation. Routine ASA specified along with invasive arterial blood pressure monitoring was done. Adjusted doses of etomidate, midazolam and suxamethonium were used for intubation. Anesthesia was maintained with isoflurane at 0.8-1 MAC with air and oxygen mixture. The basic principles of anesthesia for caesarean section were followed. Patient remained hemodynamically stable throughout the procedure except two episodes of hypotension, which were treated with the judicious use of fluid boluses and phenylephrine 100 ug. She was successfully extubated at the end of procedure and shifted to PACU for routine postop. care. Fetal outcome was also normal.

Keywords: CCTGA, Anaesthetic Management, Pregnancy

15.89

VITAMIN D DEFICIENCY IS ASSOCIATED WITH TUBERCULOSIS DISEASE PROGRESSION IN A HIGH ENDEMIC SETTING

Najeeha Talat¹, Sharon Perry², Julie Parsonnet², Ghaffar Dawood³, Rabia Hussain¹

¹Department of Pathology & Microbiology, Aga Khan University, Karachi, ²Stanford School of Medicine United Kingdom, and ³Masoomeen General Hospital, Karachi

Objective: Vitamin D is linked to activation of innate immunity and therefore links between vitamin D deficiency and tuberculosis have long been suspected.

Method: We have measured the baseline plasma vitamin D (25-OH D) levels of by ELISA in 129 household contacts participating in a TB case-contact study in vicinity of Kharadar, Karachi.

Results: Among 100 disease free household contacts at baseline, females were significantly more likely to have severe vitamin D deficiency (<20 ng/ml) OR 4.2 [CI 1.6-12.5] (p=0.005). Of 100 disease-free household contacts at baseline, low plasma vitamin D level (mean, 5.671±1.104) was a significant predictor of progression to active TB disease in healthy household contacts (N=8; KM analysis; p=0.001 Log rank) during four year follow up. Adjusting for age and sex, the relative risk of progression in household contacts was 5.1 [CI 1.2-20.0] (p=0.03) for a 1 log difference in plasma vitamin D levels

Conclusion: The use of vitamin D as a predictive biomarker for disease progression and therapeutic intervention with vitamin D in TB susceptible contacts warrants further investigation in larger cohort.

Keywords: Vitamin D, Tuberculosis, Disease Progression

15.90

SEXUAL HARASSMENT AGAINST WOMEN AT WORKPLACE AND ITS IMPACT ON THEIR MOTIVATION

Madiha Zubair

Alumni Office, Aga Khan University, Karachi

Objective: In Pakistan, very little attention has been given to research on sexual harassment and its consequences. This dissertation studies Sexual Harassment against women and its impact and consequences in the context of Pakistan. The model created takes several variables in account and studies the impact of each on the motivation of working women. The model also discriminates between harassers in two categories (friends at work and others), impact of Sexual Harassment in both cases were differentiated. A few demographics of respondents were also studied to check the relationship (of demographics) with Sexual Harassment.

Method: Analysis through the application of One Way ANOVA and Pearson Chi- square, representing means and percentages.

Results: Analysis of data from a representative sample of 117 working women in Karachi showed support for the existence of phenomena of Sexual Harassment in Pakistan, which extensively affect the motivation of female professionals. It was also found out that age, marital status and designation of a female professionals influence the frequency of harassing activities one faces at workplace. Also motivation of women is greatly affected by harassment from people with whom one doesn't have any friendly terms as compared to the same activity performed by a friend at workplace.

Conclusion: Issue of Sexual Harassment against Women at workplace exists in Pakistan and greatly affects their motivational level and leads to many negative outcomes.

Keywords: Sexual Harassment, Corporate Sector, Female Professionals

15.91

REDUCTION OF CAESARIAN SECTION RATE IN SECONDARY CARE HOSPITAL

Rafat Bano

Department of Obstetrics & Gynaecology, Aga Khan University, Karachi

Introduction: Rising caesarean section rate is a global issue. In secondary care hospital it could be due to failure to provide one to one support during labour, limited number of VBAC trials (that is limited number of potential and successful number of VBAC) limited number of external cephalic version, post graduate teaching secondary care hospital and due to lack of fetal scalp blood sampling facilities. *Objective:* To compare the rate of caesarean section and potential vaginal birth after C/S and successful birth after C/S rate in secondary care hospital over a period of one year.

Method: Over a period of one year from January 2007 –

December 2007, total number of Deliveries, total number of C/S, total number of potential VBAC trials and total number successful VBAC trials were studied and their rate calculated. Inclusion & Exclusion criteria of VBAC were studied. This is a quantitative data. Presentation of the data is by bar chart, Pie chart, Histogram, measure of the disease frequency rate is analyzed.

Results: Total number of deliveries over a period of one year = 2946 Total number of LSCS deliveries over a period of one year = 792 = 26.8% Total number of Potential VBAC over a period of one year = 30% Total number of Successful VBAC over a period of one year = 57%

Conclusion: Even in a limited resources in secondary care hospital that is non availability of blood bank, full time coverage of anesthetist and pediatrician our rate of LSCS and VBAC is still with in standard rate, if compare to national and international data. If we are equipped with all these facilities we can more reduced C – Section rate in secondary care hospital and increase successful VBAC trial.

Keywords: Caesarean Section, VBAC

15.92

INCIDENTAL FINDING OF A GIANT AORTIC ROOT ANEURYSM ON A ROUTINE CHEST X-RAY AND ITS SUCCESSFUL SURGICAL REPAIR

Saulat Husnain Fatimi¹, Roheena Zainab Panni², Awais Ashfaq²
¹Department of Surgery, and ²Medical College, Aga Khan University, Karachi

Objective: The prevalence of aortic aneurysms is up to 3-4% in individuals older than 65 years. Age and hemodynamic factors play an important role in the formation of aortic aneurysms. Most patients with aortic aneurysms are asymptomatic at the time of discovery. Thoracic aneurysms are usually found incidentally after chest radiographs or other imaging studies. The most common complications of thoracic aortic aneurysms are acute rupture or dissection. Some patients present with tender or painful nonruptured aneurysms. Patients are thought to be at increased risk for rupture and should undergo surgical repair on an emergent basis. Their most common presenting symptom is pain that may be acute, implying impending rupture or dissection, or chronic, from compression or distension. The location of pain may indicate the area of aortic involvement, but this is not always the case. Usually, ascending aortic aneurysms tend to cause anterior chest pain, while arch aneurysms more likely cause pain radiating to the neck. We present a case of a 66 year old man who presented with shortness of breath. On evaluation, he was found to have severe aortic regurgitation and a giant aortic root aneurysm. Patient underwent successful surgical repair.

Conclusion: In conclusion, aortic root aneurysm may manifest as progressive SOB and the diagnosis is made by radiological imaging techniques. CT scan and Echocardiography are considered main investigations for complete evaluation of an aneurysm. After diagnosis, asymptomatic patients should be

monitored closely and if diameter of aneurysm is greater than 50mm surgical intervention should be considered because of the increased risk of complications. Replacement of aortic valve, aortic root and part of the ascending aorta with a mechanical valved conduit is considered “gold standard” for the combined aortic valve and root disease.

Keywords: Aneurysm

15.93

MITRAL VALVE REPLACEMENT (MVR) AS AN TO WEAN FROM MECHANICAL VENTILATION

Muhammad Faisal Khan, Hameedullah, Shahzad Khurram, Khalid Samad
Department of Anaesthesia, Aga Khan University, Karachi

Method: Weaning from mechanical ventilation represents a milestone in the progression to patient recovery in the intensive care unit. Weaning can be a problem in some specific groups of patient who has severe cardiac disease. Cardiac dysfunction is one of the leading causes of weaning failure. We report a case of successful weaning from mechanical ventilation. Young patient with previously no known co morbid developed respiratory distress secondary to severe multiple regurgitation. Multiple weaning trials were failed due to this unknown problem but it was successfully accomplished after the mitral valve replacement.

Conclusion: In conclusion, this report demonstrates that MVR allows a prompt weaning from MV in patients with severe mitral regurgitation in whom weaning has failed despite optimal conventional therapy.

Keywords: Weaning Failure, Mechanical Ventilation, Mitral Valve Replacement

15.94

OBSERVATIONAL STUDY TO ASSESS POSTOPERATIVE PAIN MANAGEMENT STRATEGY IN ELECTIVE CAESAREAN SECTION PATIENTS

Samina Ismail, Faraz Shafiq, Khurram Shehzad
Department of Anaesthesia, Aga Khan University, Karachi

Objective: This observational study was designed to assess the postoperative pain management strategy used in our hospital setting for elective caesarean section patient and to review broad areas of outcomes such as effectiveness, safety and tolerability

Method: We reviewed all patients who underwent elective caesarean section from December 2008- May 2009. On the day of surgery data collected included patient’s demographics, type of intra-operative anaesthesia and analgesia, postoperative pain orders. On the 1st postoperative day, anaesthesia team determined verbal pain score (VAS), any complications and patient satisfaction with pain management strategy.
Results: Total 263 patients were reviewed. Postoperative

analgesia regime was started by obstetric team in 81% of patients and in 19% by anaesthesia team. The most common modality of pain management was intravenous infusion (94%) with co-analgesia (99%) in the form of NSAIDs. The analysis of pain by verbal pain scoring showed mild pain in 89% of patients, moderate pain in 9% of patients and severe pain in 0.8% of patients during resting stage. The Dynamic pain score was mild in 60%, moderate in 33% and severe in 6.8% of patients. Opinion regarding their pain management was satisfactory in 91.6% of patients, while 8.4% of patients were not satisfied with their pain management. Overall 9% of patients (n=24) complained of different complications. None of the complications were severe and responded to treatments.

Conclusion: In order to reach the international proposed standard of VAS of less than 3 we need to expand the coverage of acute pain service to develop a nurse based, anaesthesiologist supervised pain service for caesarean section patient. This service would assess and treat pain to a degree that facilitates function and quality of life.

Keywords: Postoperative, Pain, Caesarian

15.95

PREVALENCE AND STRATEGIES TO REDUCE CATHETER ASSOCIATED URINARY TRACT INFECTIONS IN TERTIARY CARE UNIVERSITY HOSPITAL, MEDICAL WARD

*Hasina Amin, Roshan Hadwani, Ambreen Noorani
Nursing Education Services, Aga Khan University, Karachi*

Objective: To identify the prevalence of catheter associated urinary tract infection at medical ward through surveillance of CAUTI according to CDC guidelines.

Method: Surveillance was initiated at Tertiary care hospital in medical unit in the month of April 2009 to establish a baseline CA-UTI rates and identify the interventions to decrease rates. The form was developed according to definitions of The National Healthcare Safety Network (NHSN; CDC). (Appendix 1) Identified infections by Infection control nurse was individually discussed and verified by infectious disease consultant. Total 116 patients were assessed, out of them 9 CA-UTI were identified per 1000 catheter days i.e. 25.9/1000 CA-UTI.

Results: Total 116 patients were assessed, out of them 9 CA-UTI were identified per 1000 catheter days i.e. 25.9/1000 CA-UTI. Comparing results rates of medical unit in tertiary care hospital is quite high as compare the results with (NHSN; CDC 2008) that is 8.5% at 90th percentile. Furthermore, based on identified CA-UTI, a clinical audit done to evaluate the practices related to care of patients with urinary catheters. This audit reveals compromised practices related to CA-UTI were not well understood by the (HCW's).

Conclusion: In an effort to decrease the incidence of CA-UTI, several interventions were made which include a number of sessions for nursing staff, physician, introduction of module related to prevention of CA-UTI and flyers were disseminated among HCW's. Also decided to do the

surveillance of same unit after two months post implementation to see the effects

Keywords: Infection, CA-UTI, Surveillance

15.96

ACCURACY OF N-TERMINAL PRO BRAIN NATRIURETIC PEPTIDE (NT-PROBNP) IN DIAGNOSING CONGESTIVE HEART FAILURE

*Syed M. Rashid Azam, Bushra Jamil
Department of Medicine, Aga Khan University, Karachi*

Objective: Congestive heart failure (CHF) is a complex syndrome defined by its symptoms and physical findings. Echocardiography is considered the gold standard for detecting congestive heart failure, but it is expensive and not easily accessible. Natriuretic peptide and its precursor NT-Pro BNP are non invasive cardiac markers for rapid diagnosis of congestive heart failure. The objective of this study was to determine the accuracy of N- Terminal Pro Brain Natriuretic peptide (NT-PRO BNP) test in diagnosing congestive heart failure in patients with clinically suspected congestive heart failure keeping echocardiography as gold standard. *Method:* 120 cases with clinical diagnosis of CHF were included in this Cross sectional study which was conducted at AKUH from June till Dec 2009. NT-Pro BNP test was done at the bed side and results were noted. Subsequently, echocardiography was done on these patients by a trained cardiologist who was blinded to the results of NT-Pro BNP. The results were analyzed and the sensitivity, specificity, positive predictive value and negative predictive values were calculated for NT-Pro BNP test taking echocardiography as gold standard.

Results: Of the 120 patients, 66(55%) were male and 54(45%) were female; average age was 62.04 ± 13.63 years. On echocardiography, 61(50.8%) patients had CHF and 59(49.2%) did not have CHF. Median NT-Pro BNP was 2955(IQR=2748) in CHF patients and 591(IQR=982) in non CHF patients. With respect to cutoff of NT Pro BNP, 72(60%) were diagnosed CHF in which 59 (True positive) were confirmed CHF and 13 (False Positive) were non CHF by echocardiography. Forty percent cases were diagnosed Non CHF in which 2 (False negative) were confirmed CHF and 46(False Positive) were confirmed non CHF. Sensitivity, specificity, positive and negative predictive value as well as accuracy of NT Pro BNP were 96.7%, 78%, 81.9%, 95.8% and 87.5% respectively. Sensitivity, specificity, positive and negative predictive value as well as accuracy of NT Pro BNP with cutoff >450 for the age = 50 years were 100%, 80%, 89.5%, 100% and 92.5% respectively. Similarly for the age 51 to 75 years, sensitivity, specificity, PPV, NPV and accuracy of NT Pro BNP with cutoff >900 were 96.6%, 76.3%, 77.5%, 54.3% and 85.7% respectively. Like for the age above 75 years, sensitivity, specificity, PPV, NPV and accuracy of NT Pro BNP with cutoff >1800 were 91.7%, 81.8%, 84.6%, 90% and 86.9% respectively.

Conclusion: NT Pro BNP is a useful non-invasive marker of CHF. However, sensitivity, specificity, positive and negative

predictive values of NT Pro BNP as well as the cut-offs for positivity differ according to patients' age and hence should be established in the given population, according to age.

Keywords: NT Pro BNP, Non-Invasive Marker, CHF

15.98

PAKISTANI NURSES PERSPECTIVES ON NURSING EMPOWERMENT: A CASE STUDY APPROACH

Nasreen Sulaiman¹, Saleema Gulzar¹, Salma Rattani¹, Rozina Karmaliani¹, Kausar S Khan²

¹School of Nursing and ²Community Health Sciences, Aga Khan University, Karachi

Introduction: Empowerment in nursing profession has always been a struggle. In Pakistan, nurses as women face disempowerment at various levels, both in their personal and professional lives. A case study was design to determine the nurses' own perspectives regarding nurses' and nursing profession under the grant project of WEMC (Women Empowerment in Muslim Context). The Aga Khan University School of Nursing, Karachi, Pakistan was taken as a case and nurses as a unit of analysis. The purposes of the study were; to analyze the process of empowerment, nurses' experiences of empowerment both at personal and professional level, outcomes of AKUSON's struggle towards nursing empowerment, and to recommend future directives for further development, democratization and good governance within the nursing professional bodies (PNC, PNF) in Pakistan. *Method:* Purposive sampling was used for data collection. Focus group discussion was used as a method of data collection. Total of 6 FGDs were done. Nurses from registered nurse level till managerial and faculty level were involved in the focus group discussions. Data was analyzed under various themes and categories using NVIVO 2.0 soft ware package.

Results: Nurses emphasized that AKUSON has played a pivotal role in enhancing the legitimacy of nursing as a profession for Muslim women. Higher education, increased support among nurses themselves, accountability, role modeling from nursing leaders, proper HR systems and facilities at employment level.

Conclusion: An active role of nursing professional bodies such as PNF and PNC are the essential elements for empowering nurses and nursing profession in Pakistan.

Keywords: Nurses, AKUSON, Empowerment

15.99

MANAGEMENT OF AORTIC TRANSACTION AFTER BLUNT CHEST TRAUMA: A CASE REPORT

Khalid Samad¹, Hameedullah¹, Amar Lal Gangwani¹, Saulat Fatmi²

Departments of ¹Anaesthesia, and ²Surgery, Aga Khan University, Karachi

Introduction: Blunt aortic injury is an uncommon but often fatal injury and is the second most common cause of death in blunt trauma victims after severe head injury.1 Aortic transaction happens typically after a high energy injury and may occur in a multiply injured patient, resulting in missed diagnosis of a potentially fatal injury. Chest X-ray with widening of the mediastinum is an unreliable diagnostic tool but should raise suspicion in a trauma patient. Contrast enhanced helical CT Scan has replaced the traditional angiography as the screening diagnostic tool of choice. A high index of suspicion must be maintained for timely diagnosis of blunt aortic injury. It is crucial to continually reassess the patient, so that the manifestations of evolving injuries may be detected early and appropriate management decisions made. We are presenting a case of 24 years old female with RTA. Her main injuries included a left sided hemothorax and right sided fracture of radius and ulna which were managed by chest tube placement and open reduction and internal fixation of the fracture. Uptil this point she remained hemodynamically stable. In the early postoperative period, she started to develop hemodynamic instability and further workup revealed saccular thoracic aortic aneurysm later confirmed as aortic transaction. She underwent surgical repair of the aortic transaction uneventfully and was discharged without any neurological deficit. Injury patterns and mechanisms, pathophysiology, operative and nonoperative management including anaesthetic management and outcome will be discussed. 1. Fabian TC, Richardson JD, Croce MA, et al. Prospective study of blunt aortic injury: Multicenter trial of the American Association for the Surgery of Trauma. *J Trauma* 1997; 42:374–380

Keywords: Trauma, Thoracic injuries, Aortic Transaction

15.100

CENTRAL BLOCK AND PAN BRACHIAL- PLEXOPATHY AFTER INTERSCALENE BRACHIAL PLEXUS BLOCK – A CASE REPORT

Khalid Samad, Qamarul Hoda, Anna Nouman, Tauseed Ahmed, Hameedullah

Department of Anaesthesia, Aga Khan University, Karachi

Introduction: We are presenting a case of sudden loss of consciousness and abrupt hemodynamic changes immediately after administration of interscalene block (ISB) for total shoulder arthroplasty (TSA) complicated by pan brachial plexopathy postoperatively. Patient became unresponsive and apneic with fixed dilated pupils soon after administration of

complete dose of local anesthetic in interscalene space. She was intubated without muscle relaxant and was successfully resuscitated with IV fluids and inotropes. Following hemodynamic stability, surgical procedure was allowed. Patient started spontaneous breathing after three hours and was extubated in post-anesthesia care unit without any neurological deficit except for the inability to move the operated arm which was later diagnosed as pan brachial plexopathy. A review of the differential diagnosis, management and prognosis of brachial plexus palsy after ISB for TSA and techniques to minimize the risk of central block will also be discussed.

Keywords: Interscalene Block, Complications, Shoulder Surgery

15.102 KARYOTYPE PATTERN OF TURNER'S SYNDROME AND ITS VARIANTS IN CLINICALLY SUSPECTED PATIENTS

Shireen Mansoor, Farooq Ghani, Zohaib Abbasi,
Imran Siddiqui
Department of Pathology & Microbiology and *Elective
Student, Aga Khan University, Karachi*

Objective: Turner's syndrome is the most common sex chromosomal abnormality in female fetuses, and is associated with a high proportion of congenital anomalies and morbidities. The objective of this study is to determine the pattern of Turner's syndrome and its variants in clinically suspected cases referred to a tertiary care hospital Karachi, Pakistan.
Method: Cross sectional data of Karyotyping cases were collected from Cytogenetic department of Aga Khan University Hospital (AKUH) during 2006 to 2007. The procedure used for testing was karyotyping of the cell line(s) of patients after extracting chromosomal material from white blood cells from samples. A questionnaire addressing different variables were considered in the study, including Age, Sex, Location and Clinical indications on the basis of which individual blood samples were sent for testing for Turner's Syndrome
Results: Total of 224 females was selected for the study. Their ages ranged from 3 days to 36 years. Of the total 224 cases, 26 cases (11.6%) turn out to be positive for Turner's syndrome on karyotyping. Analysis of the results suspected of Turner's syndrome showed that Turner's syndrome was most common in females between 1-19 years of age. Among clinical indications, the indication with most patients (19 cases) testing positive for Turner's syndrome was Primary Amenorrhea, short stature and ambiguous genitalia. Amongst the 26 positive cases Karyotyping showed 9 cases (29%) of classical Turner's syndrome, 7 (22.6%) were mosaic Turners cases, 10 cases (32.3%) showed other chromosomal variation of Turners syndrome.

Conclusion: Our data shows that in addition to the characteristics XO karyotype, other chromosomal variations are also common in our population which varied phenotypes.

Keywords: Turners syndrome, Amenorrhea, Phenotypes

15.103 DISTRIBUTION OF EXUDATES AND TRANSUDATE USING FLUID LDH LEVEL IN CYTOLOGICALLY PROVEN MALIGNANT EFFUSIONS

*Saira Fatima, Shafaq Sabri, Zubair Ahmed, Sheema H. Hasan
Department of Pathology & Microbiology, Aga Khan
University, Karachi*

Introduction: In many studies various criteria were applied to study the distribution of exudates and transudate in cytologically proven malignant effusions. Some of these included Light's criteria while other authors used body fluid LDH only as the determinant of exudates or transudate. **Objectives:** To determine whether cytologically proven malignant effusions have increased levels of LDH i.e. they are exudative in nature.

Material & Methods: All non-gynecological effusions received during last 2 years in the section of Histopathology, Department of Pathology & Microbiology for cytological examination were evaluated for the study. Epidemiological data i.e. age, sex and site was recorded. Final diagnosis, rendered after cytological examination was noted down as "No malignant cells seen" or Atypical / malignant cells seen. All the specimens carrying the request for Body fluid LDH levels were included in the study, rest of the cases were excluded. Serum LDH levels, when available were also recorded.

Results: In our study a total of 215 non-gynecological body effusions had concurrent fluid LDH levels performed on them. Out of these 193 (89.76%) were cytologically benign, while 22 (10.23%) were diagnosed as Malignant or Atypical cells seen. There was only single case of 22 malignant fluids that showed fluid LDH level <200 I.U/Lit. Rest of the 21/22 (95.45%) malignant effusions had LDH level greater than 200 I.U/Lit.

Conclusion: Most (95.45%) the malignant effusion are exudative in nature. A large majority of cytologically benign effusion were also exudative (89.63%).

Keywords: LDH, Malignant, Effusions

15.104 CORRELATION OF PLEURAL FLUID CYTOLOGY AND PLEURAL BIOPSY IN THE DIAGNOSIS OF MALIGNANT NEOPLASMS

*Saira Fatima, Ayesha Khamisa, Zubair Ahmed, Sheema H.
Hasan
Department of Pathology & Microbiology, Aga Khan
University, Karachi*

Introduction: The development of pleural effusions is often considered as suspicious for malignancy. However, many benign and inflammatory conditions may cause pleural effusion. Initial diagnostic steps in these patients include thoracentesis and cytological analysis of the fluid. Some of the patients undergo concurrent pleural biopsy. **Objective:** To determine the sensitivity and specificity of pleural fluid cytological examination in diagnosis of malignancy and to correlate the results with that of pleural biopsy examination.

Method: All pleural effusions with concurrent pleural biopsies received during last two years in the section of Histopathology, Department of pathology and Microbiology for cytological examination were included in the study. Epidemiological data i-e age and sex were recorded. Final diagnosis, rendered after cytological examination was noted down as “no malignant cells seen” or “atypical/malignant cells seen”. Only the cases with concurrent pleural biopsies were included in the study, rest of the cases were excluded. The results were stratified into four groups. Group A having both cytology and biopsy results being negative, Group B both cytology and biopsy being positive for malignancy. Group C had negative cytology while biopsy was positive. In group D cytology was positive while biopsy had negative results.

Results: Total number of cases was 89. Out of these 67 (75.3%) were in group A, 12 (13.5%) cases were in group B. Both the groups C & D had 5 (5.6%) cases each. The results of cytological examination correlated with the biopsy in 79(88.76%) cases.

Conclusion: Cytological examination of plural effusion is a useful method in the assessment of malignant neoplasms.

Keywords: Pleura, Biopsy, Cytology

15.105

SENSITIVITY OF VIRIDANS GROUP STREPTOCOCCI TO *EUGENIA CARYOPHYLLATA*

Shagufta Naz¹, Perween Tariq²

¹Department of Medicine, Aga Khan University and

²University of Karachi, Karachi

Background: Viridans group streptococci (VGS) constitute the normal microbiota of the oropharynx, female genital and gastrointestinal tract in humans. Previously, considered harmless, VGS have now emerged as opportunistic pathogens causing extra-oral diseases, endocarditis, fatal bacteremia and are involved in post-operative infections. Recent studies suggest their increased resistance to many antibiotics. Therefore, we studied the Least Contact Time (LCT) of *Eugenia caryophyllata* (clove) against oral VGS. **Objective:** To evaluate the minimum effective time required to inhibit oral VGS by aqueous decoction and Essential oil (EO) of *E. caryophyllata* (clove).

Method: A total of 100 isolates belonging to 9 different species were studied. The inhibition efficacy was assayed using different concentrations (v/v) 50%, 25%, 12.5% and 0.625%, 0.325%, 0.156% aqueous decoction and EO respectively. The effect on growth was studied at zero, 15, 30, 45, 60 minutes and 16 hours of exposure.

Results: The most effective concentration of aqueous decoction and EO of clove were 50% and 0.625% respectively inhibited 100% isolates. However, 50% isolates were inhibited after 60 and 30 minutes exposure to aqueous decoction and EO respectively. The LCT for inhibition ranged from 15 minutes to 16 hours.

Conclusion: Oral VGS are sensitive to aqueous decoction and EO of clove. Gargle with clove preparations will help maintain the oral hygiene.

Keywords: Viridans, Streptococci, *Eugenia Caryophyllata*, Least Contact Time

15.106

DAY CARE ADENO-TONSILLECTOMY: IS IT SAFE?

Aria Masoom, Shabbir Akhtar, Mubasher Ikram

Department of Surgery, Aga Khan University, Karachi

Objective: Day-care surgery offers certain advantages over inpatient treatment such as cost reduction, decreased risk of hospital acquired infections, convenience to the patient and their families. One of the major fears of an ENT surgeon to perform day-care tonsillectomy, a commonly performed procedure, is the possibility of post-operative reactionary hemorrhage. Contrary to the rest of the world, day-care tonsillectomy is not performed commonly in Pakistan. It was started in 1997 in AKUH. An audit was done to look for the safety of day care tonsillectomy +/- adenoidectomy

Method: Retrospective chart review was done of patients undergoing day care adenotonsillectomy from January 2008 to March 2009 (15 Months) at AKUH.

Results: Total of 207 patients's fulfilled the inclusion and exclusion criteria. 132 patients were male and 75 were female. 118 patients were adults and 89 were below 14 years of age. Procedures performed included 150 tonsillectomies, 39 adenotonsillectomies and 18 adenoidectomies. 13 patients out of 207 were admitted unplanned from surgical day care (SDC) to ward due to different complications and most of them were discharged the next morning uneventfully. None of our patient returned to emergency room in the initial 24 hours and no emergency admission after discharge from SDC was reported. All our patients had at least one follow up visit to clinic. Overall complication rate was 6.2%. Only 1 patient developed reactionary hemorrhage which stopped on its own. There was no mortality noted.

Conclusion: Day-care adenotonsillectomy is a safe procedure in our setup.

Keywords: Day Care, Tonsillectomy, Adenoidectomy

15.107

LONGITUDINAL ZINC INTAKES AND EXCHANGEABLE ZINC POOL SIZES IN BREASTFED SMALL FOR GESTATIONAL AGE VS APPROPRIATE FOR GESTATIONAL AGE INFANTS IN PAKISTAN

Shabina Ariff¹, Jamie E Westcott², Nancy F Krebs², Arjumand Rizvi¹, Fozia Riaz¹, Sajid Bashir Soofi¹, Zulfiqar A Bhutta¹

Department of ¹Paediatrics & Child Health, Aga Khan University, Karachi and ²University of Colorado, Denver, USA

Objective: SGA infants are more susceptible to infectious morbidity and growth faltering as compared to their AGA counterpart's. Whether the morbidity and growth faltering is related to the alteration in the nutritional and metabolic environment in utero or higher requirements postnatally. Zinc is essential for normal growth, development and immune function. Supplementation of SGAs with Zinc who are exclusively breastfed may result in reduced morbidity and mortality. To compare the size of the Exchangeable Zn Pools (EZP) between AGA & SGA infants with the hypothesis that the zinc pools would be lower in the SGA group as compared

to AGA. EZP reflects the metabolically available zinc pool in the body.

Method: This was a community based, observational longitudinal study that compared the size of the EZP in SGA and AGA infants in a peri-urban settlement of Karachi, Pakistan. The subjects included healthy term SGA and AGA infants. Intravenous 67 Zn (40ug/kg) was administered to 12 SGA and 13 AGA infants, within 48 hours of birth and received second administration of intravenous 70 Zn stable isotopes at 6 months. The infants were followed until one year of life. The EZP was estimated from isotope enrichment in spot urine samples collected over 3-7 days at birth and at 6 months.

Results: The mean birth weight of SGA infants was 2.174 ± 0.2 kg and of the AGA infants was 3.04 ± 0.349 kg ($P < 0.001$). No significant difference was detected in the EZP between AGA and SGA infants at birth with values of (9.7 ± 3.55 mg/kg) vs (9.5 ± 4.14 mg/kg); $P = 0.34$ and (5.60 ± 2.97 mg/kg at birth) vs (5.07 ± 2.93 mg/kg) at 6 months, $P = 0.12$. However there was a significant decline in EZP from birth to 6 months, relative to body weight both in the AGA and SGA groups with values of (9.7 at birth to 5.60 mg/kg at 6 months $P = 0.006$ in AGA and 9.59 at birth to 5.07 mg/kg $P = 0.04$ at 6 months in SGA.) The mean EZP at birth was less in both the AGA and SGA groups as compared to the levels in premature infants (average gestational age ≈ 34 wk) born in (U.S.A).

Conclusion: Our results did not reveal any significant difference in zinc pools among SGA and AGA infants unlike previous studies carried out in premature infants in the USA where SGA had significant low levels of zinc. At present we have no plausible explanation for this difference. The possibility that infants both SGA & AGA are inherently born with reduced stores in developing countries due to maternal malnutrition may be hypothesized. Our data however provides clear evidence that there is a linear reduction in zinc levels from birth to 6 months among both SGA & AGA infants, providing evidence to the rationale of supplementing zinc to the exclusively breast fed infants.

Keywords: Zinc Stable Isotopes, Exchangeable Zinc Pools

15.109

AORTIC DISSECTION MIMICKING AS MYOCARDIAL INFARCTION

Maria Mahboob¹, Awais Ashfaq¹, Saulat H Fatimi²
¹Medical College and ²Department of Surgery,
Aga Khan University, Karachi

Objective: Aortic dissection is a rare event and also one of the most dramatic cardiovascular emergencies. Classically, this presents as sudden, severe chest, back or abdominal pain that is characterized as ripping or tearing in nature. However, a timely diagnosis can be elusive in the event of an atypical presentation. We report a case of 56 years old male who presented with shortness of breath, palpitations, and sweating mimicking myocardial infarction. Chest X ray revealed pulmonary edema. CT angiography was done that showed aortic dissection. Subsequently, the patient was electively

planned for surgery that involved replacement of the involved aorta with a graft. Postoperatively, the patient remained stable and was discharged in a weeks time.

Keywords: Myocardial Infarction, CT Angiography, Pulmonary Edema

15.110

PENETRATING THORACIC TRAUMA: PRESENTATION, MANAGEMENT AND OUTCOME IN TERTIARY CARE CENTRE

Ahmad Vaqas Faruque, Mohammad Hasanat Sharif
Department of Surgery, Aga Khan University, Karachi

Objective: To determine modes of presentation, management and outcome in penetrating chest trauma presented to the Aga Khan University Hospital

Method: A retrospective study over a period of five years from 2002 to 2007. All cases with penetrating thoracic trauma presenting to Aga Khan University Hospital. All charts presenting with the diagnosis of thoracic trauma were reviewed. All cases related to penetrating thoracic traumas were extracted. Patients were analyzed in three categories according to their presentation, time of presentation, time interval between events and their presentation, response time between arrival and first visit, time between response and operation theater if needed and their operation theater dynamics regarding time of operation, duration of intubation, blood products needed etc. We also reviewed post operative HDU stay, over all stay, and out come with regard to morbidity and mortality. All patients were followed after their discharge. Data was analyzed in SPSS 14.

Results: Most of the patients presented are of young age ranging b/w 20-40 years. Most of them are males (93%). Commonest mechanism of injury is by gunshot (75%). Average time of presentation is within 2 hours (46%). Most thoracic injuries are managed conservatively. Most have a GCS >7 at presentation (97%) Most common penetrations cause haemothorax and pneumothorax. Tube thoracostomy is the most frequent intervention (62%). Most made a full recovery.

Conclusion: Awareness regarding the penetrating thoracic trauma needs to be increased. All patients should be resuscitated with ATLS protocols. Health care providers need to be aware of the golden hour. There is a dire need for proper and complete documentation

Keywords: Penetrating Thoracic Trauma, Tube Thoracostomy, GCS - Glasco Coma Scale

15.111**AUDIT OF POSTOPERATIVE NAUSEA AND VOMITING IN PAEDIATRIC DAY CASE SURGERY**

*Fauzia Naseem, Faraz Shafiq, Azhar rehman
Department of Anaesthesia, Aga Khan University, Karachi*

Objective: PONV is a known complication of anaesthesia with reported incidence between 13-42%. It is twice as frequent in children. In day cases it has special relevance because patient turnover is affected, discharge home is delayed and unplanned admission may be required in severe cases. The society of ambulatory anaesthesia (SAMBA) has published guidelines for risk prediction and risk tailored monomodal or polymodal prophylaxis for PONV in adults and children. The drugs recommended are costly and not easily available at our centre. Moreover choice of antiemetic drug given for prophylaxis has little impact on clinical outcome or patient satisfaction and traditional agents may be used for PONV prophylaxis in ambulatory surgery patients (2). It is also important to evaluate clinical data at the local health care facility prior to implementation of guidelines based on data obtained from different clinical settings to avoid indiscriminate prophylaxis and drug exposure (3).

Objective: This audit was done to assess the justification for implementation of SAMBA guidelines for PONV management at our day care surgery unit. The objective of this audit is to assess the incidence of PONV, delay in discharge or unplanned admissions in paediatric day cases between January and July 2009

Method: Data collection was done by means of a designed form which was filled by the principal investigator or co investigators by information from preoperative, intraoperative and postoperative recovery forms. Episodes of vomiting, delay in discharge, or postoperative recovery stay more than 2 hrs, due to PONV were documented from records

Results: Out of 97 paediatric patients reviewed one patient in our audit (1%) had one episode of vomiting in the recovery room and one patient (1%) had vomiting in the step down unit. Discharge was not delayed in either case and there were no unplanned admissions due to PONV in paediatric day cases during the period of our audit

Conclusion: The incidence of postoperative vomiting in paediatric day cases at our day surgery unit does not justify implementation of SAMBA guidelines for PONV prophylaxis

Keywords: Postoperative, Nausea And Vomiting, Pediatric Day Care Surgery

15.112**MOTHERS' REPORTED CHILD ABUSE IN FAMILY PRACTICE CLINICS IN KARACHI**

*Ali Khan Khuwaja¹, Niloufer Sultan Ali¹, Farzana Nawaz Ali²
¹Department of Family Medicine and ²Medical College, Aga Khan University, Karachi*

Objective: This study was aimed to assess the proportion of child abuse and to identify factors associated with child abuse as reported by mothers in Karachi, Pakistan.

Method: An analytical cross-sectional study was conducted in primary care clinics affiliated with a tertiary care teaching hospital of private sector in Karachi, Pakistan. After taking consent, 412 mothers were interviewed by trained data collectors. A pre-tested and structured questionnaire was used consisting of: socio-demographics, mother's marital life satisfaction, mother's perception about home environment and violence against herself and her children. Multivariate analysis was calculated to identify the independent factors associated with child abuse.

Results: Over one-quarter (25.5%) of children were abused physically and 17.9% abused psychologically. In all, 32.5% of children had experienced at least one or the other form of abuse. Abuse was reported more among children whose mothers had no/less years of schooling ($p=0.02$), father being smoker ($p=0.04$), mother being violated ($p<0.001$), mother being not satisfied with her marital life ($p<0.001$), mother being reported home environment as stressful ($p=0.02$) and child being a female ($p<0.001$). In the final multivariate analysis, the factors found to be independently associated with child abuse were mothers who were violated by their husband (AOR=4.2; 95% CI: 2.2-7.9) and child being a female (AOR=8.7; 95% CI: 4.5-16.8).

Conclusion: This study revealed that one-third of the children were physically and/or psychologically abused. Factors identified for child abuse can be targeted to prevent the threat to child abuse. Further studies are required to explore this important health issue in more detail.

Keywords: Children, Physical Abuse, Psychosocial Abuse

15.114**SAMPLING BACTERIAL BIODIVERSITY IN A KARACHI STREAM**

*Syed Faaiz Enam¹, Humaira Qureshi², Sohail A Qureshi²
¹Medical College and ²Department of Biological & Biomedical Sciences, Aga Khan University, Karachi*

Objective: Microbes are an integral portion of our ecosystem but many of them can cause serious infections. Since no work has been carried on microbial biodiversity in Pakistan it is unknown what types of bacteria inhabit our soil, ponds, rivers, lakes and streams. The aim of this project is to identify the types of bacteria in a stream that runs across an affluent neighborhood of Karachi.

Method: Water samples were collected from a stream, known as Nehr-e-Khayam, which is located between a food court, Boat Basin, and the Karachi Grammar School. They were filtered to remove dirt and debris, and then subjected to centrifugation to pellet bacteria. Genomic DNA was then extracted from the bacterial pellets using standard protocol and suspended in TE and then used as a template in broad-range PCR. PCR reactions contained forward and reverse primers based on the highly conserved 16S rDNA sequences. After PCR, the products were separated by electrophoresis on a 1.5% agarose gel alongside DNA markers. Amplified DNA was gel purified and cloned into PGEM-T. Recombinant plasmids were identified by restriction enzyme digestion and subjected to DNA sequencing. The sequence of each clone was analysed against the NCBI database.

Results: A total of 71 recombinant clones were completely sequenced. Database analyses revealed that 15 were industrial bacteria, 30 had previously been identified but not cultured and one appears to be a new strain that has not been hitherto identified. Strikingly, there were 8 species of bacteria that are pathogenic.

Conclusion: This study brings to light the threat such a sewer poses to the lives of citizens and students in the vicinity. The research also makes it apparent that the body of water, which was originally a stream, now takes in a lot of industrial waste.

Keywords: Microbes, Biodiversity, DNA Sequencing

15.115

AORTOESOPHAGEAL FISTULA SECONDARY TO PSEUDOANEURYSM OF THE DESCENDING AORTA

Saulat H. Fatimi¹, Anum I. Malik², Awais Ashfaq², Naquiya Murtaza²

Department of¹Surgery, and²Medical College, Aga Khan University, Karachi

Objective: Aorto-esophageal fistula (AEF) is an atypical cause of massive haematemesis and invariably proves to be lethal if left untreated. The most common etiology of AEF is reported to be thoracic aortic aneurysms, with pseudoaneurysms having only rarely caused an aorto-esophageal fistula. Treatment practices vary, but are most often confined to either open surgical repair or endovascular stent graft placement.

Results: We report a case of a 56 year old male patient who presented with chest pain and haematemesis. He was diagnosed with a pseudoaneurysm of the descending aorta based on CT imaging and consequently underwent open surgery for primary repair. An AEF was found intra-operatively. This study outlines this patient's hospital course as well as reviews the literature available on aorto-esophageal fistulas caused by pseudoaneurysms of the thoracic aorta, their treatment options and outcomes.

Conclusion: Provided its rare occurrence, the diagnosis of AEF requires a high degree of suspicion and is often one of exclusion. Left alone or treated medically, aorto-esophageal fistulas are consistently fatal. The success of treatment of an aorto-esophageal fistula depends on the proper and timely management of the esophageal defect, the etiology and aggressive antibiotic therapy to minimize post operative infection.

Keywords: Pseudoaneurysm, Aorto-esophageal Fistula, Descending Aorta

15.116

POST DURAL PUNCTURE POSTERIOR REVERSIBLE ENCEPHALOPATHY SYNDROME IN PREGNANCY WITH INFECTION

Fauzia Minai¹, Syeda Fauzia Hasan¹, Mughis Sheerani²
Departments of¹Anaesthesia and²Medicine, Aga Khan University, Karachi

Objective: Posterior Reversible Encephalopathy Syndrome (PRES) is a transient clinico-neuro-radiological syndrome with symptoms of neurological disease like occipital headache, altered mental status, seizures and visual loss in a variety of non-neurological clinical entities like hypertension, immunosuppressed states, obstetric patients, infection, sepsis and shock (1,2). Magnetic resonance imaging (MRI) is the gold standard for diagnosing PRES and early involvement of radiologists and neurologists is important for appropriate management (3,4). There is a lack of awareness of this disease entity among medical practitioners in general and diagnosis can easily be missed as presentation is common to many well known disease states like eclampsia, meningitis and post dural puncture headaches. If unrecognized and inappropriately treated it can lead to permanent neurological damage or death.

Method: We report the case of a young patient with an uneventful pregnancy of 36 weeks, and an acute respiratory infection with severe bronchospasm, who developed an occipital headache and neck pain on the third day of inadvertent dural puncture during placement of combined epidural spinal anaesthesia for Caesarian section. It was diagnosed as post dural puncture headache until generalised tonic clonic seizures occurred the next day raising the suspicion of postpartum eclampsia or meningitis. Posterior reversible encephalopathy syndrome was diagnosed on MRI of the brain which showed features of reversible ischemia in the posterior region of the brain. With anticonvulsant therapy and antibiotics there was complete resolution of neurological symptoms and respiratory tract infection. We highlight the importance of high index of suspicion of this reversible encephalopathy in obstetric cases with intentional or inadvertent dural puncture, with symptoms similar to PDPH, and the essential role of neuroradiology in confirmation of the diagnosis, as placement of an epidural blood patch would be highly detrimental in these cases.

Conclusion: In conclusion, awareness of this reversible clinico-neuro-radiologic entity among anaesthesiologists, obstetricians, and other clinicians is essential to avoid missing the diagnosis, and initiating correct therapy. Distinction from conditions like eclampsia and PDPH is critical as misguided therapy will lead to worsening of the neurological pathology.

Keywords: Postdural Puncture Headache, Postpartum Seizures, Encephalopathy

15.117**EFFECT OF SEVOFLURANE ALONE VERSUS SEVOFLURANE TRAMADOL COMBINATION ON ATTENUATION OF HAEMODYNAMIC RESPONSE TO LARYNGOSCOPY AND TRACHEAL INTUBATION**

*Anwar-ul-Huda, Fauzia Anis Khan
Department of Anaesthesia, Aga Khan University, Karachi*

Objective: Manipulation of airway, particularly laryngoscopy and endotracheal intubation is associated with tachycardia and hypertension resulting from sympathetic nervous system stimulation and catecholamine release. The influence of tramadol on the hemodynamic response following laryngoscopy and tracheal intubation is less known.
Method: It was a double blind randomized controlled trial which was conducted at Aga Khan University, Karachi. Patients were randomly allocated to either of two groups, sevoflurane alone (group S) or sevoflurane and tramadol combination (group ST). Heart rate (HR), systolic (SBP), diastolic (DBP) and mean arterial pressure (MAP), pulse pressure and oxygen saturation were recorded at baseline and continued after induction upto seven minutes post intubation.

Results: Baseline characteristics were similar in two groups. There was a significant difference in percentage change in heart rate from baseline at 2nd, 3rd and 4th minutes post intubation with values higher in sevoflurane alone group. There was no significant difference in percentage change in systolic, diastolic, mean blood pressure and pulse pressure from baseline between two groups.

Conclusion: Induction with tramadol and 1 % MAC of sevoflurane is effective in preventing chronotropic response but not to inotropic response to tracheal intubation and laryngoscopy.

Keywords: Inhalational Induction, Tramadol, Intubation Response

15.118**ANESTHETIC MANAGEMENT OF AN INFANT WITH HYPERPARATHYROIDISM**

*Sanum Dost Mohammad, Anwar-ul-Huda, Tauseef Ahmed
Department of Anaesthesia, Aga Khan University, Karachi*

Objective: Neonatal primary hyperparathyroidism (NPHP) is a rare disease that presents in the first 6 months of life. It is almost invariably fatal unless a prompt diagnosis is made and urgent surgical intervention is instituted. It is associated with hypotonia, respiratory distress, irritability, lethargy, failure to thrive, constipation and severe hypercalcemia with elevated parathyroid hormone (PTH) levels.

Method: We had a one and half months infant who presented on 21st day of life with cyanosis and lethargy. Initial diagnosis of pneumonia was made and later on investigations showed hyperparathyroidism with raised serum calcium levels. He was planned for parathyroidectomy under general anesthesia. He was induced with sevoflourane followed by fentanyl and atracurium and intubated with size 3.5 mm ETT and later on was maintained with sevoflurane with O₂/NO₂ in 40/60 ratio,

fentanyl and atracurium. He was successfully extubated after giving neostigmine and atropine at the end of operation. He was shifted to ICU for close monitoring and later on discharged.

Results: Patients with hyperparathyroidism require special preoperative considerations. They require proper work-up from cardiac, renal and neurological point of view, correction of intravenous volume and electrolytes irregularities. The surgery can be done under general anesthesia, cervical block or local anesthesia with hypnosis. Positioning of these patients is very important

Keywords: Hyperparathyroidism, Anesthetic Management, Hypercalcemia

15.120**PREVENTING WOUND INFECTIONS IN PATIENTS UNDERGOING CESAREAN SECTION AND VAGINAL DELIVERIES BY MEANS OF CONTINUOUS QUALITY IMPROVEMENT METHODS**

*Zaibunnisa Memon
Department of Obstetrics & Gynaecology, Aga Khan University, Karachi*

Background: Improving obstetric care in resource limited countries is a major international health priority
Objective: To reduce wound infection rate after cesarean section and vaginal deliveries, by optimizing systems of obstetric care and continuous quality improvement methods. Methods Analysis of wound infection rate and antibiotic use at Aga Khan hospital for women, Karimabad was carried out from January 2006 to December 2007 to identify areas of deficiency in aseptic techniques. Infection control guidelines and antibiotic use protocols were reviewed, in addition to reorganization of infection control committee and extensive teaching of all staff members. Implementation of protocols were reinforced from January 2008, and monthly audits were conducted to check practices and adherence to antibiotic use protocol.

Objective: The aim was to reduce wound infection rate and therapeutic antibiotics use.

Results: Before improvement, analysis of 2007 showed increase in wound infection rate to (1%) as compare to year 2006(0.5%). In response to rising infection rate in year 2007, usage of therapeutic antibiotic was increased to 100% after cesarean section and 55% after vaginal delivery. A downward trend of infection rate (<0.5 %) was observed after increase in the antibiotic usage, but the febrile morbidity, wound indurations, cost of antibiotic was significantly increased. After improvement of infection control practices from January 2008 to October 2008, no rise in infection rate (<0.5%) was seen, despite the decrease in therapeutic usage of antibiotic. There was significant reduction in number febrile morbidity, wound indurations, hospital stay and the cost of antibiotic.
Conclusion: Simple quality improvement methods can be used to optimize obstetric services and improve outcomes of care in resource limited settings.

Keywords: Infection, Antibiotic in Obstetrics, Cost

15.121 MOTOR WEAKNESS IN PATIENTS RECEIVING POSTOPERATIVE EPIDURAL ANALGESIA

*Aliya Ahmed, Tanveer Baig, Riffat Aamir, Mohammad Imran
Department of Anaesthesia, Aga Khan University, Karachi*

Objective: Lower limb motor weakness, following epidural infusions, leads to patient dissatisfaction and delays the rehabilitation process. Our objective was to find the frequency of motor weakness in patients receiving continuous epidural infusion and the measures taken to relieve it.

Method: All patients receiving postoperative analgesia by epidural infusion of bupivacaine with fentanyl 2 µg/ml after abdominal surgery were seen six hours after start of the infusion and then during the routine acute pain rounds in the mornings and evenings from June 01, 2009 to September 30, 2009.

Results: Data was collected on 123 patients. Bupivacaine 0.1% was used in 113 patients, 0.0625% in eight patients and 0.125% in only one patient. Lower limb motor weakness developed in 45 patients (36.5%). One of the eight patients receiving bupivacaine 0.0625% while forty of the 113 patients receiving bupivacaine 0.1% developed motor block on the first postoperative day. This number decreased to eight on the second postoperative day. The highest frequency was seen with epidural insertion at L2-L3 level. Weakness was mostly unilateral (75%). The common step taken for unilateral weakness was change of position and for bilateral weakness decrease in concentration of local anesthetic. These measures produced improvement in most patients (87%).
Conclusion: A considerable number of patients receiving epidural analgesia experience motor weakness at our hospital. Randomized controlled trials (RCT) comparing various concentrations of local anaesthetic to determine the best concentration in terms of satisfactory pain relief and minimum motor block are required before making recommendations for best practice.

Keywords: Epidural, Motor Weakness, Complication

15.122 EFFECT OF GENDER ON PAIN PERCEPTION AND ANALGESIC CONSUMPTION TO RELIEVE PAIN FOLLOWING LAPAROSCOPIC CHOLECYSTECTOMY

*Aziza Hussain¹, Fauzia Khan¹, Aliya Ahmed¹, Tabish Chawla²
Departments of ¹Anaesthesia, and ²Surgery, Aga Khan
University, Karachi*

Objective: This study was conducted to determine the effect of gender on pain perception and analgesic consumption to relieve pain after laparoscopic cholecystectomy.

Method: Sixty males and 60 females, undergoing laparoscopic cholecystectomy under general anaesthesia were included in this prospective observational study. Numeric Rating Scale (NRS) was explained to the patients preoperatively. General anaesthesia was standardized and fentanyl was used as

intraoperative analgesia. In the recovery room patients were asked to rate their pain. Tramadol 10 mgs and 20 mgs was given when pain scores were 3-5 and more than 5 respectively to achieve pain score of < 3. Morphine 1 mg boluses were used as rescue analgesia. Patients were assessed for 1 hour in recovery room and at 4, 8 and 12 hours postoperatively.
Results: Age, duration of surgery and ASA status were similar in both groups. Weight ($p = < 0.001$) and intraoperative fentanyl used ($p = < 0.001$) was greater in males than in females. Females demonstrated higher pain scores during first hour postoperatively ($p = 0.008$), requiring greater amounts of tramadol than males ($p = 0.01$). Requirement of rescue analgesia was greater in females to achieve a NRS of <3 (1.73 mg as compared to 0.87 mg in males; $p = 0.02$).
Conclusion: Women exhibited greater intensity of pain and required higher doses of analgesia than men to achieve the similar degree of analgesia during the first hour postoperatively. The clinicians should consider the difference in opioid requirement among gender to avoid under-treatment of pain in females.

Keywords: Pain, Analgesic Requirement, Gender Differences

15.123 A SYSTEMATIC APPROACH OF TRACKING AND REPORTING MEDICATION ERRORS AT A TERTIARY CARE UNIVERSITY HOSPITAL, KARACHI, PAKISTAN

*Khurshid Khawaja
Nursing Education Services, Aga Khan University, Karachi*

Objective: Administering medication is one of the high risk areas for any health professionals. It is multidisciplinary process, begins with doctor's prescription; followed by review and provision by pharmacist; and ends with preparation and administration by nurse. Several studies have high lightened, medication incident rate at several health care institutions (Gladstone 1995 and Pape 2001; Hirtz 2001).

Method: Study design was exploratory and evaluative, using methodological triangulation. Duration was 2005-2007. Sample size was of two types. First, convenient sample of 1000 medication dosages, to estimate the medication error at 95 % confidence. Other set of sample was subjects involved in medication usage processes such as physicians, nurses, pharmacists and patients. Two sets of instruments were designed via extensive literature review: One, tracking of medication error form and other, focus group interview questionnaire.

Results: Study findings revealed 100% compliance with Computerized Physician Order Entry (CPOE) system by physicians, nurses and pharmacists. The main error rate was 5.5% and pharmacist contributed higher error rate of 2.6% followed by nursing 1.1% and physician 1%. In associate error rate delay medication delivery and reviewing of lab results electronically before prescription, dispensing and administration was identified major area for improvement.
Conclusion: This will encourage health professionals to report medication errors. Implementation of error reduction strategies,

more Point Prevalence as per medication usage tool, on going incident reporting schemes and rewards to those who reports errors, categorization of medication errors as per severity index and use of software programs for medication tracking will allow in reducing error rate and promoting patient safety.

Keywords: Medication Error Rate, Associate Error Rate, Patient Safety

15.124

AN EVOLVING PATIENT SAFETY FRAMEWORK AT AKUH, PAKISTAN FROM DR. DONABEDIAN'S MODEL – A CONCEPT ANALYSIS

Khurshid Khawaja

Nursing Education Services, Aga Khan University, Karachi

Objective: To measure structure, process and outcome at AKUH by using Dr. Donabedian's model of SPO. Medical error has emerged as one of the most significant health care challenge at international level. Overcoming preventable errors is even more challenging in countries like Pakistan, where basic health needs often remain unmet and work environments can be unhealthy. Despite these challenges, private health sectors strive to provide optimum health services.

Method: Using Donabedian's Model of Quality Care of Structure, Process and Outcome (SPO) a Patient Safety Framework (PSF) was developed and implemented at AKUH Karachi, Pakistan. This newly-developed framework determined failures in structures and processes which were below benchmarks and improved patient outcomes through nursing practice. It included data from quality reviews and indicators from year 2005 to 2007. This was Fellowship work of 2008-2009.

Results: Nursing staffing levels were 88% to 90% and nurse staffing skill mix was 98-100%, and competencies 90%. Fall rate was 0.103 percent in 2007 against the National Database of Nursing Quality Improvement (NDNQI) benchmark of 3.12, pressure ulcers decreased from 6.33 in 2003 to 4.76 in 2007, medication error rate was 5.5%, VAP reduced to 3.2 and BSI rate 2.9 and patient satisfaction improved from 3.68 to 3.78 with nursing practice.

Conclusion: Positive outcomes resulting from application of framework has resulted positive image of the nursing profession and more self respect on the part of individual nurses.

Keywords: Patient Safety, Quality Care, Nursing Care

15.126

TO DETERMINE THE SENSITIVITY OF DIFFUSION WEIGHTED MR IMAGING (DWI) IN DETECTION OF ENDOMETRIAL CARCINOMA: ROLE OF ADC (APPARENT DIFFUSION COEFFICIENT) VALUES

Imrana Masroor, Muhammad Zeeshan, Shaista Afzal, Nadeem Ahmad, Gulnaz Shafiqat

Department of Radiology, Aga Khan University, Karachi

Objective: To calculate the sensitivity of MR imaging utilizing diffusion weighted (DW) sequences in detection of endometrial cancer and to investigate whether the ADC values of endometrial cancer differ from normal endometrium
Introduction: Endometrial cancer is the most common gynecological malignancy of developed countries¹. Pre-operative staging is very important in planning proper surgical procedure. DW imaging is known to depict malignant tumors with high sensitivity 7-12. DWI can also provide values of apparent diffusion coefficient (ADC) of tissues under investigation. This study was conducted to determine the sensitivity of DWI in the detection of endometrial cancer and to determine the difference in ADC values of endometrial cancer verses normal endometrium.

Method: Cross sectional study conducted at Radiology Department of Aga Khan University hospital from January 2007 to June 2009. A total of 30 patients and 30 controls were included in the study that underwent MRI examination. The patients had surgical diagnosis of endometrial cancer, and the controls were those with normal endometrium after surgery and histopathology. Data was analyzed using SPSS 16. The sensitivity of MRI for detection of endometrial carcinoma was calculated, and the ADC values of normal and abnormal endometrium were recorded. The statistical difference between ADC values was calculated by two-sided student t- test. P value of < 0.05 was considered statistically significant with confidence interval of 90%.

Results: On DWI, all endometrial carcinomas were depicted as increased signal with hypointense myometrium. On the other hand all controls had hypointense endometrium on DWI. The sensitivity for detection of DWI was 100%. The mean ADC value for abnormal endometrium was $0.6310.631 \times 10^{-3} \text{ mm}^2/\text{s}$ ($\pm \text{SD } 0.189 \times 10^{-3} \text{ mm}^2/\text{s}$) and of normal endometrium was $1.3290.631 \times 10^{-3} \text{ mm}^2/\text{s}$ ($\pm \text{SD } 0.242 \times 10^{-3} \text{ mm}^2/\text{s}$) (p value of >0.0001), at b-value of 1000nm/sec.

Conclusion: DW imaging is a sensitive tool in detection of endometrial cancer. Both normal and cancerous endometrium appear hyperintense on DW imaging but the ADC value of endometrial cancer is significantly lower than that of normal endometrium.

Keywords: Diffusion Weighted, ADC, Endometrial Cancer

15.127

ROLE OF ABDOMINAL ULTRASOUND IN TRAUMA PATIENTS

Vaqar Bari, Faisal Musharraf
Department of Radiology, Aga Khan University, Karachi

Objective: To evaluate sensitivity, specificity, feasibility and accuracy of ultrasound in detecting hemoperitoneum in blunt trauma patients

Method: All victims of blunt abdominal trauma presenting to emergency room of Aga Khan University Hospital over the age of fifteen years were included in the study. Patients were excluded if a bedside ultrasound examination was not completed or expired in the early period before CT or other imaging examinations could be done or if injuries were not confirmed by laparotomy or autopsy.

Results: Out of the 148 adult patients, 115 were males and 33 females. Presenting age ranged from 16 to 74 years. There were 15 true positive and 131 true negative results. One case was false positive and 1 false negative. Sensitivity was 93.75%, specificity 99.24%, accuracy 98.64%, positive predictive value 93.75% and negative predictive value 99.29%.

Conclusion: Ultrasound is safe, cost effective, sensitive, specific and accurate in detecting hemoperitoneum in patients with blunt abdominal trauma

Keywords: FAST (Focused Ultrasound for Assessment of Trauma), Blunt Trauma, Hemoperitoneum

15.128

IMPLICATIONS OF FACULTY MEMBERS BECOMING STUDENTS IN THE SAME INSTITUTION

Raisa B. Gul, Salima Moez, Rubina Barolia
School of Nursing, Aga Khan University, Karachi

Objective: Approximately 30 % of the Master's of Science in Nursing (MScN) students at ABC School have been the faculty members before their enrollment into the program. Transition of roles may lead to feeling of dislocation, threat to identity or lost academic confidence. Nursing literature is replete with research about the transition of nursing students to staff role. Limited work is found about the transition of nurses from a staff nurse to a student role, but no studies are found about the transition from a teacher to student role. The purpose of study was to identify and describe the experiences of students in the MScN program who undergo through a role transition from a faculty to a student status in the same institution and how such experiences affect their learning.

Method: In line with qualitative approach, purposive sampling method was used to enroll 10 informants, MScN students and faculty members, in this study. Following the inclusion and exclusion criteria, data was collected through semistructured interviews. With the individuals' written consent, interviews were tape-recorded and transcribed verbatim. Data was analyzed manually for themes and categories.

Results: Findings indicate multiple advantages and disadvantages for faculty members becoming graduates students at their own institution. Familiarity with institutional culture, people, and policies seems to ease the burden of

adjustment in their new role but also limit their freedom as students. They perceive to live in a dual identity of student and faculty which has consequences for themselves, their peers, and those who teach them.

Conclusion: Appropriate structures and thoughtful processes should be in place to curtail the negative effects of faculty going for higher education in the same institution.

Keywords: Higher Education, Transition, Master's of Science in Nursing

15.129

CONTENT EVALUATION OF PHARMACEUTICAL PROMOTIONAL DRUG ADVERTISEMENTS: A PAKISTANI PERSPECTIVE

Farhan Vakani¹, Almas Amin², Kashif Naqvi³
Department of ¹Continuing Professional Education and ²Bioethics, Aga Khan University, Karachi and ³Hamdard University, Karachi

Objective: Drug promotion and marketing make up a large part of the activities of the pharmaceuticals in Pakistan, which subtly persuade the drug prescribing behavior. The extent to which pharmaceuticals abide by these drug advertising codes have not been studied in Pakistan. Therefore, the accuracy has not been debated at national level for decades. In more recent years the subject has drawn attentions largely because of the ethical issues. For this codes were developed in the country and the most commonly exercised codes for evaluation are IFPMA, WHO & Pakistan Drug act 1976. This study aims to compare the current advertisement practices viz a viz existing drug act of Pakistan.

Method: The methodology used included auditing of the promotional advertisement material, in-depth interview of the pharma related personalities and focus group discussion of the prescribers. 120 promotional advertisements of multinational and local pharmaceuticals were collected of which, 23 NSAID'S group were randomly selected and evaluated using the Pakistan drug act 1976.

Results: Close to 22 % pharmaceutical companies in Pakistan are strictly following the codes of advertisement as per drug act 1976. Input from focus group discussion showed that the pharmaceutical advertisements are used without relevant scientific evidences. The in-depth interviews reflected confusion among the participants.

Conclusion: Prescribers in Pakistan are very much reliant on the pharmaceuticals for much of the drug information. Therefore, we need to teach our doctors the art of critical appraisal of all drug promotion materials during their training and empower them with the knowledge of drug act. Government drug regulatory authority should work along with the regulatory sections of pharmaceuticals to ensure implementation of the advertising code and to update or modify the ethical criteria which most of the pharmaceuticals considered sensitive. This is a unique study in our context to assess the ethical and qualitative contents of the drug promotional advertisement materials.

Keywords: Evaluation, Advertisements, Pakistan

15.130**UNINTENTIONAL FALL RELATED INJURIES ARE THE LEADING CAUSE OF HOSPITALIZATION AMONG YOUNG CHILDREN***Sehrish M Thanewala**Alumni, Aga Khan University, Karachi*

Objective: To determine the pattern of fall related injuries in children. Place and Duration: Pediatric ward Aga Khan University Karachi, March 1, 2006 To March 31, 2008
Patients and Method: Falls are the leading cause of injury related hospitalization among children ages 1 to 13 years. Total cases were 236 out of which 163 and 73 were males and females respectively. All patients visited emergency room then admitted in pediatric ward. Data was obtained from Health Information management system. Demographic data and relevant information were collected.

Results: 236 cases of fall related injuries were registered during the study period which constituted; 36% skull fracture, 1% rib fracture, 30% upper limb fracture, 6% lower limb fracture, 5% face injury, 6% brain injury and 16% injury to internal organs. Children under 5 years of age have a significantly higher rate of hospitalization due to falls than other age groups. In the 6 – 13 years of age group, boys have higher rates of fall-related hospitalizations; that is boys are twice more likely than girls to be hospitalized for fall-related injuries

Conclusion: As per data of fall related injuries are very high. To avoid this, there is strong need for identification of risk factors and safety measure of fall.

Recommendations: To educate families about preventive measure to avoid injuries in future.

Keywords: Injury, Fall, Children

15.132**COMPUTED RADIOGRAPHY DECREASE REJECTION RATE AS COMPARE MANUAL RADIOGRAPHY***Khalid Razzak Alwani, Gulnaz Shafiqat**Department of Radiology, Aga Khan University, Karachi*

Objective: Computed radiography decrease rejection rate as compare manual radiography method: in the year jan2008 till may2008 in clifton medical services we have done 8597 x ray manual films and in which 81 films over exposed ,48 films under exposed , 124 films having positioning error ,3 fogged film, 22 artifact , 130 other film in the total of 407 rejected films at the rejection rate 4.7% rejection rate but in sep 2008 till jan 2009 we have done 5655 films in which 4 over exposed,7 films under exposed, 6 films positioning error ,0film artifact ,7 films double print, 5 films and 12 other films rejected in the total of 41 at the rejection rate of 0.7% in the 5 months result: so in 5 month of records the computed radiography has 3.7% less rejection rate then manual radiography and its also decrease the patient repetition exposure and patient get low dose instead of repeating the x ray

Conclusion: So computed radiography is the better solution then manual radiography in term saving films and saving cost of film to increase revenue of department

Keywords: Computed Radiography, Artifact, Films Over Exposed

15.133**SCIENTIFIC BASIS FOR THE MEDICINAL USE OF BAY BERRY IN GUT, AIRWAYS AND VASCULAR DISORDERS***Anwarul Hassan Gilani¹, Fayez Jawed¹, Ambreen Rasool², Malik Hassan Mehmood¹, Khalid Hussain Janbaz¹**¹Department of Biological & Biomedical Sciences, Aga Khan University, Karachi and ²Bahauddin Zakariya University, Multan*

Introduction: Myrica nagi Thunb. (Family; Myricaceae) is commonly known as Bay berry. This study was aimed at providing the scientific basis for its medicinal use in gastrointestinal, respiratory and cardiovascular disorders using the in-vitro and in-vivo assays. When tested in mice, the aqueous ethanolic extract of Myrica nagi (Mn.Cr) produced antidiarrhoeal effect at 100 and 300 mg/kg against castor oil-induced diarrhoea. It also inhibited the total faecal output in mice stimulated with MgSO₄. In rabbit jejunum, Mn.Cr caused atropine-sensitive contractions at 0.01-0.3 mg/ml followed by relaxation at 1-3 mg/ml. It relaxed K⁺ (80 mM)-induced contractions at 0.03-1 mg/ml similar to verapamil. The Ca⁺⁺ antagonist activity was confirmed when pretreatment of tissue with Mn.Cr caused a non-parallel rightward shift in the concentration-response curves (CRCs) of Ca⁺⁺ in a pattern similar to that of verapamil. In rabbit trachea, it relaxed CCh (1 μM) and K⁺ (80 mM)-induced contractions at 0.01-5 mg/ml. For the assessment of vasorelaxant effect, it was tested in rat aortic preparations where it relaxed K⁺ (80 mM) and P.E (1 μM)-induced contractions at concentration range of 0.01-3 mg/ml. It also produced a non- parallel shift in the CRCs of Ca⁺⁺, similar to verapamil. These data indicate that Bay berry possess spasmogenic (cholinergic) and spasmolytic (Ca⁺⁺ antagonist) constituents which may rationalize its medicinal use in gut, airways and cardiovascular disorders.

Keywords: Antidiarrheal, Cholinergic, Spasmolytic, Spasmogenic

15.135**VALIDATION OF SUNLIGHT EXPOSURE MEASUREMENT QUESTIONNAIRE (SEM-Q) USING ULTRA VIOLET DOSIMETER***Quratulain Humayun, Romaina Iqbal, Rehana siddique, Iqbal Azam**Department of Community Health Sciences, Aga Khan University, Karachi*

Objectives: To develop a long and a short term sunlight exposure measurement questionnaire (SEM-Q) for assessment of sunlight exposure and to validate the short term SEM-Q in healthy adults in Karachi, using ultraviolet dosimeter
Introduction: Vitamin D deficiency has become a major public health issue worldwide. Sunlight is the main source for vitamin D and its role as an important hormone for maintaining growth

and development and fighting against various diseases is also well known. We want to assess whether people are attaining sufficient levels of exposure for adequate vitamin synthesis. An easy to administer and validated tool is currently a need of our country where majority of the population is poor and the prevalence of vitamin D deficiency is high, especially since the gold standard method is an expensive and not a convenient tool of assessing the amount of exposure to sunlight. *Methods:* A long and short term SEM-Q will be developed. A sample of 203 healthy adults of Karachi (19-60 years) will be enrolled, using quota sampling, after assessing for the eligibility criteria. Long term SEM-Q will be administered at the start of the study after obtaining informed consent. Participants will be given UV dosimeters and they will be asked to wear them on the upper right side of the body for 4 consecutive days. A short term SEM-Q will also be given along with the dosimeter to be filled daily for 4 days. A food frequency questionnaire will be administered and a blood sample will also be obtained for assessment of vitamin D levels.

Keywords: Ultraviolet Dosimeter, Vitamin D, Quota Sampling

15.136

EFFECT OF INDUCTION POSITION ON SYMPATHETIC, SENSORY AND MOTOR NERVE BLOCK IN ELDERLY PATIENTS UNDERGOING SPINAL ANAESTHESIA

Gauhar Afshan¹, Khurram Shahzad²
²Alumni and ¹Department of Anaesthesia, Aga Khan University, Karachi

Objective: Spinal anaesthesia may be induced with the patient in lateral decubitus or sitting position. Induction position may affect the spread of local anesthetic drugs causing various block characteristics of sympathetic, sensory, and motor nerves. The objective of this study is to compare the effect of induction position on sympathetic, sensory and motor nerve blockade characteristics in elderly patients undergoing spinal anaesthesia.

Method: A total of seventy, ASA I, II and stable III patients, aged >60 years of both genders undergoing spinal anaesthesia, were included. Patients were assigned randomly to one of the two groups. In group A spinal anaesthesia was performed in sitting position while in group B in lateral decubitus position. Assessments of sensory, motor and sympathetic nerves (heart rate, systolic & diastolic blood pressure) were done for twenty minutes. Patients were also asked about their comfort level during induction of spinal anaesthesia.

Results: No statistical differences were found for demographics and hemodynamic variables. For sensory block characteristics both the groups were well matched except onset of anaesthesia which was faster in sitting group. There was no difference in the motor block characteristic. Patients found both the positions comfortable with much satisfaction towards the lateral group.

Conclusion: Both the induction positions, sitting and lateral, have similar effects on distribution of isobaric local anesthetics

causing neural blockade however, onset of sensory blockade is faster in sitting position & patients were found more comfortable in lateral decubitus position.

Keywords: Spinal Anaesthesia, Lateral Decubitus Position, Isobaric Bupivacaine

15.137

RE-EXPLORATION FOR HEMORRHAGE AFTER CORONARY ARTERY BYPASS GRAFTING: INCIDENCE, OUTCOME AND THE ROLE OF INTRA-OPERATIVE BLOOD PRODUCTS

Saulat Fatimi¹, Mehreen Kisa², Zubair Luqman¹, Muhammed Murtaza²

¹Department of Surgery and ²Medical College, Aga Khan University Hospital, Karachi

Objective: We aimed to evaluate the incidence, risk factors and outcomes of re-exploration for bleeding after CABG in patients at a tertiary care center in Pakistan. We also looked at the impact of the use of intra-operative blood products on re-exploration.

Method: 1,464 patients undergoing isolated CABG from January 2006 to December 2008 were analyzed from our cardiac surgery database. We used multivariate logistic regression to identify risk factors for re-exploration for bleeding. A propensity match was done to assess the association of intra-operative blood products with re-exploration for bleeding and to assess the distribution of outcome variables.

Results: 69 patients (4.7%) underwent re-exploration for bleeding. Congestive heart failure left main stenosis greater than 50% and the use of non-IMA grafts were significant risk factors for re-exploration in the final multivariable model. Propensity-matched analysis showed that intra-operative use of packed red blood cells was significantly associated with re-exploration for bleeding amongst re-explored cases and propensity matched controls (p=0.006). In-hospital mortality, post-operative septicemia, cardiac arrest, prolonged need for mechanical ventilation and atrial fibrillation were significantly associated with re-exploration in propensity matched patients (p<0.05).

Conclusion: The incidence of re-exploration for bleeding in this center from Pakistan is comparable to that reported in Western studies. Severity of CAD and use of non-LIMA grafts are possible risk factors for re-exploration. Intra-operative use of packed red blood cells is a risk factor for post-CABG bleeding requiring re-exploration. Reoperation for bleeding is associated with a worse outcome.

Keywords: CABG, Re-Exploration, Hemorrhage

15.138**EARLIER VENTRICULAR SEPTAL DEFECT REPAIR:
A REASONABLE OPTION IN A DEVELOPING
COUNTRY?**

Hassaan Ashraf Zia, Muhammad Muneer Amanullah, Awaiz Ashfaq

Department of Surgery, Aga Khan University, Karachi

Objective: To assess and evaluate the effectiveness of early VSD repair in a developing country by comparing the outcomes of VSD repair in different age groups.

Method: A total of 39 patients underwent VSD repair at a tertiary care hospital in Karachi over a period of 2.5 years from July 2006 to Dec 2008. Patients were divided into Group 1 (< 2 yrs) and Group 2 (2-18 yrs). Pre-, intra- and postoperative variables were reviewed retrospectively for each patient and compared with the development of complications and the effect on postoperative recovery times. The data was analysed using Mann Whitney test for continuous variables and Fischer's exact test for categorical variables.

Results: Mean age at surgery was 10.1 ± 7.0 months and 108.5 ± 54.0 months for both groups, respectively. 2 patients encountered death which was associated with preoperative condition. Procedure time was not affected by decreasing age ($p=0.622$) but CPB ($p=0.040$) and ACx time ($p=0.063$) were significantly affected. No associated significance was obtained when hospital stay ($p=0.085$) was observed, although duration of ventilation ($p=0.000$) and length of ICU stay ($p=0.003$) were very highly significant with increasing age. Presence of residual VSD ($p=0.025$) was also significantly affected by increasing age. There was no significant difference in complications ($p=1.000$) among the 2 groups.
Conclusion: Age does not increase mortality rates after VSD repair although postoperative recovery times are increased with decreasing age. This does not justify delaying VSD repair.

Keywords: VSD, Surgical Repair, Early Intervention

15.139**GENTAMICIN USE AND HEARING LOSS IN CHILDREN
OF SQUATTER SETTLEMENTS OF KARACHI-A
COHORT STUDY**

Urooj Fatima¹, Syed Asad Ali¹, Iqbal Azam², Sarah Saleem²
Department of¹ Paediatrics & Child Health, and² Community Health Sciences, Aga Khan University, Karachi

Objective: To determine the increased risk of hearing loss associated with Gentamicin exposure in first 60 days of life in children of 6-59 months of age in squatter settlements of Karachi.

Background: Gentamicin's ototoxic effect in adults is well known but this toxicity potential is less clear in children. Studies done to assess Gentamicin's adverse effect in children showed controversial results. Different populations of children vary in risk of hearing loss after Gentamicin exposure due to different genetic susceptibility and distribution of unknown factors. In Pakistan a number of children suffer from sepsis in first two months of their life, Gentamicin has been

extensively used in the management and there is no evidence that Gentamicin use in management of sepsis in Pakistani neonates is safe. **STUDY Design:** Retrospective Cohort study
Methods: 115 children who were exposed to intramuscular Gentamicin in their first 60 days of life and 115 children who were not exposed to Gentamicin will be recruited from available records. Auditory function of both the groups will be assessed by Brainstem Evoked Response Audiometry (BERA).

Results: It is anticipated that children who receive Gentamicin in first 60 days of their life have more auditory dysfunction than non-exposed.

Conclusion: Gentamicin use in neonatal is associated with increased risk of in children so it should be used cautiously and if needed should be replaced with available good alternatives.

Keywords: Gentamicine Effect on Hearing Ability, Antibiotics Use in Chldhood Sepsis, Gentamicin and Auditory Loss

15.140**EFFECTIVENESS OF PREMEDICATION ON ANXIETY
AND SEDATION LEVEL IN PAEDIATRIC PATIENTS
COMING FOR CONGENITAL HEART SURGERY**

Mohammad Hamid¹, Mansoor Ahmad Khan¹, Mohammad Hamid², Muneer Amanullah²

Departments of¹ Anaesthesia and² Surgery, Aga Khan University, Karachi

Background/Objective: Surgery in children is associated with emotional, psychological and physiological changes during perioperative period. These changes become more pronounced in congenital heart surgery patients. Effective premedication is of utmost importance in these children to improve outcome. Midazolam and chloral hydrate are commonly used for premedication at our institution but the timing, adequate dose and effectiveness of these drugs needs to be addressed. Present study was conducted to see and compare the effectiveness of two premedication on anxiety and sedation at various stages of preoperative period. **METHODOLOGY** In this prospective audit, thirty patients between the ages of six month and six year were given either chloral hydrate (Group C) or Midazolam (Group M) preoperatively. Documentation included demographics, level of anxiety and sedation in the presence of parent, at the time of separation from parent and at the time of mask application.

Results: Out of total 30 patients, 21 (70%) were male and 9 (30%) were female. 7 patients were given midazolam while 23 patients got chloral hydrate. Six patients (20%) were tearful and anxious. 9 patients in group C were well sedated at the time of separation. At the time of mask induction 13 patients were combative and start crying. Higher dosage was suggested in these patients.

Conclusion: Chloral hydrate provides better control of anxiety and sedation at the time of separation from parent when compared with Midazolam. Higher doses were required to keep these patients calm and peaceful at the time of mask application for inhalation induction.

Keywords: Congenital Heart Disease, Sedation, Premedication

15.141

OPTIMIZING THE STANDARDS OF PATIENT CARE IN HEMODIALYSIS UNIT THROUGH INNOVATIVE NURSING APPROACH

Saima Allauddin Qamruddin
Nursing Education Services, Aga Khan University, Karachi

Objective: Cardiac mortality is the leading cause of death in dialysis patients, with cardiac arrests being most frequent. Our purpose was to determine the epidemiology, predictors and outcomes of calls for CPR occurring in AKU Hemodialysis unit. In addition, identify core issues and propose effective staff training to decreasing the number of codes.
Method: We reviewed retrospectively all calls for CPR occurred between January -December 2008. Dialysis sessions performed in critical care areas were not included.

Results: A total of 20 calls occurred over 1221 sessions. Statistically significant predictors to have a call for CPR were ischemic heart disease, heart failure, sepsis, male gender and CRF patients. 60% event occurred during Hemodialysis, 20% immediately after dialysis and 20% before starting Hemodialysis. 05 were true arrests; Arrhythmias were identified in all patients. There were 3 deaths (30%) and 2 (20%) expired within 48 h; 1 patient (20%) was alive at 30 days and discharged from the hospital. After the arrest all cases, were reviewed to identify the causes which were found to be incomplete pt. assessment (50%), long waiting time (20%), inability to pick early warning signs (40%) and timely initiation of BLS (45%).

Conclusion: The study confirms that adequate staff training, policy amendments and protocol implementation is needed. Therefore, staff training has been initiated, monthly code blue mock drill, medication quiz and early warning signs recognition started. As a result, till 1st Quarter 2009 4 rush call received out of which only 1 pt. was electively intubated.

Keywords: Cardiac Arrest; Cardiopulmonary Resuscitation, Hemodialysis, Mortality

15.142

PATIENTS' TEACHING AND THEIR PREPAREDNESS FOR DISCHARGE AFTER A DAY SURGERY

Raisa B. Gul¹, Nuzhat Sultana²
¹School of Nursing and ²Alumni, Aga Khan University, Karachi

Objective: The concept of day surgery has been introduced to bring efficiency; however, the success of day surgery is strongly associated with patients' preparedness for self-care at home. This paper presents findings of a study that aimed to explore the process and content of patients' discharge teaching for self-care at home after receiving their discharge teaching on a surgical day care unit (SDCU).

Method: Following an exploratory descriptive approach, 60 patients, who had undergone a day surgery at a private tertiary care institution, comprised the study. Using a structured checklist and a questionnaire, data was collected through participant observations and patients' interviews respectively.

Both descriptive statistics and manual analysis were performed to interpret the data.

Results: The findings revealed that none of the patients received complete information on all the required aspects of teaching to prepare them for self-care at home. Doctors and nurses both were involved in discharge teaching, but it was fragmented and uncoordinated. In most of the cases, verbal information was provided to the patients and or their family members at the unit reception counter. Although 58% of the patients expressed satisfaction with the instructions for self care at home, 95 % of all patients had questions/concerns about various aspect of care including their pain management; take home medications, and wound care.

Conclusion: The findings indicate that patients discharge teaching for self-care after a day surgery has much room for improvement. Therefore, it calls for an urgent attention of hospital management to improve the discharge teaching process in the SDCU.

Keywords: Discharge Teaching, Day Surgery, Patient Preparedness

15.143

SIGNIFICANCE OF MRI BREAST PRIOR TO TREATMENT IN PATIENTS WITH PRIMARY BREAST CANCER

Gulnaz Yasmeen Shafqat¹, Shaista Khan², Imrana Masroor¹,
Shaista Afzal¹
Department of ¹Radiology, and ²Surgery, Aga Khan University, Karachi

Objective: Purpose of the study was to determine the role of magnetic resonance imaging of breast as an additional tool in ipsilateral and contralateral breast in patients with primary diagnosed breast cancer

Method: This is a retrospective analysis of 40 patients (age range of 24-66 years with the mean age of 40years) with biopsy proven primary breast cancer that underwent contrast enhanced MRI breast. MRI imaging was done at 1.5 tesla machine with dedicated bilateral breast multicoil array. Data was collected from Jan 2007-Jun 2009. In ipsilateral breast enhancing lesions with type II or III curve other than the index cancer considered as multicentric disease. Contralateral breast was also evaluated for enhancing suspicious lesion. All visualized suspicious lesions in ipsilateral and contralateral breast were correlated histologically. In case of breast conserving surgeries and in contralateral breast follow-up were also reviewed where available.

Results: In ipsilateral breast suspicious lesions other than the index cancer were in 8 patients (20%). 5 (12%) lesion were malignant on histopathology Four (10%) patients had suspicious enhancing lesions in contralateral breast on MRI. In two patients (5%) lesions were malignant on histopathology. One was infiltrating ductal carcinoma and other was lobular carcinoma. The sensitivity of MRI was 88% in detecting multicentric disease and 100% for contralateral breast. For index lesion sensitivity and specificity of MRI was 98% and 90% respectively. Negative contralateral breast on MRI one to two follow ups yearly by mammography was available in

26 patients. No significant difference in BIRADS was noted since previous scan in all of them

Conclusion: The preliminary results demonstrate that MRI identified additional sites of cancer in 17% of patients. The yield was highest in women under the age of 35 years (15%). Thus MRI breast is recommended for preoperative evaluation of the newly diagnosed breast cancer in young patients.

Keywords: Primary Breast Cancer, Locoregional Staging In Breast Cancer,, Mri Breast

15.145

THE CORRELATION BETWEEN INTERNATIONAL PROSTATE SYMPTOMS SCORE (IPSS) AND SEXUAL HEALTH INVENTORY FOR MEN (SHIM) IN MEN WITH LOWER URINARY TRACT SYMPTOMS

Abdul Razaq Nasir, Farhat abbas, Ali Akbar Zehri, Hammad Ather

Department of Surgery, Aga Khan University, Karachi

Objective: To asses the Correlation between International Prostate Symptoms Score (IPSS) and Sexual Health Inventory For Men (SHIM) in men with Lower Urinary Tract Symptoms
Background: Lower urinary tract symptoms (LUTS) is a condition that commonly affects older men and is often associated with erectile dysfunction (ED). The International Prostate Symptoms Score (IPSS) and the Sexual Health Inventory for Men (SHIM) are commonly used, validated instruments for LUTS and ED respectively. Although, the association between LUTS and ED is established, the objective of our study was to quantify the linear association between the LUTS and ED.

Method: A total of 585 men, 40 years and above who presented with LUTS were prospectively enrolled into the study. They completed the SHIM and the IPSS questionnaires. The self-administered IPSS and SHIM questionnaires were translated in the local language (not validated yet) as well. The obtained data was analyzed using SPSS version 13.0. The Correlation coefficient between IPSS and SHIM scores were determined and the scatter diagram was made.

Results: The mean age of the patients was 59.61 + 11.75 years. The correlation between age and ED was statistically significant (p-value <0.001) with coefficient of 0.376. The correlation between age and LUTS was statistically significant (p-value <0.001) with coefficient of 0.312. Additionally, the correlation between ED and LUTS was statistically significant (p-value <0.001) with coefficient of 0.336.

Conclusion: There was a significant correlation between the severity of LUTS and ED. Our study has quantified the strength of relationship between LUTS and ED

Keywords: IPSS, LUTS, Correlation

15.146

ROAD TRAFFIC INJURIES IN KARACHI

Saima Allauddin Qamruddin

Nursing Education Services, Aga Khan University, Karachi

Objective: Identify those patients' coming to ER with history of Road Traffic accident within 24 hours and will be treated in the Section of Emergency Medicine, Aga Khan University Hospital from February to July 2008. This study is to evaluate and explore the number of trauma patients gender, alive or death, their mean age, types of vehicles, severity of injury and number of patients admit, discharge or others.
Method: The study population will comprise of all the patients visited ER with the history of road traffic accidents/ injuries within 24 hours. The 75 patients were selected for the study over the period of six month. The descriptive method and random sampling was applied. The data will be collected from the record combined from the medico legal book, emergency registration record and patient confidential file will be reviewed and analyzed via SPSS, by using bar graph or pie chart to compare the number of injuries, death, mean ages and vehicle used.

Results: Pedestrian and motorcyclist were the most common victims of injury. Total 304 patients visited ER with the history of road traffic accidents/ injuries within 24 hours over the period of 6 months. The total numbers of females were 12%, males 88%, the types of vehicle are high speed motorbike injury 40%, car vs. object or vehicle 32%, pedestrian vs. vehicle 19%, others include rickshaw rolled over 9%. Out of N=75, the mean age people injured ranges from 20-40yrs. The total number of patient admitted 49, transfer 4, discharges 14 and LAMA 8, due to financial reasons. 31% admitted in neurology service, 22% under surgery, 20% orthopedic, and 27% others (small laceration, plastic surgery, ENT or D/C). In addition, in whole study the only 4% people are identified who drive under alcohol consumption and may be few cases under reported.

Conclusion: In conclusion, the specific interventions will be needed to improve the quality of training of vehicle riders as it disproportionately affects daily wage earners. Addressing issues such as high speeding motorbike, age factors and driving under the influence of alcohol; promoting the use of helmets, ensuring that people use Z-crossing while crossing road and improving emergency response services to reduce the number of death and injuries.

Keywords: Trauma, Road Traffic Injuries, Type of Vehicle

15.147

QUANTITATIVE ANALYSIS OF THE CAUSES FOR PROLONGED CARDIAC INTENSIVE CARE UNIT STAY

Saulat H Fatimi, Marium Muzaffar, Shumaila Furnaz, Hashim M Hanif

Department of Surgery, Aga Khan University, Karachi

Objective: Prolonged Cardiac Intensive Care Unit (CICU) stays depict a crucial aspect in the morbidity and mortality of patients along with utilizing the resources of a hospital.

Recently there have been increased deliberations to provide better patient care at lower prices and decreasing intensive care unit stays presents as an imperative way of enabling so. The evidence for risk factors associated with prolonged CICU stay is scarce and conflicting with added difficulty of differences in the end points assessed. Hence our objective was to identify risk factors associated with CICU stay >72 hours in patients undergoing isolated coronary artery bypass grafting at Aga Khan University Hospital (AKUH), Karachi, Pakistan.

Method: Adopting case/control study design, 67 eligible cases were identified from prospectively maintained database at Cardiothoracic Surgery section of AKUH from Jan 2006 – Mar 2008. A random sample of 129 controls was also drawn.

Results: Groups were comparable in terms of gender smoking status and diabetes mellitus however differed in age and BMI. Logistic regression analysis was applied. Adjusted OR and 95% CI were calculated for independent risk factors of prolonged CICU stay. Sepsis [OR (95%CI)] [236.9 (9.8 – 5704)]; Inotropic support for >24 hours [OR: 21.8 (7.0 – 67.8)]; Ventilatory support for >24 hours [13.9 (4.0 – 48.3)]; Renal dysfunction [8.7 (2.5 – 30.1)]; Respiratory disease [7.2 (1.2 – 42.4)]; Prior MI [5.1 (1.3 – 20.7)]; were found to be associated with prolong CICU stay.

Conclusion: Amongst identified risk factors sepsis is modifiable. Others help anticipate CICU stay for certain patients resulting in better decisions for efficient resource utilization.

Keywords: Prolonged Cardiac Intensive Care Unit stay

15.148

SELF AWARENESS AND PARTICIPATORY APPROACH TO WOMEN'S EMPOWERMENT

Kausar S Khan, Ayesha Aziz, Sheila Ali
Department of Community Health Sciences, Aga Khan University, Karachi

Introduction: Communities can be mobilized for collective action. Twenty years of community based experience of Department of Community Health Sciences (CHS) AKU has shown that participatory approach gradually brings people together for collective action. The challenge is whether the newly formed groups remain self-directed as the outsider begins to withdraw. In 2007 a participatory process initiated by AKU, under the aegis of a women's empowerment project led to the formation of women's groups in 3 urban and 1 rural site. It was expected that the groups would continue to work on their priority areas with minimal external support. As actions were not forthcoming, Cognitive Behavior Group Therapy (CBGT) was offered to women of two urban groups. The mental health professional who administered CBGT recommended that CBGT should be introduced early in the participatory process as it helps women look at the subconscious perceptions that control their behavior. After eleven CBGT sessions 3 out of 10 women from the two groups

forged forward and took decisions and acted on them that indicated a break through internalized control mechanisms. This poses questions for all those working at the community level and committed to women's empowerment through the participatory approach. Should CBGT or any other form of self-awareness be integrated in the participatory approaches? Which should come first? It would be worthwhile to compare short and long term outcomes of self-awareness and participatory sessions in community based work.

Keywords: Self-Awareness, Participatory Approach, Community

15.149

PROPORTION OF PATIENTS WITH DELIRIUM, ITS PREDICTORS AND OUTCOMES AT THE AGA KHAN UNIVERSITY HOSPITAL

Saniya Sabzwari, Mughis Sheerani, Dileep Kumar
Department of Family Medicine, Aga Khan University, Karachi

Background: Delirium is seen in about one third of all sick elderly patients. Delirium a major geriatric syndrome, is mostly seen in the emergency room, intensive care and post-operative settings is associated with higher morbidity and mortality, longer hospital stay. Despite its high prevalence, delirium remains unrecognized. Identified risk factors for delirium are prior delirium episodes, sensory impairment, psychoactive drugs, dementia, chronic depression and prior functional status. In our hospital about one fifth of all admissions are of patients 65 years or older.

Methods: A retrospective chart review of all patients 65 years and older admitted in 2009 in Aga Khan University Hospital is in process. Data is being collected on a questionnaire obtaining patients demographics, principal diagnosis, comorbidities, hospital course and functional status. Presence or absence of delirium was identified through key words and comprehensive chart review. Patients with delirium will be further assessed for presence of known predictors and medical and functional outcomes. Comparison of patients with and without delirium will be done using the defined variables. Students t test or chi square will be used as appropriate. *Results:* 22% of patients had delirium during their hospital stay. Infection was the leading cause of delirium accounting for 52% of all cases followed by metabolic at 26%. *Conclusions:* Delirium rates are high among elderly patients admitted to our hospital. Infections and metabolic disturbances were the most common risk factors for the development of delirium. Further analysis is required to establish association of delirium with final patient outcome and cost of hospitalization.

Keywords: Delirium, Confusion, Elderly

15.150 JOURNEY TOWARDS DEATH: A SYSTEMATIC LITERATURE REVIEW

*Erum Jewani, Nasreen Alwani, Saira Momin
Nursing Education Services, Aga Khan University, Karachi*

Purpose: The purpose of this study was to review recent literature to identify the needs of dying patient and summarize the strategies which can be helpful in providing quality care to such patients.

Background: The dying process has influential effects on the individuals who are experiencing death and the people who bear witness to those deaths. Palliative care involves a specific concept of care with the central focus on life and the goal of optimizing quality of life by not only involving complex drug regimen but it also involves honesty and compassionate conversations with family members

Methodology: A systematic search of the literature was performed using Science Direct, Pub med & Lippincott William & Wilkins Ovid for the period of January 2005 through to December 2009. A total of 25 studies met the inclusion criteria. Results: The literature review indicates that terminally ill patients are rarely addressed in term of physical, spiritual and emotional needs. In dying patients certain needs arise with some degree of frequency for example: physical and emotional well being, adequate communication, friends and family, few literatures also supports that sometime patients want their pets, a particular aroma or being outside. Combination of different strategies are encouraged in the literature which includes; effective pain management, Red Towel Strategy, creating safe environment, motivational interviewing, sequential treatment, dignity therapy and maintaining their pride. The implementation of above mentioned strategies will help healthcare provider to make patients' journey towards death more peaceful.
Conclusion/recommendation: To accomplish the said objectives, clinicians and researchers have listed above mentioned recommended strategies, to ensure that patients enjoy life as much as possible even in the face of death.

Keywords: Palliative, End of Life, Quality Life

15.152 EXERCISE INTERVENTION IN FEMALE SCHOOL CHILDREN; AFFECT ON

Aysha Almas¹, Tazeen Jafar², Fatehali Tipoo¹, Muhammad Islam²

*Departments of¹Medicine, and²Community Health Sciences,
Aga Khan University, Karachi*

Objective: The 2000 dietary guideline recommends that physically active lifestyle in children include weight control, lower blood pressure, improved psychological well-being, and a predisposition to increased physical activity in adulthood. American Heart Association(AHA) and American Academy of Pediatrics recommends that Schools should ensure that all children and youth participate in a minimum of 30 minutes of moderate-to-vigorous physical activity during the school day.therefore conducted this study to compare the affect of

5 months of recommended physical activity on blood pressure in female school children (9-11 yrs) with those who have routine physical activity. In addition , we aimed to assess the impact of recommended physical activity on body mass index (BMI), waist circumference triceps skin fold , sub scapular skin fold and maths scores. We also aimed to see whether such an exercise intervention programme was feasible in a school setting.

Method: The study was a non-randomized cluster trial (Community intervention trial) of physical education intervention. It was conducted in 4 public sector girls' schools in Karachi out of which 2 schools each were taken as intervention and controls. All students of aged 9-11 years were eligible. The intervention was 30 minutes of recommended physical activity; 4-times/ week for a period of 5 months. Primary outcome measures were I) Change in systolic blood pressure (End of followup minus baseline) ii) Change in diastolic blood pressure (End of followup minus baseline) . Secondary Outcome Measures were Changes (End of followup minus baseline) in BMI, waist circumference, triceps skin fold, sub scapular skin fold, midarm circumference and academic performance assessed by maths scores.

Results: A total of 360 participants were approached in the 4 schools (180 in Intervention Schools and 180 in control schools). Out of these 154 and 144 consented from intervention and control schools respectively The change in systolic BP (End of follow up minus baseline) was -3.72 mm v -1.84mm (p value 0.17),and in diastolic blood pressure -1.91 mm v -3.92 mm(p value 0.12) in the intervention and control arm respectively. The change in secondary outcome measures (End of follow up minus baseline) were; Maths scores -2.23 v -2.67 (p value 0.73), BMI + 0.23 kg/m² v + 0.97 kg/m²(p value 0.01) and waist Circumference +1.2cm v -0.59 cm (P value<0.001) in the Intervention and control arm respectively. (+ indicates increase and - indicates decrease)

Conclusion: A 5 months recommended physical activity programme showed no significant impact on blood pressure levels of girls. Effect on skinfolds, maths scores were also nonsignificant while effect on BMI and waist circumference were in the opposite direction. However it did show the feasibility of such a physical activity programme in a girls' school in urban Pakistan

Keywords: Hypertension, Physical Activity, Waist Circimfrance

15.153 UNIVERSAL PRECAUTIONS: COMPLIANCE BY HEALTH CARE WORKERS AT FIRST LEVEL CARE FACILITIES IN RURAL AREAS OF SWABI, IN NORTH WEST FRONTIER PROVINCE OF PAKISTAN

*Muhammad Tahir¹, Amna Rehana Siddiqui², Naveed Janjua,
Shafquat Rozi³*

¹Alumni, ²Departments of Community Health Sciences, Aga Khan Univeristy, Karachi, and ³British Columbia Center for Disease Control Vancouver, Canada

Objective: Health care workers (HCW) are at risk of acquiring blood borne infections such as Human immune deficiency virus (HIV), Hepatitis B (HBV) and C (HCV) viruses. To

reduce this risk they essentially have to follow universal precautions (gloving, gowning, hand washing, sharp disposal) recommended by Centers for Disease Control (CDC) USA. Significant reductions in occupational exposure to Blood-Borne Pathogens (BBP) are reported with use of universal precautions. A large number of injections are being administered in first level care facilities (FLCF) in Pakistan; many run by unqualified (non-licensed) practitioners in a rural setting. Risk to HCWs in such clinics also differ from those working in secondary or tertiary level care facilities based on lack of; availability of resources, infection control guidance, training, knowledge, and qualifications. These HCWs face a greater risk of occupational blood borne infections; especially when not complying with universal precautions practices. This study assessed the factors associated with compliance to universal precautions for blood borne pathogens using six constructs of health belief model (HBM) among Health Care Workers at clinics in a rural Tehsil Swabi in North West Frontier Province (NWFP) of Pakistan. *Method:* A cross sectional study was conducted in HCW working at FLCF in Tehsil Swabi, NWFP Pakistan. A random sample of 370 clinics, stratified on type of clinic; i) Government based Public clinic (PC), Privately owned ii) Licensed Practitioners' clinic (LPC) and iii) Non-licensed practitioners' clinic (NLPC) were selected. A pre-tested questionnaire; determined the knowledge regarding modes of transmission of BBP, and responses (on likert scale) for constructs of HBM model (perceived susceptibility to BBP, disease severity, self efficacy, benefits of practicing UP, barriers to practicing UP, cue to action) and practice of UP. F test of significance was used to assess the association between score of UP and covariates. Multiple linear regression was used to adjust for confounders.

Results: Overall, "always or often" compliance with all the components of UP was 6.6%. Assistants were more compliant (9.8%) as compared to prescribers (5%). Cumulative knowledge regarding modes of transmission of BBPs, self efficacy, perceived benefits and susceptibility to BBPs were positively correlated with compliance to UP; adjusted Beta coefficient and 95% CI were 0.69(0.54,0.84), 0.6(0.28,0.93), 0.4(0.05,0.75) and 0.25(0.004,0.49) respectively. Barriers in practicing UP and perceived disease severity were negatively related with compliance to UP; Adj.β -0.28(-0.41,-0.15) and -0.37(-0.62,-0.11) respectively.

Conclusion: Compliance of HCWs with UP was directly related to knowledge of transmission, and five constructs of health belief model (HBM). Compliance with UP among HCWs in rural clinics of Swabi can be improved by increasing modes of transmission knowledge of BBPs, self efficacy, perceived benefits, susceptibility to BBPs, and by minimizing the barriers in practicing UP.

Keywords: Universal Precautions, Health Belief Model, First Level Care Facilities

15.154

A PILOT STUDY: EFFECTIVENESS OF PLAY ON EARLY CHILDHOOD DEVELOPMENT-CHILD TO CHILD APPROACH IN TANDO JAM, SINDH

Anjum Yameen¹, Jim Irvine², Ghazala Rafique¹, Sanober Nadeem¹

¹Department of Community Health Sciences, Aga Khan University, Karachi and ²UNICEF, Kenya

Objective: Child care is not the sole responsibility of mother; older siblings play crucial role in younger children's development. The interaction that takes place among children when playing games is an integral aspect of child-to-child approaches. The aim of this pilot study was to enhance child development of younger children by involvement of older siblings in playing activities conducted in Tando Jam Sindh, Pakistan. However large scale study would be plan. *Method:* A total of 12 children aged 8-12 years were selected having younger siblings 3-6 years old. These older children were able to read, write and willing to spent regular time with young siblings. The children were trained for local games, poems and other activities. All trained children spent average 30mints for one month with younger children in playing activities. Initially supervisors observed activities in children's homes then older children started to do by themselves and maintained diaries to record daily play activities. A checklist was prepared and pretested for pre and post assessment of younger children.

Results: A total of 18 children 3-6 years old (11girls and 7 boys) were included in this study. Positive change occurred after one month of intervention, all children showed improvement in pre and post assessment in all activities like throws ball (33% to 78%), matches colours (83% to 100%), difference of large and small objects (83% to 100%), copy a triangle (28% to 44%) knows own sex (94% to 100%), knows father's name (89% to 100%), use of past tense in language (50% to 67%) showed high improvement.

Conclusion: Study demonstrated that child-to-child approach can play an important role in younger's life. Older children interaction with younger children through play improved their abilities.

Keywords: Child to Child, Early Child Development, Play

15.155

OPERATIVE NOTES AT SURGICAL UNITS OF A TERTIARY CARE HOSPITAL IN KARACHI, PAKISTAN

Muhammad Umar Rais Khan¹, Saeed Ahmed², Muhammad Shahid Shamim², Maimoona Azhar³, Shafiq ur Rehman²
Departments of ¹Medicine, ³Paediatric & Child Health, Aga Khan University and ²Civil Hospital, Karachi

Background: Operative notes in a patients record is an important document for managing care as well as future references. These notes are mostly written by one of the junior most members of the operating team, which makes it highly vulnerable to missing required information.

Aim: To assess the quality of operative notes in general surgery procedures at Civil Hospital Karachi, Pakistan.

Method: A retrospective observational survey conducted at Civil Hospital Karachi, Pakistan, where operative notes for all procedures are typed and saved in a data retrieval system (Health Management and Information System, DOTS'78). A pro-forma was designed in accordance with the standards prescribed by Royal College of Surgeons of Edinburgh (RCSE) for taking down surgical case notes. 100 consecutive operative notes were studied and a pro-forma was filled for each. These were then compared with the prescribed standard for completion of documentation. The data was analyzed on SPSS 13.

Results: out of a total of 110, 99 had operating surgeons name mentioned, however, the time of surgery was missing in all. Approximately half of the notes surveyed did not mention the incision type, while operative diagnosis was mentioned in 92% of the notes. Post operative instructions were mentioned in 89% of the notes reviewed.

Conclusion: There is a need to emphasize on training and implementation of standardized operative notes documentation.

Keywords: Post Operative Notes, Surgical Case Notes, Computer Operative Report

15.157

UNDERSTANDING THE MOLECULAR BIOLOGY OF THE SULFOLOBUS SPINDLE SHAPED VIRUS-1 (SSV1)

Yousuf Aqeel, Junaid Iqbal, Sohail A Qureshi
Department of Biological & Biomedical Sciences, Aga Khan University, Karachi

Introduction: Sulfolobus spindle shaped virus (SSV1) infects various Sulfolobus species of Archaea and is found in many acidic hot springs (i.e., pH ~4 and 70°C). SSV1 virions are lemon-shaped, approximately 60x100nm in size, and contain a 15,456 bp dsDNA genome that encodes 34 ORFs. SSV1 was first isolated from Sulfolobus shibatae in which it is stably integrated in the tRNA^{Arg} gene. Stimuli that damage DNA are known to promote SSV1 replication and production. Although SSV1 was identified 20 years ago nothing is known about the functions of 29 SSV1-encoded proteins during viral infection, integration, excision, transcription, and DNA replication. As a first step towards deciphering the functions of each of the 29 proteins, we have cloned all the 34 ORFs, expressed them in E. coli and generated polyclonal antibodies against each of the purified recombinant proteins. These antibodies are currently being employed for studying the expression patterns of their respective antigens after inducing DNA damage in Sulfolobus shibatae by mitomycin-C. Recent data obtained from this ongoing work will be presented.

Keywords: Archaea, Sulfolobus, SSV1

15.158

SHOULD CHRONOLOGICAL AGE BE A CONSIDERATION FOR EARLY POSTOPERATIVE OUTCOME AFTER MAJOR COLORECTAL SURGERY?

Hassaan Bari, Rizwan Khan
Department of Surgery, Aga Khan University, Karachi

Objective: Age has received increasing multidisciplinary attention as a prognostic factor for postoperative complications. However, suitability of surgical candidates based on age has been traditionally the source of controversy. Age, however, is a major risk factor for the development of cancer, with the incidence of carcinomas increasing with advancing age. The incidence of carcinoma of the colon and rectum peaks in the seventh and eight decades of life, with only 5% recorded in those younger than 40 years. Older patients usually presents with a coexisting disease leaving the surgeon to decide whether the patients might endure gut resection as the best therapy or whether in cases with too high risk, other less straining therapies might be chosen. The aim of this study was to evaluate the impact of age on early postoperative outcomes and whether old age itself is a predictor of systemic complications after colorectal cancer surgery.

Method: Patients with pathologically confirmed Colorectal Cancer who had undergone primary surgery at the Aga Khan University Hospital (AKUH) Karachi, Pakistan, between January 1999 and December 2008 were identified from the medical records maintained in the Department of Health Management and Information System. They were divided into two groups on the basis of chronological age: = 70 years (Group I, elderly patients) and < 70 years (Group II). Clinical and pathologic characteristics of these cases were recorded, with the help of a detailed performa. Data were analyzed using Statistical Package for Social Sciences (SPSS version 11.0).

Results: A total of 271 patients underwent surgical treatment for pathologically confirmed primary Colorectal Cancer, during the study period, out of which 56 patients were = 70 years (Group I) and 215 were < 70 years old (Group II), at the time of surgery. In Group I 73.2% patients were male and the mean age was 75.6 years (range 70 to 88 years), whereas in Group II 63.3% patients were male and the mean age was 50.1 years (range 15 – 69 years). Presence of co morbid (Group I: 82.1%, Group II: 45.1%, p= 0.00), higher ASA levels (Group I: 53.6%, Group II: 28.4%, p= 0.00) and Charlson score of 3 and above (Group I: 96.4%, Group II: 11.6%, p= 0.00) were the three significant factors, more frequently recorded amongst the elderly patients when compared to Group II patients. The postoperative complication rate for overall study was 36.2% (n= 98). In Group I 41.1% patients developed postoperative complications compared to 34.9 % of Group II (p = 0.39). Although there was no significant difference in the development of postoperative surgical complications between the two groups (p= 0.39), but the systemic postoperative complications differed significantly (Group I: 28.6%, Group II: 17.2%, p= 0.05). The postoperative 30–day mortality rate was 7.1% in Group I compared with 0.9% in Group II (p= 0.00).

Conclusion: Age itself is not a risk factor for the development of postoperative surgical complications. However postoperative

systemic complication rates were significantly high in elderly patients, in this study. Even with regard to systemic complications, co-existing co-morbidities and its severity is much better predictor of outcome, compared to age alone. The present study suggests that surgery should be the primary treatment option for colorectal cancer, in the geriatric population too, provided each patient should be assessed individually, associated co-morbidities should be controlled to optimal levels, special attention should be given to compensate any preoperative nutritional deficiencies and emergency surgeries should be avoided, if possible, by elective planning.

Keywords: Chronological, Morbidity, Colorectal Cancer

15.159
EFFICACY OF COMPUTED TOMOGRAPHY IN
DIAGNOSING THE PRESENCE AND ETIOLOGY OF
MECHANICAL BOWEL OBSTRUCTION: OUR FIVE
YEAR EXPERIENCE AT A TERTIARY CARE HOSPITAL
IN KARACHI, PAKISTAN

*Omaid Shakil¹, Inam Pal², Dr Zia-ur-Rehman², Sarah Saleem³,
Rehmatullah Khan¹*

¹Medical College, Departments of ²Surgery, and ³Community Health Sciences, Aga Khan University, Karachi

Objective: Radiographic imaging, especially CT scan, can play a vital role in clinical decision-making in patients suspected of having intestinal obstruction. In the setting of a developing country, however, a CT scan requires significant financial and healthcare resources. Our objective is to assess the effectiveness of CT in detecting the presence and etiology of mechanical bowel obstruction.

Method: We conducted a retrospective review of patient medical records at Aga Khan University Hospital, Karachi, from 31st December, 2003 to 31st December, 2008. All patients aged >18 years, who had undergone an exploratory laparotomy for any reason, and had a pre-operative CT scan, were selected. The study questionnaire collected information on demographics, clinical presentation, and in patients with bowel obstruction, the level and etiology of obstruction from both the CT scan and operative notes. Data was entered and analyzed in SPSS version 17.0.

Results: The sample was 271 patients with a mean age of 46 years. The CT scan had correctly predicted mechanical bowel obstruction in 94 of the 104 surgically proven cases (93% sensitivity). Of 167 patients with a surgical diagnosis other than obstruction, the CT scan had correctly ruled out obstruction in 155 patients (specificity 94%). The positive and negative predictive value of CT scan for mechanical bowel obstruction was 89% and 96%, respectively. CT correctly diagnosed the cause of obstruction in 44% of patients.

Conclusion: The CT scan is highly sensitivity for detecting intestinal obstruction. However, its ability to detect the etiology of obstruction is limited. In the setting of a developing country, it should be used judiciously

Keywords: Intestinal, Obstruction, Computed Tomography

15.160
OCCUPATIONAL EXPOSURE TO NEEDLE STICK
INJURIES AND THEIR ASSOCIATED FACTORS AMONG
HEALTH CARE WORKERS IN A DEVELOPING
COUNTRY

Ammet Kumar¹, Asad Ali Afridi², Ali Khan Khuwaja³
¹Dow University of Health Sciences, Karachi, Departments
of ²Community Health Sciences, and ³Family Medicine, Aga
Khan University, Karachi

Objective: This study was aimed to assess the proportion of NSIs and their associated factors among HCWs and also to identify the areas in which preventive efforts might be directed to protect against this occupational hazard.

Method: A cross-sectional study was conducted in two tertiary care hospitals of Pakistan representing both private and public health sector. During the months of January to May, 2008, trained medical graduates interviewed 497 HCWs (Doctors and Nurses) who were working in those particular hospitals for > one year and willing to participate in the study.
Results: Overall, 63.6% of the HCWs were exposed to at least one NSI during his/ her career; among them 73.4% reported NSIs for two or more times. Factors found to be highly associated with NSIs were those practicing this occupation for > five years (p<0.001: OR=5.8; 95% CI=3.4-9.8) and working as Nurse than Doctor (p<0.001: OR=1.9; 95% CI=1.3-2.8). Working in surgical specialty and being a female were also found to be associated with NSIs (p<0.05). Most commonly (54.7%) reported reason for NSIs was two-handed recapping of needle. Only, 35% of study subjects were vaccinated for hepatitis B infection. Overall, only 39.8%, 40.2%, 10.7%, 25.8% and 9.9% of study participants reported to have availability of anti-septic solutions, gloves/protective cloths, sharp/disposable containers, trays/syringe containers and infection control guidelines/protocols respectively in their working places.

Conclusion: In addition to very high rates of NSIs, low safety practices including vaccination coverage, unavailability of infection control guidelines and other preventive facilities were reported in this study. Prevention of occupational infections among HCWs should be a priority.

Keywords: Health Care Workers, Needle Stick Injuries, Occupational Exposure

15.161
PRELIMINARY REPORT: NEAR TOTAL
LARYNGECTOMY FOR SCC LARYNX

Asif Ali, Shehzad Ghaffar, Ahmad Nawaz, Naeem Sultan
Department of Surgery, Aga Khan University, Karachi

Objective: To see functional outcome of NTL and to see early results of disease control. Patients and Methods: Retrospective analysis of patients treated by near-total laryngectomy at Aga Khan University Hospital Karachi between September 2006 – November 2007. Seven Near total Laryngectomies have been done during this period for SCC of larynx
Method: The medical record of all patient with squamous cell

carcinoma of the larynx surgically at Aga Khan University Hospital between September 2006 to November 2007 were Reviewed. Seven patient whose tumor was advance T3-T4 are fulfilling the inclusion and exclusion criteria underwent near total laryngectomy.

Inclusion criteria: Advanced disease (T3/T4), Biopsy proven squamous cell carcinoma.

Exclusion Criteria: Involvement of inter- arytenoid, retro-arytenoid involvement, Involvement of more than 1/3 of uninvolved cord In the study we saw functional outcome of NTL and early results of disease control the Performa is attached which including sex, age, tumor site and TNM staging, date of surgery, date of last follow-up, disease status at last follow-up. Voice, swallowing, Aspiration scale was used to evaluation and to see the recurrence and post operative Complication.

Results: In all of these patients, disease though advanced was limited to one side of the larynx. In rest of the patients, postoperative course is unremarkable until now. None of our patient developed pharyngo-cutaneous fistula. All of these patients are on regular oral diet and maintaining their body weight. Six patients are using their preserved hemi larynx effectively for their routine communication and one patient is using oesophageal voice despite having functional hemi larynx.

Conclusion: Near total laryngectomy is a safe surgical option even for advanced laryngeal-hypo pharyngeal cancer without compromising oncological clearance. It gives patients their own physiological voice that is maintenance free but at the expense of permanent tracheostomy. Non of our patient had any major surgical complications

Keywords: Near Total Laryngectomy, Sq Cell Ca, Larynx

15.162

PHARMACOLOGICAL BASIS FOR MEDICINAL USE OF CELASTRUS PANICULATA IN CARDIOVASCULAR DISORDERS

Hasan Salman Siddiqi¹, Malik Hassan Mehmood¹, Irfan Nekakhtar², Najeeb-ur-Rehman¹, Anwarul Hassan Gilani¹
¹Department of Biological & Biomedical Sciences and
²Medical College, Aga Khan University, Karachi

Introduction: *Celastrus paniculata* locally known as “Malkangni” is a shrub which belongs to family Celastraceae and has been used in a wide variety of disorders. This investigation was aimed to provide the pharmacological basis to its medicinal use in cardiovascular disorders. Both in vivo and in vitro studies were conducted to evaluate the dose-dependent effects of aqueous-methanolic extract of *Celastrus paniculata* (Cp.Cr) on mean arterial pressure (MAP), cardiac and vascular contractions. MAP was measured in normotensive rats under anesthesia while isolated tissue experiments were carried out in atria from guinea-pigs and aortae from rabbits. When tested in rats, intravenous administration of Cp.Cr caused a dose-dependent (10, 30 and 100 mg/kg) fall in MAP. It exhibited a cardio-suppressant effect on the rate and force

of spontaneously contracting atria at the dose range of 0.01 to 0.3 mg/mL. Cp.Cr (0.01-5.0 mg/mL) relaxed the phenylephrine (PE, 1 μ M) and K⁺ (80 mM)-induced contractions in aorta. K⁺ (80 mM)-induced contractions were inhibited at a lower dose than of PE similar to verapamil. It also suppressed the PE (1 μ M) control peaks in the Ca⁺⁺ - free medium. The Ca⁺⁺ channel-blocking (CCB) activity was confirmed when pretreatment of the tissue with Cp.Cr shifted the Ca⁺⁺ dose-response curves to the right similar to the effect of verapamil. These data indicate that the antihypertensive, cardio-suppressant and vasodilator effects of *Celastrus paniculata* are mediated possibly through a CCB pathway.

Keywords: *Celastrus Paniculata*, Vasodilator, Ca⁺⁺ Antagonist

15.163

COMPREHENSIVE FRAMEWORK FOR EHEALTH EVALUATION TOOL

Shariq Khoja, Hammad Durrani
Department of Community Health Sciences, Aga Khan University, Karachi

Introduction: As eHealth spreads globally, and various technical problems are effectively addressed and mitigated; the question of its impact and whether to invest in eHealth or not becomes more important. The objective of the wider study is to develop an eHealth evaluation tool based on a conceptual framework that includes all the relevant theories for evaluation of eHealth programs. The current paper presents the framework that was developed after studying these theories, which could be translated later into an eHealth evaluation tool.
Methodology: A literature review of peer-reviewed papers was conducted Medline search was conducted for peer-reviewed articles, which revealed over 500 abstracts, white papers and documents on eHealth evaluation.

Results: The paper provides a two dimensional conceptual framework for developing the eHealth evaluation tool. The framework on the horizontal axis divides eHealth in different stages of application and planning such as development, implementation, integration, sustained operation. While on the vertical axis it identifies different themes and areas of consideration for eHealth evaluation such as Health Services Outcomes, Technology Outcome, Economic Outcomes, Socio-technical Outcomes and Ethical Considerations. The interconnections of different stages of eHealth services with the themes requires proper understanding which can be done by evaluating these stages and identify the factors which affecting its performance.

Conclusions: This paper presents a conceptual framework for developing eHealth evaluation tool to examine and measure different factors that play a definite role in diffusion and penetration of eHealth services.

Keywords: E-Health, Evaluation, Framework

15.164 SYSTEMATIC REVIEW OF TELEHEALTH RELATED OUTCOMES FROM STUDIES IN ASIA

Hammad Durrani¹, Shariq Khoja², Sajjad Ansari²
¹Alumni and ²Department of Community Health Sciences,
Aga Khan University, Karachi

Background: Evaluating telehealth outcome indicators is one way of assessing performance of telehealth applications. The paper synthesizes the scientific evidence on outcomes of telehealth reported in the different studies reported in Asia
Methodology: The present work explores the outcomes of telehealth use in Asia utilizing modified version of the Canadian National Telehealth Outcome Indicators Project (NTOIP).
Results: A total of 109 articles were reviewed from different Asian countries. Outcome themes contained the triad of eHealth outcomes i.e. quality, access and cost. Out of the total of 109 studies, quality was measured in 64 articles (59%), quality and access in 23 articles (21%), quality and cost in 11(10%). Outcome categories in the quality theme assessed technology performance (25%), satisfaction (25%), treatment and diagnosis of disease (22%) among others. Outcome categories grouped under the access theme included utilization of telehealth service (33%), time in obtaining consult (27%) and time in management of a case (20%). Outcome categories weighed under the cost theme were cost-minimization analysis (53%), cost-benefit analysis (21%), cost-effectiveness analysis (16%) and cost analysis (10%). There was also no consistent pattern noted in stating and evaluating measures. In the tools category seventy articles (64%) reported use of tools to measure the indicators. The overall results were overwhelmingly positive in all the three outcome themes with 90% of the outcome categories favoring use of telehealth.
Conclusion: The study presents a standard way of presenting outcomes, indicators, measures or tools, which can be used by other telehealth projects and programs.

Keywords: Telehealth, Outcomes, Developing Countries

15.165 HEALTH INFORMATICS RESEARCH ACTIVITIES IN ASIAN COUNTRIES? PRELIMINARY EVIDENCE FROM A SYSTEMATIC REVIEW

Hammad Durrani, Shariq Khoja
Department of Community Health Sciences, Aga Khan
University, Karachi

Introduction: The main objective of this study was to conduct a thorough and current state of the science review of health informatics applications in Asia countries.

Methodology: This Systematic review followed Cochrane style methodology, and included peer-reviewed articles published from 1998-2008, related to health informatics research done in Asian countries.

Results: The search strategy resulted in 4556 references. The exclusion of duplicates beyond the inclusion criteria resulted in 189 articles to be selected for final review. The preliminary result shows descriptive results such as origin of countries,

number of publications over the last ten years, and number of countries involvement outside Asia; methodological characteristics of studies i.e. study design, sample size and study settings; scope of health informatics. The descriptive results shows increasing trends of health informatics studies over the last ten years in Asia, with Japan (34 studies), Taiwan (29 studies) and Israel (22 studies) leading the group. Most studies were hospital based studies (62%) followed by community settings (22%). The scoping exercise identified nine major themes around Health Informatics research studies which were; 1) Hospital Information Management Systems, 2) Health Information Systems, 3) Health technology Assessment and Evaluation for health informatics, 4) Policy Issues in Health Informatics, 5) Electronic Health Record, 6) Electronic Health education material and Health Education Informatics 7) Health informatics and telehealth 8) Knowledge management 9) and GIS in Health informatics
Conclusion: The Systematic review gives us a broader understanding on the level of activity going in Asia in the field of health informatics.

Keywords: Health Informatics, Asia, Developing Countries

15.166 POSTLARYNGECTOMY PHARYNGOCUTANEOUS FISTULA INCIDENCE AND PREDISPOSING FACTOR

Asif Ali, Mubashir Ikram, Shabbir Akhtar, Shaheryar Rajput
Department of Surgery, Aga Khan University, Karachi

Objective: (1) To determine the incidence of pharyngocutaneous fistulae at AKUH (2) Factors predisposing to pharyngocutaneous fistulae(PCF) pcf is known complication of total laryngectomy in this study we will see the incidence and predisposing factors

Method: Retrospective study total 90 pt were included who under went total laryngectomy at AKUH and excluding those who required some flap reconstruction for the neopharynx and those who underwent conservative laryngectomy.
Results: 90 pt were reviewed initially, 13 were excluded because of missing data. PCF is outcome variable and others are independent variables which include Tumor stage (stage 3 vs. 4) ,Tumor site, Tumor Grading ,Tumor Margins ,Postoperative hemoglobin level <12 vs. >12 ,Co-morbid illness ,Prior tracheotomy ,Preoperative radiotherapy. Uni and multivariate analysis used to identify the risk factor, in univariate analysis P value was significant in T Staging, Pre Op radio radiotherapy, Preoperative chemotherapy, HB less than 12,preoperative tracheostomy. multi variate analysis showed only significant result is pre-operative radiotherapy.incidence in our study is about 28%.
Conclusion: Incidence ...28% Pre operative radiotherapy is main predisposing factor for Fistula formation Most of fistula can be managed conservatively

Keywords: Pharyngocutaneous Fistulae, Total Laryngectomy, Ca Larynx

15.167**VESTIBULAR SCHWANNOMAS OUTCOMES WITH SURGICAL EXCISION**

*Shaheryar Rajput, Sohail awan, Asif Ali, Ahmad Nawaz
Department of Surgery, Aga Khan University, Karachi*

Background: Vestibular Schwannomas (VS) are common tumors that can be cured; they are reported to comprise 6 - 8% of all intracranial tumors. The primary objective in the surgery of VS is total removal of the tumor mass while preserving the facial nerve. Complete excision of the tumor carries a significant risk of injuring the facial nerve and adjacent vital brain structures.

Objective: To review the demographic trends, diagnostic modes, and outcome of patients with Vestibular Schwannomas managed with microsurgical resection. To compare the results of microsurgery in our center with the centers of excellence in the world.

Method: The material consisted of 55 patients during the last 8 years (2000-2007) with surgically treated VS. The study is retrospective log review and all patients operated at AKUH have been included excluding those who were previously operated or received gamma knife stereotactic radiation. Tumors were categorized according to their cerebellopontine angle dimensions as small (<2 cm), medium (2.0-3.9 cm), and large (>=4 cm). Hearing was assessed on Gardner/Robertson classification and Facial nerve function classified on H.B scale.

Results: Total removal was achieved in 47% of patients. Small residual tumor found in 40% and medium size tumor in remaining 13%. The facial nerve preservation rate was.....

. There were 2 mortalities 3.6%. We can not comment on hearing preservation due to poor documentation.

Conclusion: Hearing preservation comparable with other studies Incidence of facial nerve palsy is comparable. Complete Resection could not be achieved in some of the patient's larger tumor size — late presentation Single/Combined approach

Keywords: Vestibular Schwannomas, Surgical Outcome, Facial Nerve

15.168**GENERAL PRACTITIONER'S KNOWLEDGE REGARDING THE DIAGNOSIS AND DRUG THERAPY FOR ACUTE MYOCARDIAL INFARCTION**

*Munsif Ali, Zaman Shah, Islam Hussain, Saadia Zohra Farooqui, Anita Naushir Akbar Ali, Fazal Manzoor Arain, Mansoor Arif, Saad Siddique, Shadmeen Rafique Aarabi
Medical College, Aga Khan University, Karachi*

Objective: To assess the general practitioners (GP) knowledge regarding the diagnosis and initial drug therapy for acute myocardial infarction (AMI).

Method: A questionnaire-based survey was conducted in randomly selected GPs of Karachi. Doctors working in community as GPs who were registered medical practitioners having a Bachelor of Medicine & Bachelor of Surgery degree were included in the study. Doctors working at tertiary care facilities or having a post graduate degree or post graduate training in a specialty other than family medicine were excluded from the study

Results: A total of 186 GPs participated in our study. GPs who studied research journals were 2.33 times more likely to investigate serum cardiac troponins levels for the diagnosis of AMI compared to those who did not study research journals (P = 0.02). Twenty six percent of the GPs said that they would refer a patient with suspected AMI without treatment, while 76% said that they would consider some treatment prior to referral. Fifty eight percent of the GPs identified ST segment elevation myocardial infarction (STEMI) of <12 hours duration as an indication of thrombolysis while 28% identified posterior wall AMI as a thrombolytic indication.

Conclusion: GPs, although adequately aware of the presenting features of AMI, were lacking in knowledge regarding the means for confirmation of diagnosis, initial drug therapy and were less likely to carry management steps in their practice.

Keywords: GPs Diagnosis of Acute Mi, GPs Management of Acute Mi, Acute Mi in Primary Care

15.169**CORRECTIVE OPEN HEART SURGERY DURING INFANCY HAS BETTER OUTCOME AND RESOURCE UTILIZATION THAN PRE-SCHOOL PATIENTS**

*Roheena Zainab Panni¹, Awais Ashfaq¹, Muneer Amanullah²
¹Medical College and ²Department of Surgery, Aga Khan University, Karachi*

Objective: The incidence of congenital heart disease is 1% of live births. Delaying corrective surgery leads to an increase in the morbidity, mortality and resource utilization which causes an enormous economic burden on a developing country To compare whether corrective cardiac surgery during infancy has a better outcome and lesser impact on resource utilization than in children upto five years

Method: 120 patients underwent corrective cardiac surgery, divided into two groups; Group 1 (51): <1 year and group 2 (69): 1-5 years. Patient's records were retrospectively reviewed for outcomes and resource utilization. The parents were contacted via telephone to gather information about health expenses incurred outside our centre. Data was analysed using SPSS 17.0. Mann Whitney and Fischer's exact test were applied

Results: The mean ages were 6.08 ± 2.79 months and 37.1 ± 19.9 months in group 1 and 2, respectively. Complications were encountered more in the older group; p-value <0.001. Total hospital admissions in group 2 showed a tendency towards being more; p-value 0.062. Numbers of pre-op outpatient visits were highly significant in group 2; p value 0.022. Total expenditure on hospital admissions was Pak rupees $387,059 \pm 176,325$ in group 1 and $524,552 \pm 278,750$ in group 2.

Conclusion: Complications, number of pre-op hospital admissions, outpatient visits and the total cost incurred was more in group 2. A program to develop awareness amongst parents, pediatric health care providers and the health policy makers is required to educate them about the benefits of early corrective surgery.

Keywords: Corrective Surgery

15.170 MORBIDITY RECORDS: IS THERE ROLE FOR IMPROVEMENT?

Amyr Pardhan, Inam Pal
Department of Surgery, Aga Khan University, Karachi

Background: Morbidity and Mortality conferences have been part of the medical training program for more than 5 decades; but even though they have educational value and help in creating standards for patient care there are a lot of under reported morbidities. The Section of General Surgery at AKU has been regularly reviewing all morbidities since its inception in the mid 80's. At present the morbidities to be discussed are marked by senior residents in consensus with the consultants. **Objectives:** ?To gauge the completeness of Morbidity reporting in General Surgery by review of Case notes. ? To identify areas for improvement

Method: It was a Retrospective case note review of a 3 month period of all the adult admissions in General Surgery. One thousand files were reviewed of which sixty one morbidities were identified

Results: Overall there were 61 morbidities, 52.4% were reported and 47.5% were missed. Out of the 47.5% missed morbidities most of the patients were ward admissions (80%). Of the patients in which the morbidities were missed, 79% were admitted electively and 58% had an ASA status of 2. Most common surgeries performed was hernia/ inguinoscrotal followed by laparotomies. The most common missed morbidity were wound infections (41%), followed by intra-abdominal sepsis (13.79%) and line related infections (6.8%).

Conclusion: The audit brings to light that approximately 50%

of the morbidities are under reported. This proportion could be much higher as this is a retrospective audit relying on medical records.

Keywords: Morbidity, Records, Conference

15.171 ANAESTHETIC MANAGEMENT OF TWO PATIENTS WITH B-THALASSEMIA INTERMEDIA

Shahnawaz Ali, Fauzia Anis Khan
Department of Anaesthesia, Aga Khan University, Karachi

Objective: There is paucity of literature regarding the anaesthetic management of patients with thalassemia intermedia. We report the anesthetic management and concerns in two children with thalassemia intermedia aged eleven and nine years undergoing herniotomy and splenectomy respectively. Both children had unanticipated difficulty in airway management and high intraoperative blood pressure trends. These cases are representative of the range of problems seen in children with thalassemia intermedia.

Keywords: Thalassemia, splenectomy, herniotomy, anesthetic management Thalassemia, Splenectomy, herniotomy

15.172 STUDENT NURSE PROJECT TO PROMOTE MEDICATION MANAGEMENT AND SAFETY AT CRITICAL CARE UNIT OF AGA KHAN UNIVERSITY HOSPITAL, KARACHI, PAKISTAN

Laila Aziz
Alumni, Aga Khan University, Karachi

Introduction: Medication management is a diverse process which involves patients, pharmacist and the health care professionals. From the selection of medication till monitoring, requires certain skills, knowledge and expertise to prevent from medication incidences and errors. According to National Coordinating Council for Medication Error Reporting and Prevention (2006) define medication error as "any preventable event that may cause or lead to inappropriate use or patient harm while the medication is in the control of the health care professional". Institute of Medicine, (2000) as cited in Arun Kumar Dubey, etal, (2006) states that 44,000 to 98,000 hospitalized patients die each year from medication error. **Objectives:** • To endorse patients and staff safety. • To explore staff practices towards medication management process after pre and post intervention. • To motivate staff to follow the medication management policy in order to prevent from medication error.

Method: • Action research was utilized in the month of May, June and July 2009, to accomplish the **objective:** •All critical care registered nurse and critical care technician were part of assessment, planning and implementation phase. • Power point presentation, movie session and pamphlet distribution

strategies were used to enhance active participation. *Results:* The assessment was carried at ICU, CCU, CICU and PW III. During the assessment phase the following result were identified. • 56% of the nurses were not aware about medication policies • 53 % of the nurses not have the knowledge about discontinuation of antibiotic and controlled drugs. • 55% of the nurses were not recognizing the medication administration timings. • 22% nurses have only given patient and family education related to medication.

Conclusion: After 2 days of awareness session, • 86% of the nurses were aware about medication policies • 93 % of the nurses have the knowledge about discontinuation of antibiotic and controlled drugs. 98% of the nurses recognize the medication administration timings. • 86% of the staff follows the policy of correct patient identifiers during medication administration. • 83% of the nurses were following the Aseptic technique during medication. • It was also observed that nurses are giving patient and family education to patients and documented in the multi disciplinary form

Keywords: Medication Management, Medication Error, Staff Practices

15.173

MALIGNANT OTITIS EXTERNA: CHARACTERISTICS & PROGNOSIS

M Sohail Awan, M. Shaheryar, Shabbir Akhtar
Department of Surgery, Aga Khan University, Karachi

Objective: Malignant otitis externa (MOE) is an infection of the temporal bone usually affecting elderly diabetic patients, which can potentially be life threatening. The causative organism is most commonly *Pseudomonas aeruginosa*, although other organisms such as *Proteus mirabilis*, *Klebsiella*, *Staphylococci* and *Aspergillus fumigatus* have been isolated. Diabetes mellitus remains the most important associated condition. Objective of the study was to review our experience of managing patients with MOE at AKUH and to correlate cranial nerve paralysis and bony erosions of temporal bone (on CT-Scan) with outcome in terms of mortality and cure. *Method:* The study was retrospective review. Charts of 21 patients with MOE were reviewed. Study duration was from Jan 2000 to Dec 2008. Inclusion criteria: Otitis Externa not responsive to routine medical treatment for at least 10 days and presence of granulation tissue in external ear canal. Exclusion criteria: Histological evidence of other causes like tumors, tuberculosis and cholesteatoma ; inadequate data and/or missing CT scan. Variables: demographics & clinical features, cranial nerve palsies, CT scan findings with bony erosions (EAC, Mastoid, Petrous apex) and mortality. *Conclusion:* Mortality rate was 14.3%. Temporal bone CT findings & Neuropathies were not correlated well with mortality.

Keywords: Otitis externa, necrotizing, prognosis

15.174

SURGICAL CORRECTION OF AN AORTO PULMONARY WINDOW; A RARE AND LETHAL CAUSE OF PULMONARY HYPERTENSION

Adeel A. Shamim¹, Mubashir Z. Khan², Mehnaz A. Atiq³, Mansoor A. Khan⁴, Muneer M. Amanullah²
¹Medical College, Departments of ²Surgery, ³Medicine, and ⁴Anaesthesia, Aga Khan University, Karachi

Objective: Aorto-pulmonary window is a relatively rare congenital cardiac malformation with an overall incidence of 0.1%. Pulmonary hypertension develops quickly if the lesion is left untreated hence early surgical intervention is warranted after diagnosis. The surgery for correction of aorto-pulmonary window has evolved over years, currently an open repair on cardiopulmonary bypass with a single patch technique yields good results. Mortality is affected by association of pulmonary hypertension and other cardiac malformations. We present a case of an infant where hospital stay was complicated because of pulmonary arterial disease making it important for correction in first few months of life.

Keywords: Aorto-Pulmonary Window, Surgical Repair, Pulmonary Hypertension

15.175

ASSOCIATION BETWEEN EARLY COMPLEMENTARY FEEDING AND ALLERGIC DISEASE IN CHILDREN BELOW 3 YEARS OF AGE

Asfi Sameen Adil
Department of Family Medicine, Aga Khan University, Karachi

Introduction: Infant feeding guidelines for children at high risk of allergic disease recommend that the introduction of complementary foods to their diet be delayed beyond 4-6 months of age for the prevention of allergic disease. However, these guidelines are based on a few studies only.

Objectives: To assess the association of early complementary feeding with allergic disease in children below 3 years of age, and to determine the factors associated with allergic disease in relation to complementary feeding.

Method/Study/Design: Case-control study. Setting: Pediatric clinics and Immunization clinics at the Aga Khan University Hospital, Karachi. Duration of Study: The study was done from November 2008 to February 2009. Subjects: Cases were children below 3 years of age who had been diagnosed by a physician to have allergic disease, namely eczema, allergic rhinitis and asthma. Controls were children belonging to the same age group who did not have symptoms of eczema, allergic rhinitis and asthma. There were a total of 257 cases and 257 controls.

Methods: Self-administered questionnaires were filled out during interviews with parents of cases and controls regarding their timing of introduction of complementary foods and other infant feeding practices.

Results: No association was found between early

complementary feeding and allergic disease in children below 3 years of age. However, 4 variables were recognized as independent risk factors of allergic disease at the end of both univariate and multivariate analysis: low maternal education (p 0.021; aOR 1.746; 95% CI 1.089-2.799), positive family history (p <0.001; aOR 2.915; 95% CI 1.952-4.351), exclusive bottle-feeding (p 0.033; aOR 2.067; 95% CI 1.060-4.029) and increased solid diversity before 6 months of age (p 0.020; aOR 0.468; 95% CI 0.246-0.890).

Conclusion: Health education programs are needed to educate mothers about safe and adequate complementary feeding of their infants for the prevention of allergic diseases.

Keywords: Complementary Feeding, Allergic Disease, Breast Feeding

15.176

CARDIOTONIC ACTIVITY OF PHOENIX DACTYLIFERA IS MEDIATED THROUGH α -ADRENERGIC RECEPTORS AND Ca^{++} INFLUX

Tahreem Aman¹, Marium Hussain¹, Intasar Husain Taqvi², Anwarul Hassan Gilani³

¹Medical College and ³Biological & Biomedical Sciences, Aga Khan University and ²Federal Urdu University, Karachi

Objective: Phoenix dactylifera is commonly known as date palm. The fruit, juice and gum have been used since centuries as food and in traditional medicine as expectorant, anti-asthmatic, laxative and cardiotonic. This preliminary study was conducted to validate the medicinal use of Phoenix dactylifera as a cardiotonic.

Method: Methanolic extract of the sun dried deseeded fruits of Phoenix dactylifera was prepared in 70% methanol (Pd.Cr). Langendorff's rabbit heart and rabbit aorta preparations were used to assess the activity of the extract.

Results: The phytochemical analysis showed the presence of anthraquinones, alkaloids and flavonoids. Acute toxicity test did not show any toxic effect at the doses 1-10 mg/kg. In Langendorff's isolated rabbit heart, the methanolic extract at the doses of 1-5 mg/mL was caused a mild increase the rate and force of contractility with blunting effect at higher doses. The extract caused dose dependent constriction in isolated rabbit aorta at the base line at the doses of 0.1-10 mg/mL and produced sustained contraction. The bolus dosing confirmed the contraction in the aortic rings. The sustained contraction was relaxed by phentolamine dose-dependently. Additionally, in Ca^{++} free medium the extract did not induce contractile effect in the rabbit aortic rings. The vasoconstrictor effect was more marked in the endothelium denuded rabbit aorta than endothelium intact rings of the rabbit aorta. **Conclusion:** The methanolic extract of Phoenix dactylifera caused a cardiotonic effect in the isolated rabbit heart. In vascular preparations it caused stimulatory effect possibly mediated through α -adrenergic receptors and Ca^{++} influx. Further studies are needed for a more meaningful conclusion.

Keywords: Cardiotonic, A-Adrenergic Receptors, Ca^{++} Influx

15.177

ADDITIONAL VIEWS OF MAMMOGRAM AND ITS EFFECTS ON MANAGEMENT.

Abida Faisal, Imrana Masroor, Fahad Haroon, Kiran Hilal
Department of Radiology, Aga Khan University, Karachi

Objective: To evaluate the additional view of mammogram and its effects on management requested by clinicians and radiologist.

Method: It was a descriptive study conducted at The Aga Khan University Hospital from September 2007 to Jan 2009. A total of 100, mammograms with additional views were evaluated. Out of total of 100, 59 patients of additional view were requested by the radiologist and 41 were requested by the clinician. All 100 cases were reviewed by experienced radiographer and certified radiologist. Data was collected recorded on preset Performa and was subsequently entered and analyzed using SPSS version 16.

Results: 100 additional views of mammogram were done. (Cone compression 74, magnified 21 and magnified cone compression 5 cases). 89% of cases were reported as negative and 9% were reported as positive. 12 patients underwent biopsy out of which 7 were benign and 5 were malignant. The effect on management of additional views of mammogram was 3%.

Conclusion: Additional views of mammograms had significant effect on final patient management.

Keywords: Mammogram, Additional Views, Birads

15.178

ASSESSMENT OF DISCRIMINATING INDICES FOR THE DIFFERENTIATION BETWEEN

Lubna Khaleeq Ahmed, Bushra Moiz, Salman Naseem Adil
Department of Pathology & Microbiology, Aga Khan University, Karachi

Introduction: The most frequently encountered diseases with mild microcytic anemia are iron deficiency anemia and Thalassemia trait. Microcytic anemia can be a result of insufficient iron supply or defective hemoglobin synthesis. The differential diagnosis between Thalassemia trait and iron deficiency anemia is an every day issue for physicians. Accurate diagnosis is essential for useful treatment, prevention of diseases and cutting down expenses in treatment. To date, many Discrimination Indices (D.I) have been proposed to distinguish between these two conditions. These indices are derived from several simple RBC indices like RBC, MCV and RDW.

Objective: The Objective of our study is to examine the diagnostic accuracy of Discriminating indices (D.T) in the differentiation between Thalassemia trial and Iron deficiency anemia and to measure its validity using Youder's index.

Methods: A cross section study of 2228 patient is done. Diagnosis of Iron deficiency anemia was based on CBC count, examination of peripheral blood film and low serum ferreting level. CBC results are obtained using Beckman Coulter (Gen-S & LH-750), while diagnosis of Thalassemia triat are made

with normal ferrite level and high Hb A2 (3.5%). (Hb A2 level was determined by using Bio RAD Variant), Serum ferrite level was determined by using Hitachi E-170(Roche). Patient's result will be analyzed individually using the difference Discriminating indices in this study. Sensitivity, Specificity and Youden's Index will be calculated for each Discrimination indices. The mathematical functions which will be calculated in our analysis are: Red blood cells indices (RBC) Index, Mentzer index (MI): (MCV-RBC), England and Fraser (E & F): (MCV-RBC-(5x10) -k5), Shine & Lal Index (S & L) : (MCV2 X MCH x 0.018), Srivastana Index (S): (MCH/RBC9).

Result: Study in process

Conclusion: Study in process.

Keywords: Iron Deficiency Anemia, Thalassemia Trait, Discriminating Indices

15.179

OUTCOME AND FACTORS ASSOCIATED WITH HOSPITAL MORTALITY IN PATIENTS WITH IMPAIRED LEFT VENTRICULAR FUNCTION UNDERGOING CORONARY ARTERY BYPASS GRAFTING: WHERE DO WE STAND?

Mubashir Z Khan, Shazia Perveen, Shahid A Sami, Junaid Ansari, Saulat H Fatimi

Department of Surgery, Aga Khan University, Karachi

Background: Impaired ventricular function is a known risk factor for mortality after coronary artery bypass grafting however the evidence suggests that selected patients would benefit from surgical revascularization in this group, moreover increasingly more patients with impaired ventricular function are referred for surgery. Currently no large data is available from Pakistan regarding this aspect of coronary surgery. *Objective:* To find the hospital mortality and mid term functional improvement in patients with impaired ventricular function undergoing coronary artery by pass grafting and identify the risk factors for mortality.

Method: risk factors for mortality. Study design: Retrospective analysis of preoperative, operative and postoperative variables of patients with impaired ventricular function who were operated for isolated first time coronary artery bypass between October 2006 to April 2009

Results: Total 190 patients with impaired ventricular function underwent isolated first time coronary artery bypass grafting during this period with a male predominance (82.6%). This constituted 12% of all coronary artery surgery performed at our institution during this period. Mean ejection fraction of the group was 25.4±5.3%. Mean predicted mortality on logistic Euro score was 10.9±2.7%. Actual in hospital mortality of the group was 4.7% which is comparable to contemporary published results. Multivariate analysis identified use of intra aortic balloon pump, non use of internal mammary artery and preoperative NYHA functional class as factors associated with mortality.

Conclusion: Coronary artery bypass grafting can be performed in patients with impaired ventricular function with acceptable

hospital mortality and mid term functional improvement.

Keywords: Impaired Ventricular Function, CABG, Bypass Surgery

15.180

TWO SIBLINGS WITH EARLY ONSET FUCH'S CORNEAL ENDOTHELIAL DYSTROPHY

Tanveer Anjum Chaudhry, Amina Adil, Faraz Kazmi, Khabir Ahmad

Department of Surgery, Aga Khan University, Karachi

Introduction: Fuchs' corneal endothelial dystrophy is a slowly progressing corneal disease. The disease affects vision usually in both eyes but rarely until the age of 50. A girl, aged 15, presented to us with gradual reduction in vision and increased sensitivity to light. Few weeks later her brother aged 18 years also came with the same history. According to her mother, the girl first complained of blurring of vision at 12 years of age followed by its gradual worsening over the next 3 years while the boy first developed such symptoms at the age of 15 but with less severity. Their two elder siblings, both boys, did not have similar symptoms. Their parents were second cousins but neither of them as well as other family members had such a history. The girl had her first visit to our clinic in February 2006 when her BCVA was 20/30 in both eyes, and a provisional diagnosis of corneal endothelial dystrophy was made. By September 2007, her BCVA had dropped to 20/400 in the right eye and 20/200 in the left. On January 14, 2008, she underwent right PKP. Corneal histopathology revealed Fuch's endothelial dystrophy. After PKP, her vision remained stable at 20/30. Left PKP was on June 14, 2009, and a BCVA of 20/40 was achieved. By contrast the boy showed slow progression and on his latest visit, the BCVA in the right and left eyes was 20/40 and 20/50, respectively. The cases of Fuch's endothelial dystrophy we report not only had early onset, but one of them had exceptionally rapid deterioration of vision.

Keywords: Familial, Fuch's Dystrophy, Cornea

15.181

AN EXPLORATORY STUDY ON KNOWLEDGE, ATTITUDE AND PRACTICE OF DRY EYE SYMPTOMS AMONG DIABETICS

Tanveer Anjum Chaudhry, Zubaida Sarang, Khabir Ahmad

Department of Surgery, Aga Khan University, Karachi

Objective: To explore the awareness of dry eye symptoms among diabetics attending a tertiary care hospital in Karachi.

Method: 25 diabetic patients aged = 40 years were selected from the diabetic clinic of the Aga Khan University Hospital Karachi using convenience sampling. Our primary focus was to determine if diabetics knew that they were at high risk of developing dry eye symptoms. Participants were also asked

both open and closed-ended questions to explore their attitude and practice in relation to dry eye symptoms such as burning, stinging, grittiness and discomfort.

Results: Out of a total of 25 diabetics we interviewed, no one knew that diabetics as compared to their non-diabetic counterparts were at a higher risk of developing dry eye syndrome. Twelve participants had symptoms of dry eyes; among these, 5 reported washing their eyes with cold water, 4 reported using no remedy, while 1 reported using surma. No one reported having consulted an eye doctor.
Conclusion: Our study concludes that diabetics did not know that they had an increased risk of developing dry eye symptoms compared with their non-diabetic counterparts. Population-based research is needed to assess dry-eye related risk awareness and control measures among diabetics.

Keywords: Awareness, Dry Eye Symptoms, Diabetics

15.182

AN EVALUATION OF REFERRAL SYSTEM FOR RETINOPATHY OF PREMATURITY IN LEADING HEALTH CENTERS ACROSS KARACHI, PAKISTAN

*Farzeen K. Hashmi, Tanveer Anjum Chaudhry, Khabir Ahmad
Department of Surgery, Aga Khan University, Karachi*

Objective: Retinopathy of prematurity (ROP) is emerging as a significant avoidable cause of childhood blindness in developing countries. This study was conducted to assess the referral system for ROP in the leading health care centers involved in the provision of services to newborns in Karachi, and to assess awareness of ROP among key decision-makers in these centers.

Method: We purposefully selected 10 health care centers in Karachi which had the highest number of deliveries per year. Key informant interviews were held with the health care providers involved in the decision-making at these centers. A content analysis was performed on their responses.
Results: A total of 20 physicians (5 neonatologists and 15 pediatricians) were interviewed. Most of the surveyed centers did not have any referral system for ROP. The two centers that did have a referral system were not following standard protocol for such referrals. Most interviewees had inadequate knowledge of ROP. For example, prematurity and low birth weights were not considered reasons for referral to an ophthalmologist, and that only those premature babies who received oxygen were perceived to be at risk of developing ROP. Only 2 out of 20 physicians were aware that ROP can lead to blindness.

Conclusion: There was no referral system for ROP screening at most of the surveyed centers. The ones that did have a referral system were not following international screening guidelines for referrals. The inadequate knowledge of ROP among the concerned staff is matter of serious concern and needs to be rectified.

Keywords: ROP, KAP, Evaluation, Referral system

15.183

BLEPHAROPHIMOSIS-PTOSIS-EPICANTHUS INVERSUS SYNDROME IN A PAKISTANI PEDIGREE

*Tanveer Anjum Chaudhry, Mirza Umair Khalid, Taimur Saleem, Khabir Ahmad
Department of Surgery, Aga Khan University, Karachi*

Introduction: Blepharophimosis-ptosis-epicanthus inversus syndrome (BPES), a rare disorder, mainly affects the development of eyelids. Major features are: shortened horizontal palpebral fissures (blepharophimosis), impaired function of superior palpebral levator (ptosis), a vertical skin fold arising from the lower eyelid that inserts medially in the upper lid (epicanthus inversus), and an increased inner canthal distance (telecanthus). A father brought his 2-year-old daughter to our clinic for the correction of her shortened palpebral fissures present since birth. The girl had bilateral blepharoptosis with a broad and flat nasal bridge. There was a vertical skin fold arising from the lower eyelid that inserted medially in the upper lid (epicanthus inversus). The distance between the medial canthi was 30 mm (telecanthus). Bilaterally, the length of the vertebral palpebral fissures was 6 mm whereas that of the horizontal palpebral fissures was 20 mm (blepharophimosis). Both measurements were shorter than normal ones for her age. There were no other significant ocular or non-ocular findings. The ocular features of her father were identical to those observed in his daughter. The distance between the medial canthi was 40 mm, where as the lengths of his vertical and horizontal palpebral fissures were 7 mm and 23 mm respectively. He also did not have any significant ocular or non-ocular findings. According to him, the paternal grandfather and one paternal aunt also had identical ocular features. This is the first reported instance of BPES in a Pakistani pedigree. In our report, 4 members of the same family were affected across 3 generations.

Keywords: Blepharophimosis-Ptosis-Epicanthus, Pakistani, Pedigree

15.184

THE VALUE OF CLINICAL SUPERVISION IN NURSING: AN EVIDENCED-BASED LITERATURE REVIEW

*Amina Lakhani, Fahmida Mehdi
Nursing Education Services, Aga Khan University, Karachi*

Objective: Clinical supervision is drawing attention in the worldwide nursing context with efforts underway to entrench Clinical supervision into the general nursing population. The purpose of this paper is to review the available evidences regarding the success of Clinical supervision in nursing practice in order to inform these efforts.

Method: Pertinent literature was located by first accessing research articles in peer reviewed publications that was related to Clinical supervision and nursing. A total of 32 articles were retrieved. In selecting articles for review, the following criteria were then applied: the article reported an assessment of the effectiveness of Clinical supervision; the participants in the

study included qualified registered nurses; the approach to Clinical supervision was evidently described; and, the method of data collection and analysis, either quantitative and/or qualitative, was explained in detail.

Results: Of the 32 studies identified in the literature 22 studies met the inclusion criteria. One feature that differentiated the studies was research method, for example, pre post design; and, articles were initially grouped by method. The reported outcomes of the studies were then categorized according to Proctor's three functions of Clinical supervision. The results of the studies demonstrated that all three functions, restorative, normative and formative, were evident. The restorative function was noted slightly more repeatedly than the other two functions.

Conclusion: There is research support to suggest that clinical supervision provides peer support and tension relief for nurses (restorative function) as well a means of promoting professional responsibility (normative function) and skill and knowledge advancement (formative function).

Keywords: Nursing, Clinical Supervision, Support

15.186

EMPOWERED WOMEN IN PAKISTAN: ENGLISH A FRIEND?

*Anita Allana, Mirat-al-Fatima Ahsan, Yasmin Sherali
Department of Surgery, Aga Khan University, Karachi*

Background: Empowerment is being extensively researched, explored and picketed for and globally considered from a multi-dimensional perspective. Empowerment of women is not only a global gender equity issue but also a development concern. Causes of women empowerment are diverse and multiple. The study explores the relationship between women empowerment, success and facility in English language. *Objectives:* • To investigate the relationship between women empowerment, success and capacity in English language mainly to gain an insight into the nature of their terms of interaction.

• To explore the relationship between empowerment and success and to identify the possible role English language capacity may play in contributing to women's empowerment and their success.

Method: Exploratory qualitative study employing mixed methods approach. Focus group discussion along with semi structured questioner used for data collection. *Results:* Findings of both phases are in alignment and mutually supportive. A strong link emerged between English language, Women Empowerment and Success. Findings reveal that English language empowered women socially, economically, professionally, academically, psychologically, in the family, at workplace and in the society. Moreover English language proficiency facilitated them while travelling and also gave them awareness of Civil and Legal rights.

Conclusion: The result serves as a recommendation to society and emphasizes the role of English language in women empowerment and success, thus enabling society to understand

one important tool for women empowerment. It may lead to families encouraging females to acquire proficiency in English and in the course of years may contribute in raising the percentage of empowered women in Pakistan.

Keywords: Women Empowerment, Success, English language

15.187

ELEVATED LEFT ATRIAL VOLUME IN ACUTE MYOCARDIAL INFARCTION: PREVALENCE OF ATRIAL FIBRILLATION, HEART FAILURE AND IN HOSPITAL MORTALITY

*Fariha Sadiq Ali, Sohail Abrar Khan, Sajid Dhakam, Javed Tai, Fateh Ali Tipoo
Departments of Medicine, Aga Khan University, Karachi*

Objective: Left atrial enlargement is a stable parameter of diastolic dysfunction, integrating the effects of elevated LV filling pressures from pre-existing cardiovascular conditions as well as acute disease. Left atrial (LA) volume is a more reliable and accurate measurement of left atrial size as compared to conventional M-mode LA dimension. The purpose of this study is to estimate the frequency of in hospital mortality, congestive heart failure (CHF) and atrial fibrillation (A.Fib) with abnormal LA volume with first presentation of acute myocardial infarction at a tertiary care hospital in Karachi.

Method: 127 patients with first presentation of acute myocardial infarction and the left atrial volume index (LAVI) >32ml/m² were enrolled in the study from echocardiography lab AKUH January 2008 till October 2009.

Results: 76 (59.8%) men and 51 (40.2%) women, mean ±SD age of 64.3years were followed up daily till the day of death or day of discharge from the hospital for congestive heart failure and atrial fibrillation. 84 patients (66.1%) and 78 (61.4 %) had hypertension and diabetes mellitus respectively. 21 patients (16.5%) were current smokers. 11 patients (8.7%) died and 8 (6.3%) had atrial fibrillation. 75 patients (59.1 %) developed congestive heart failure of which 32 (43.8%) had concomitant severe left ventricular systolic dysfunction (EF<30%).

Conclusion: This is the first study conducted in south Asian population and shows that the significant number of patients with enlarged LAVI had CHF independent of severe left ventricular systolic dysfunction. Identification of this high risk group in hospital and aggressive medical management can remodel the left atrium and improve diastolic dysfunction.

Keywords: Left Atrial Volume, Myocardial Infarction, Morbidity and Mortality

15.188
THEORETICAL FRAMEWORK ON IDEOLOGY OF
PALLIATIVE CARE

Farah N Farid
Nursing Education Services, Aga Khan University, Karachi

Objective: To demonstrate role of nurse in optimizing dignity in illness and in dying. Background: Theory on ideology of palliative care is derived from the discipline of science, humanities and trans-cultural nursing. This theoretical framework has philosophical orientation. Theory on ideology of palliative care is focused on palliative care process. *Method:* Literature review was done to evaluate effective delivery of palliative care to terminally ill clients. Two main theoretical sources utilized in developing this framework include theory of philosophy and science of caring by Jean Watson and culture care: diversity and universality theory by Madeleine Leininger. Theoretical framework formulated that demonstrate role of advance practice nurse in providing palliative care to terminally ill client.

Result: Role of nurse is to address psychological, environmental and scientific perspective to have an impact on over all experience of dying patient. Making dying period peaceful is ultimate goal of palliative care process.

Conclusion: Terminal illness bring physiological, psychological and social trauma to individual. Framework on ideology of palliative care is a tool to promote quality of care in terminal illness. Utilizing psychological, environmental and scientific approach in palliative care process will impact on overall experience of dying patient. Implication: Further research can be done to validate its applicability at clinical setting and to see the level of satisfaction terminally ill client have.

Keywords: Terminally Ill Client, Palliative Care, Nursing

15.189
HEAD AND NECK PARARAGANGLIOMAS

Maqbool Baloch, Shabbir Akhtar, Mubasher Ikram
Department of Surgery, Aga Khan University, Karachi

Objective: Paraganliomas can occur from skull base to the pelvic floor Head/Neck paraganliomas (HNP) are rare. Incidence is 0.6 % of Head/Neck tumors and 0.03 % of all tumors . OBJECTIVE: To review the clinical presentation, diagnostic workup, treatment and outcome in a series of patients with head and neck paraganliomas

Method: Retrospective review. Study Period: 1992 to 2008
Inclusion

Criteria: All patient of head/neck paraganliomas treated at AKUH.

Exclusion Criteria: Prior treatment outside AKU Missing Records / Charts

Results: Total patients: n=16 Age: Min 27 years, Max 71 years, Median 42 years. Two patients with glomus tympanicum and 1 patient with glomus jugul; are developed recurrence. Percentage of Facial nerve weakness was 33.3%

Conclusion: Surgery is the treatment of choice in carotid body tumors and morbidities are related to the size of tumor.

Advanced stage juglotympanic tumors are difficult to resect completely and rate of morbidities are high

Keywords: Paraganlioma, Head, Neck

15.190
RELATIONSHIP OF PAYER STATUS AND ASSOCIATED
FACTORS WITH EARLY OUTCOMES IN PRIMARY
ISOLATED CORONARY ARTERY BYPASS SURGERY

Shazia Perveen, Shumaila Furnaz, Syed Shahabuddin, Muneer Amanullah, Hasanat Sharif, Saulat Fatimi, Mubashir Zareen Khan , Zubair Luqman
Department of Surgery, Aga Khan University, Karachi

Objective: Early (30 days) mortality in Coronary artery bypass grafting (CABG) is increasing in developing countries. It requires comprehensive management with concomitant control on predictors. In this regard, various risk factors have been identified but the role of financial source indicated by payer status (self or supported) along with other associated factors has not been explored yet. Therefore, We examined the effect of payer status and associated factors on early outcomes in primary isolated CABG in a tertiary care hospital of Karachi, Pakistan.

Method: Retrospective analysis

Results: Retrospective analysis was done on 1688 primary isolated CABG patients (mean age 57.94±9.77) for last four years. Out of these, 1402(83.1%) were self payers while 286(16.9%) were partially/ fully supported by employers, welfare or insurance. Early mortality was 3.6% and major complications included 166(9.8%) prolonged ventilation, 68(4.0%) bleeding, 9(0.5%) stroke, 38(2.3%) arrhythmias, 38(2.3%) respiratory complications and 31(1.8%) sepsis. Multivariate logistic regression at P<0.05 was performed to assess the relationship of independent variables on early mortality. Age (OR 1.05), gender (OR 4.0), bypass time(OR 1.01), h/o myocardial infarction(OR 0.58), h/o cardiogenic shock(OR 0.32) and h/o renal disease(OR 0.21) were significantly associated with early mortality while payer status was insignificant.

Conclusion: Early mortality in primary isolated CABG is due to associated factors and not due to payer status.

Keywords: Payer Status, Primary Isolated CABG, Early Outcomes

15.191
IMPROVING HEALTH SERVICES IN GILGIT,
BALTISTAN THROUGH EHEALTH

Shariq Khoja, Hammad Durrani, Zahid Ali Faheem, M Abdul Muqeet, Saira Nigar
Department of Community Health Sciences, Aga Khan University, Karachi

Introduction: Northern Areas of Pakistan face greatest barriers due to distance and geographical conditions, along with other challenges such as bad governance, affects of civil war, and

landlocked conditions restricting access to required health services and referral of patients between the centers. To overcome these problems eHealth can be introduced to support diagnosis, enhance capacity and manage information in northern areas. Use of mobile technologies, such as GPRS and Edge, can provide reliable last-mile connectivity in remote mountainous areas where fiber-optic connectivity is not widely available, and satellite connectivity is either expensive or blocked due to border restrictions.

Objective: • To develop a Teleconsultation link between different levels of health centers for patient management, triage and referral of MCH using eHealth. • To promote CPD for healthcare providers in MCH through distance learning programs at their health facilities • Develop link with the field office for regular transfer of information to support monitoring.
Methodology: This project tests mobile connectivity for most peripheral health facilities, in conjunction with higher bandwidth services, such as DSL, to connect secondary care facilities to improve access and quality of health services in Northern Areas of Pakistan. The study is a facility-based intervention study, where one laptop computer is supplied at each site with available connectivity. Community Based Health Centers of Aga Khan Health Services, Pakistan in Northern Areas will be connected with next level facilities and field Offices for Tele-consultation, Continuing Professional Development and Tele-monitoring. The study will test feasibility of eHealth as an option for Northern areas of Pakistan.

Result and Conclusion: Early results from the needs and feasibility assessment will be presented at the conference. Utilizing telecommunication technology can solve complex healthcare problems in remote areas. It can not only reduce complication but also train healthcare provider.

Keywords: Ehealth, Teleconsultation, Mobile Technology

15.192

FREQUENCY OF ALPHA THALASSEMIA IN PAKISTANI POPULATION AS SCREENED THROUGH CATION EXCHANGE CHROMATOGRAPHY

*Mashhooda Rasool, Bushra Moiz
Department of Pathology & Microbiology, Aga Khan University, Karachi*

Background: Thalassemia is the name given to a globin gene disorder that results in a diminished rate of synthesis of one or more of the globin chains and consequently a reduced rate of synthesis of the hemoglobin. Thalassemia may result from deletion of a gene or from a small deletion or other mutation of a gene. Mutations of alpha or beta genes are of potential clinical significance since there is reduced rate of synthesis of hemoglobin A, the major hemoglobin of adult life. The alpha thalassemias are a group of conditions resulting from a reduced rate of synthesis of alpha globin. Alpha thalassemia can be divided broadly into deletional or non-deletional thalassemia. Deletional thalassemia results in either α^0 or α^+ thalassemia, depending on the length and nature of the deletion. Non-deletional alpha thalassemia usually leads to α^+ thalassemia trait and results from mutations of the initiation codon, mutation affecting RNA cleavage, slicing, polyadenylation or stability OR production of a structurally

abnormal alpha chain that is either synthesized at a reduced rate or is unstable. Although, the highest prevalence of alpha thalassemia is found in Southern China and South-East Asia, yet no such data is available from Pakistan.

Objective of the Study: To estimate the frequency of alpha thalassemia in Pakistani population screened through HPLC and confirmed by PCR.

Materials and Methods: • Prospective study. • Time duration was 15 days (from 15 Feb, 2009 to 3rd March, 2009) • Whole blood samples were received in EDTA. • Analysis of various hemoglobins was done by HPLC using Bio-Rad® β -thalassemia short program. • CBC of the respective patients was done using Coulter® Gen-S and LH-750. • SALSA-MLPA (P-140) will be used for detection of alpha gene deletion/mutation. • SPSS version 16 was utilized for statistical analysis

Results: The study is in progress and compiled results will be presented in the final poster.

Keywords: Alpha Thalassemia, HPLC, PCR

15.193

STRESS INDUCED DIASTOLIC DYSFUNCTION

*Fariha Sadiq Ali, Najeeb Basir, Muniza Yousuf
Department of Medicine, Aga Khan University, Karachi*

Introduction: Isolated diastolic dysfunction is a common clinical entity. However, routine evaluation of diastolic function during stress echocardiography is not done. To date, no data exists from this part of the world regarding the prevalence of isolated stress induced diastolic dysfunction. The aim of this pilot study was to assess the left ventricular filling pressures as a marker of diastolic dysfunction using tissue Doppler.
Methods: Retrospective analysis of 40 patients who underwent stress echocardiography for evaluation of shortness of breath. Ratio of mitral inflow and septal mitral annulus velocities were measured both at rest and during stress. Wall motion abnormalities at stress were also documented as marker of ischemia.

Results: Out of 40 patients 8 (20%) were women and 32 (80%) were men. 5 patients (12.5%) were smokers. 14 (35%) had hypertension and 8 (20%) were diabetic. 16 (40%) patients had normal left ventricular filling pressures i.e. $E/E' < 10$ at baseline. Out of these 16 patients 4 (25%) developed exercise induced diastolic dysfunction of which 50% had wall motion abnormalities at peak stress. Among patients with stress induced diastolic dysfunction, the mean age was 53 years, 50% had hypertension, 50% were women, and however, none of them were diabetics.

Conclusion: Exercise induced diastolic dysfunction is common entity however, it is underestimated because of the selection bias of patients undergoing stress echocardiography. The results from this pilot study though may not be true representative of the entire population but surely do provide some statistics about the prevalence. Parameters for diastolic dysfunction should be measured as a part of stress echocardiography.

Keywords: Stress Echocardiography, Diastolic Dysfunction, TDI

15.194

PALLIATIVE THERAPY FOR CYANOTIC CONGENITAL HEART DISEASES: EXPERIENCE AT A TERTIARY CARE HOSPITAL

S Akhtar, N Aslam, Mehnaz Atiq, M Amanullah
Department of Paediatrics & Child Health, Aga Khan University, Karachi

Objective: (1) Demographic profile and clinical presentation of children under going palliative procedures for cyanotic CHD. (2) Types of palliative procedures and their outcome.

Method: This is a descriptive, analytical study conducted at the department of Pediatrics and Child Health at The Aga Khan University Hospital (AKUH) Karachi over a period of 3 years. This study included pediatric (age <15 years) patients who had undergone palliative procedures for cyanotic congenital heart disease; these include balloon atrial septostomy, Blalock-Taussig shunt, pulmonary artery banding, pulmonary valve dilation, bidirectional Glenn shunt and Fontan procedure. Data was collected on a questionnaire by reviewing the medical records

Results: 45 patients underwent palliative procedures, of which 30 had modified BT shunts, 11 balloon atrial septostomies, 3 Glenn shunts and 1 PA banding. The overall mortality was 13.3%. 5 patients died after BT shunt while 1 patient expired after balloon atrial septostomy. Preoperative sepsis, weight less than 2.5 kg and tricuspid atresia were important causes of mortality. Shunt failure rate was 26.4%. The mean age for these patients was 243.40 days. 51.1% patients were neonates. Neonatal age and postoperative sepsis were leading contributors to shunt thrombosis.

Conclusion: Palliative procedures offer safe and reasonable palliation with acceptable mortality for patients with cyanotic CHD. Recommendations Meticulous neonatal care and high quality postoperative care, including strict infection control, can go a long way to decrease the existing mortality in children that have undergone palliative procedures.

Keywords: Cyanotic Congenital Heart Disease, Blalock-Taussig Shunt, Balloon Atrial Septostomy

15.195

PLASMA LEVELS OF N-ACETYL-BETA-D-GLUCOSAMINIDASE AND CYTOKINES IN PATIENTS AFTER CARDIOPULMONARY BYPASS

M. Perwaiz Iqbal¹, Hasanat M. Sharif², Farzana A. Yousuf¹, Abrar H. Khan¹, Frank W. Sellke²
Departments of ¹Biological & Biomedical Sciences, and ²Surgery, Aga Khan University, Karachi

Objective: This study was to investigate the changes in activity of plasma N-acetyl-β-D-glucosaminidase (NAG), a marker for inflammation as well as renal, pulmonary and cardiac damage and proinflammatory cytokines and granulocyte-macrophage colony stimulating factor (GM-CSF) in patients undergoing coronary artery bypass grafting (CABG). Another objective was to find out the relationship between plasma levels of NAG and cytokines with clinical outcome of patients.

Method: NAG activity and concentrations of tumor necrosis factor-alpha of (TNF alpha), interleukin 6 (IL-6), interleukin 8 (IL8) and GM-CSF were monitored in plasma samples of 12 angina patients undergoing coronary artery bypass grafting before, immediately after and 5 days post surgical procedure. Serum glucose concentrations and patient's clinical condition was closely monitored during this time period.

Results: No significant increase was observed in plasma NAG activity or in plasma levels of cytokines and GM-CSF immediately after surgery indicating that cardiopulmonary bypass itself does not produce any significant amount of inflammation immediately after CABG. However, 5 days post surgery, there was a significant increase in plasma NAG activity (P=0.001), TNF alpha; (P=0.047) and GM-CSF (P=0.045). There was no relationship between plasma NAG activity and clinical outcome because various parameters of renal, cardiac and pulmonary functions, though slightly affected, remained within the normal limits.

Conclusion: Increased levels of NAG and TNF alpha did not affect clinical outcome. However, data suggest that NAG can be a potential marker for inflammation and end organ damage following CABG. An increase in GM-CSF on day 5 following CABG indicates enhanced body's defense mechanism against infection.

Keywords: Cardiopulmonary Bypass, Inflammation, N-Acetyl-β-d-Glucosaminidase (NAG)

15.197

VIEWS AND EXPERIENCES OF INFECTION CONTROL NURSES IN KARACHI, PAKISTAN

Shaheen Asif¹, Fatima Noman², Shireen Lalani²
¹Alumni, ²School of Nursing, Aga Khan University, Karachi

Objective: During the past decades, the concept of infection control nurse within the hospital environment is not very popular, but owing to rapidly growing rate of infections, the situation has now changed and various hospitals are now inclining towards appointing an infection control nurse. Purpose is still not served, as infection control nurse in Pakistan is confined only to conduct teaching sessions, and performing surveillance according to their Max (RN or Microbiologist) qualification. Till date, there is no special/professional education program for infection control in Pakistan. Fulfilling this gap will certainly make the difference in terms of reducing the risk of infections, especially nosocomial infections.

Method: Questionnaire was used to explore the experiences of 7 infection control nurses, from different hospitals, some were interviewed in focus group and they all were analyzed.

Results: views of the Infection control nurses, practicing skills and utilizing their knowledge in various hospitals were explored and will be discussed in detail.

Conclusion: This study highlights many problems, faced by infection control nurses. Sometimes due to lack of knowledge, behavior of other staff members, and the lack of specialized degree or diploma. There is an urgent need to address all these issues. If properly and uniformly trained; the Infection control

nurse could be in a better position to provide infection control services to Healthcare sector.

Keywords: Infection Control Nurse, Nosocomial Infection, Infection Control Services

15.198

IDENTIFICATION OF ALPHA THALASSAEMIA DELETION α -3.7 and α -4.2 BY MULTIPLEX LIGATION-DEPENDENT PROBE AMPLIFICATION TECHNIQUE

Izza Hussain, Bushra Moiz, Mashhooda Irfan, Sadia Tabassum, Tariq Moatter
Department of Pathology & Microbiology, Aga Khan University, Karachi

Objective: The purpose of this study is to determine frequency of α -thalassaemia carriers by molecular techniques in patients presenting with microcytic, hypochromic anaemia having normal Hb A2 as assessed by chromatography.

Study design and methods: • This will be a cross-sectional study with non probability, purposive sampling. A total of 62 blood samples will be required using an anticipated 10 to 20 percent prevalence of α -thalassaemia. Study duration will be of one year. Detection of deletion of one or more genes seen in α -Thalassaemia by Multiplex Ligation-Dependent Probe Amplification (MLPA). SALSA MLPA P 140 B probe mix kit is designed to target large deletion/duplication (3.7, 4.2) and point mutations distributed through out the alpha globin gene on chromosome 16. Heterozygote deletions will be apparent by 30-50% reduced relative peak area of the amplification product of that probe. Mutations analysed will be α -3.7 and α -4.2.

Results: Three samples were selected as a preliminary test. Out of these two were positive for deletion. One with 3.7 and other with 4.2. Study is in progress

Keywords: Alpha Thalassaemia, Deletion, 3.7 and 4.2

15.199

GENETIC POLYMORPHISMS OF CYTOCHROME P450 2C9 IN THE PAKISTANI POPULATION

Rabbia Warris, Jamal Hussain, Sagheer Ahmed
Department of Biological & Biomedical Sciences, Aga Khan University, Karachi

Introduction: Genetic polymorphisms of drug metabolizing enzymes are one of the major determinants of interindividual variability in drug response. The cytochrome P450 enzyme (CYP) 2C9 is responsible for the metabolism of about 10 % drugs in the market. It has many genetic variants but three alleles, CYP2C9*1, *2 and *3, are present in most ethnic populations and decreased CYP2C9 function has been reported in individuals with the CYP2C9*2 and *3 mutant alleles i.e. poor metabolizers (PM). Therefore, the doses of these drugs may need to be adjusted according to CYP2C9 genotype.

Objective Studies conducted in the region suggest that Chinese-Taiwanese, Japanese and Korean populations have lower PM phenotypes compared to American, Swedish and British population. Because the frequencies of these variant alleles vary according to ethnic group, present study investigated the frequencies of the variant alleles and genotypes of the CYP2C9 gene in the Pakistani population.

Methodology: A cross sectional study was conducted on 150 human volunteers. One ml blood was withdrawn from participants after obtaining informed written consent. After DNA extraction, allele-specific PCR was performed to determine the genetic variants in the study population. Frequencies of CYP2C9 from the Pakistani population were compared with other populations using Chi square test. **Results:** The pharmacogenetic knowledge regarding CYP polymorphism obtained from Pakistani population showed some very interesting results and large variations. These results would help improve the prescribing habits of physician by allowing them consider the patient's pharmacogenetic information. These will be discussed in the poster presentation.

Keywords: Pharmacogenetics, Cytochrome P450 2C9, Drug Metabolism

15.200

FREQUENCIES OF CYTOCHROME P450 2C19 GENE VARIANTS IN PAKISTANI POPULATION

Hamza Arif, Zunera Tariq, Sagheer Ahmed
Department of Biological & Biomedical Sciences, Aga Khan University, Karachi

Introduction: Polymorphisms in the CYP2C19 gene are shown to affect the metabolism of several classes of drugs, including, cyclophosphamide, antidepressants, β -blockers, antiplatelet drugs and proton pump inhibitors. Interindividual differences in CYP2C19 activity divide the population into extensive metabolizers (EM)-those with normal enzyme activity and poor metabolizers (PM)-those with little or no enzyme activity. **Objectives:** Population distribution of CYP2C19 gene variants, CYP2C19-2* and CYP2C19-3* (which confer PM status) and their allelic frequencies are not characterized in Pakistani population. Studies conducted in the region suggest that Chinese, Indian and Malay populations have higher PM phenotypes compared to American, Swedish and German population.

Objectives: To find out the frequencies of cytochrome P450 2C19 gene variants CYP2C19-2* and CYP2C19-3* in Pakistani population and compare these frequencies with those in Caucasian population.

Methodology: A cross sectional study was conducted with 143 healthy volunteers. One ml blood was withdrawn from participants after obtaining informed written consent. After DNA extraction, allele-specific PCR was performed to determine the genetic variants in the study population. Frequencies of CYP2C19 from the Pakistani population were compared with other populations using Chi square test. **Results:** Results of our study indicate the presence of various CYP

2C19 gene variants in our population. These results are expected to have significant implications in those containing such variation when they take certain medications. These results will be presented in the poster and discussed with the participants.

Keywords: Pharmacogenetics, Cytochrome P450 2C19, Drug Metabolism

15.201

GENETIC ANALYSIS OF THE CYTOCHROME P450 2D6 LOCUS IN A PAKISTANI POPULATION

Samana Zainub Shah, Sara Aslam Shah, Nudrat Shamim, Sagheer Ahmed
Department of Biological & Biomedical Sciences, Aga Khan University, Karachi

Introduction: The cytochrome P450 CYP2D6 enzyme-debrisoquine 4-hydroxylase metabolizes many different classes of commonly used drugs, such as tricyclic antidepressants and neuroleptics. Genetic polymorphism of the CYP2D6 gene is responsible for pronounced interindividual and interracial differences in the metabolism of these drugs. Therefore, the doses of these drugs may need to be adjusted according to CYP2D6 genotype.

Objectives: Population distribution of CYP2D6 gene variants (which confer poor metabolizer status) and their allelic frequencies are not characterized in Pakistani population, as revealed by careful literature search in databases such as PubMed and Google. Studies conducted in the region suggest that Chinese-Taiwanese, Japanese and Korean populations have lower PM phenotypes as compared to American, Swedish and British population. Because the frequencies of these variant alleles vary according to ethnic group, the aim of the present study was to determine the frequencies of the variant alleles and genotypes of the CYP2D6 gene in the Pakistani population.

Methodology: A cross sectional study was conducted at the Aga Khan University on 146 human volunteers. One ml blood was withdrawn from study participants after obtaining informed written consent. After DNA extraction, allele-specific PCR was performed to determine the genetic variants in the study population. Frequencies of CYP2D6 from the Pakistani population were compared with other populations using Chi square test.

Results: The results obtained indicate a large variation in Pakistani population with regard to the prevalence of CYP 2D6 gene variants in Pakistani population. These results will be shared with Research Assembly participant through poster presentation.

Keywords: Pharmacogenetics, Cytochrome P450 2D6, Drug Metabolism

15.202

WOMEN MENTAL HEALTH: DEVELOPMENT OF A RESEARCH TOOL IN THE COMMUNITY SETTING

Nargis Asad¹, Nasreen Sulaiman², Rozina Karmaliani², Ayesha Aziz³, Kausar S Khan³

¹Departments of Psychiatry, ²School of Nursing and ³Department of Community Health Sciences, Aga Khan University, Karachi

Background: Mental Health is one of the components of a four country study titled women's empowerment in Muslim contexts, democratization from inside out (WEMC). Besides Pakistan, other countries are: Iran, Indonesia and China. There are seven partners in the study, and in Pakistan AKU and *Shirkat Gah* (a women's resource centre) are two partners. The research framework of WEMC is an inquiry into women understands of empowerment, and the factors that support and impede women's empowerment. The research framework also requires unveiling the mechanism of control over women, and strategies women have used to challenge these controls.

A framework of analysis focusing on three levels of influences and power is an integral part of WEMC. The three levels are: Macro (domain where policies are made), micro (where women live their lives) and the meso, the space between the two levels where non-State powers reside. In the WEMC study, mental health is seen as part of women's well-being and is understood as being happy or unhappy and issues such as self-esteem, loneliness, stress, happiness-unhappiness are looked at along with their social determinates such as access to resources and decision making, marital status, financial status, roles and responsibilities, educational status. **Objectives:** Development of tool for Women Mental Health using PRA principles in rural and urban community settings of Pakistan

Method/ Research Design: Participatory Action Research using feminist paradigm. **Process:** The process of development went through several stages, initially group meetings were held among health care professionals including physicians, nurses, sociologists and psychologists to brainstorm various components of the tool. Group identified specific guidelines and probes for focus group discussions on mental health relating those with qualitative participatory research tools such as Focus Group Discussions (FGDs), Daily Routine Review, Illness and Inequities Matrix, Social Mapping, Venn Diagram, and Time Line to be used with the community women. The tool was pretested with the community women for language and comprehension and then further modifications were done based on the feedback received.

Conclusion: The mental health tool can be utilized in rural and urban community settings.

Keywords: Empowerment, Mental Health, Community

15.203**DETERMINATION AND COMPARISON OF PATIENT EFFECTIVE DOSES FOR HEAD CT**

Syed Mansoor Naqvi¹, Mehreen Saleem², Shaista Nazeer², Zafar Jameel¹, Maseeh Uz Zaman²

¹Department of Radiology, Aga Khan University, Karachi and

²University of Karachi, Karachi

Purpose: The aim of this paper is to determine the effective radiation doses for the head CT and comparison of these doses with published values. **Materials and Method:** The data is collected by using a 64 slice Toshiba Scanner Aquilion TSX-101A at the department of Radiology, Aga Khan University & Hospital Karachi, Pakistan. The effective doses are calculated by three methods. First by using tissue or organ weighting factor 0.0021 mSv • (mGycm)-11, secondly using tissue or organ weighting factor 0.0052 and third from calculator3. The average and standard deviation of these doses are also calculated. Graphs are drawn to show the dose distribution against the patient weight and the scan time.

Results: The calculated effective doses are 1.8 mSv from Dose1, 4.4 mSv from Dose2 and 5.4 mSv from calculator. From the Comparison of effective doses of this study with the internationally published data, it is observed that some of the calculated effective dose values for Brain CT are in line with or lower while some are greater than the internationally published data.

Conclusion: Variations are observed among the calculated effective dose values due to the different organ or tissue weighting factors used to calculate the doses. It may be due to variation of parameters i.e. kV, mAs, scan time, scan length etc. The discrepancy in the doses values from different sources can be resolved by further investigations.

Keywords: Effective Doses, 64 Slice CT, Tissue Weighting Factor

15.204**CONDITIONAL VS UNCONDITIONAL LOGISTIC REGRESSION FOR MATCHED CASE CONTROL ANALYSIS, WHAT IS THE RIGHT APPROACH?**

Bilal Ahmed

Department of Medicine, Aga Khan University, Karachi

Background: Unconditional logistic regression is preferred if the number of parameters is small relative to the number of subjects. However when matching has been done the unconditional method is said to overestimate the odds ratio which are usually the square of conditional logistic regression. Therefore, a rule of thumb is to use conditional because it gives unbiased results. **Objective:** To find out the difference in the measure of association when matched case control data analyzed by conditional and unconditional logistic regression. **Methodology:** A matched case control study was done to identify the risk factors associated with unintentional childhood poisoning. Three controls were recruited for every case matched on gender and age. Few variables have been analyzed by both conditional and unconditional logistic regression to

see the difference in the values of matched odds ratios (mOR). **Results:** Conditional logistic regression matched odds ratio for storage of kerosene oil and petroleum in soft drink bottles (mOR= 3.8, 95% CI: 2.0-7.3), low mother education (mOR= 4.2, 95% CI 1.8-9.6) and history of previous poisoning (mOR= 3.6, 95% CI: 1.7 -4.2). However, unconditional odds ratios were (O.R= 15.2, 95% CI: 8.8- 17.9), (O.R= 18.1 95% CI: 8.8-29.2), and (O.R = 13.6 95% CI: 10.3-17.8).

Conclusion and Recommendations: Unconditional logistic regression for matched case control study give overestimated odds ratios, which are biased. It is recommended that matched data should be analyzed using conditional logistic regression.

Keywords: Matched Case Control, Conditional Logistic Regression, Unconditional Logistic Regression

15.205**MENTAL HEALTH, HAPPINESS AND EMPOWERMENT: PERSPECTIVES OF WOMEN FROM URBAN AND RURAL COMMUNITIES OF SINDH, PAKISTAN**

Nargis Asad¹, Nasreen Sulaiman², Rozina Karmaliani², Ayesha Aziz³, Kausar S Khan³

¹Department of Psychiatry, ²School of Nursing and

³Department of Community Health Sciences, Aga Khan University, Karachi

Background: The particular study is an attempt to appraise social determinants of women mental health which differentially contribute and put women at risk for “vulnerabilities” in a developing country like Pakistan. This particular study is a sub component of a larger grant study titled ‘Women’s Empowerment in Muslim contexts: Democratization from inside out (WEMC)’. The project is running in four countries including China, Iran, Indonesia and Pakistan, with total of seven partners. In Pakistan, Aga Khan University (AKU) and Shirkat Gah (a women’s resource centre) are two partners.

Objectives of the study: The research framework of WEMC is an inquiry into women s’ understanding of empowerment, and the factors that support and impede women’s empowerment. The research framework also requires unveiling the mechanism of control over women, and strategies women have used to challenge these controls. This particular study aims to explore the perception of women about mental health, determine the social determinants of mental health with happiness and empowerment, identify the enabling and disabling factors associated with women’s mental health and to suggest ways for enhancing women’s mental health at micro, meso and macro level among the women living in urban and rural areas of Sindh, Pakistan.

Methodology: PRA methodology was used to study the particular aspects of empowerment and its relationship to happiness within the context of women’s mental health. A total of nine FGDs were conducted in both rural and urban areas of Sindh, Pakistan. Data analysis was done using NVIVO software package.

Results: Family harmony and relationships were considered to be essential elements of happiness. Happiness does not

seem to come from within it is rather imbedded in family harmony and well being of the member's even financial stability was a secondary element. Moreover, women felt happier and empowered in their young and adolescent age as compared to their adulthood and after marriage due to various societal and family restrictions in a patriarchal society. Study results implied that empowerment and happiness are separate entities, an empowered women is not happy due to various societal and cultural reasons. There is a need to challenge the existing barriers which impede women's well being and thus giving them more control of their lives not only at the personal but at the communal level for a collective change.

Keywords: Mental Health, Community, Tool

15.206 IMPACT OF REGULAR INTRINSIC FLOOD MONITORING ON IMAGE QUALITY

*Syed Mansoor Naqvi, Khalil A Khan, Ghufraan A Khan, Riffat Hussain, Maseeh Uz Zaman
Department of Radiology, Aga Khan University, Karachi*

Objective: To produce optimal quality image Aabstract with the emerging advances in the imaging technology it has become more important to recognize the various types of artifacts that can occur in γ -camera systems and their potential impact on clinical studies. A thorough evaluation of the system at installation and a comprehensive quality control program will detect most problems that can occur. The most sensitive indicator of γ -camera performance is uniformity¹. Intrinsic flood monitors the condition of the NaI crystals, the photomultiplier tubes and other associated electronics with the detector and is a principle tool in evaluating the status of the γ -camera. We have a well defined quality assurance program for our facility. We have observed the changes in the uniformity of the camera which showed progressive increase Central and useful fields of view. If the increased values are not addressed timely, they can lead to impact the image quality and artifacts will start to appear. On the basis of our report reburning and recalibration of the photomultiplier tubes and detector were performed which resulted in reduction of the values and so ensures the production of optimal quality image for reporting.

Keywords: Intrinsic Flood Monitoring, Optimal Image Quality, Photomultiplier Tubes

15.207 RISK FACTORS FOR FEBRILE SEIZURES IN CHILDREN UNDER 5 YEARS

*Noureen Afzal¹, Shahnaz Ibrahim¹, Aamir Hameed²
Departments of ¹Paediatrics & Child Health and ²Surgery,
Aga Khan University, Karachi*

Background: Febrile seizures (FS) are most common benign acute symptomatic seizures in childhood. Multiple risk factors are mentioned in the literature which increases the chance to

experience FS in children are height of temperature, febrile seizures in 1st and 2nd degree relatives, neonatal nursery stay of > 30 days, developmental delay and attendance at day care. *Objectives:* To identify the risk factors of febrile seizures in children under 5 years. *Methodology:* This prospective case control study is carried out in the Pediatric Unit of Aga Khan University Hospital, conducted from 1st June 2007 to 30th November 2007. Children aged between 5 to 60 months with FS were selected as cases. Controls (febrile child without seizure) selected were matched on age and length of stay with cases. The results were reported in terms of crude and adjusted odds ratio with 95 percent confidence interval. A p-value of less than 0.05 will be treated as significant value. A pre-coded questionnaire was completed after taking informed consent. *Results:* 150 patients were taken into study. We found that height of temperature (P-0.001), family history of FS (P value-0.001), family history of epilepsy (P-0.04) and source of infection (P-0.002) were significantly associated with FS at univariate level. These variables are selected for model building.

Conclusion: Our study demonstrated several associations, particularly height of temperature, and positive family history of FS. We provide further association with family history of FS and epilepsy. *Key words:* Fever, febrile seizures, risk factors, family history

Keywords: Febrile Seizure, Risk Factors, Family History

15.208 SELECTIVE DEGRADATION OF *SULFOLOBUS* *SOLFATARICUS* TRANSCRIPTION FACTOR E (TFE) UNDER HEAT SHOCK CONDITIONS

*Junaid Iqbal, Sohail A. Qureshi
Department of Biological & Biomedical Sciences, Aga Khan University, Karachi*

Objective: Archaea are prokaryotes but their transcriptional machinery is more akin to that of eukaryotes. We have studied the fate of various components of *Sulfolobus solfataricus* transcriptional apparatus during heat shock conditions and discovered that transcription factor E (TFE) is rapidly lost in cells incubated at 90°C for 60 minutes whereas other factors like the TATA-binding protein (TBP), transcription factor-B1 (TFB1), TBP-interacting protein (TIP49) and the largest subunit of RNA polymerase (rpoB) are completely spared. This decline in TFE is more pronounced in whole cells as compared to extracts and occurs at the protein and not its mRNA level which remain unchanged at 90°C. Furthermore, temperature shift experiments showed that TFE levels in heat shocked cells gradually returned to normal after they had been incubated at 76°C for 48 hours. Taken together these observations suggest that as TFE is not required for transcription under heat shock conditions it does not serve as a general transcription factor in *Sulfolobus*. We discuss the implications of our findings in light of the important role in transcription that has been assigned to TFE.

Keywords: TFE, Heat Shock, *Sulfolobus*

15.209**FOUR YEARS OF CARDIAC DATA BASE
MANAGEMENT; IMPACT ON CLINICAL PRACTICE**

*Shumaila Furnaz, Shazia Perveen, Mubashir Zareen Khan
Department of Surgery, Aga Khan University, Karachi*

Back ground: The cardiothoracic department Aga Khan University sensed a need to have an infrastructure which would enable us to answer the challenging research queries cardiac surgery practice besides the ones debated in the larger scientific community. Cardiothoracic surgery quality improvement as core value of health care provision through scientific enquiries. Therefore its become in dispensable to establish and maintain a system for collection and retrieval of systematic information. This led to the generation of an extensive electronic cardiothoracic data base in 2006. It has capacity to become a multicenter data base. It is based on the European association of cardiothoracic surgeons and society of thoracic surgeon's data bases.

Method: For the collection of data maintaining cardiothoracic surgery database form for all the following aspects of patient care, patient condition before surgery, before surgery medication, anesthesia information, perfusion information, surgery information, recovery information, status of the patient at the time of discharge and follow up information through telephone which is on 30day and 365 days of surgery
Results: From Jan2006 –December2009 total number of open heart surgery n=2375, isolated CABG 79%, isolated Valve11%, Valve+CABG 2.6%, other cardiac procedures 3.7%, other combination cardiac procedures 2.9%, over all mortality 3.6%, 30day of surgery morbidity 22% which is reoperation for bleeding 4%, neurological 0.6%, dialysis 1.4%, heart failure 0.3%, septicemia 2%, prolong ventilation 9.9%, multiorgan failure 0.8% and respiratory is 1.5%
Impact in clinical practice: Through data base department produce up till now four publications
Way forward: elaborate long term follow up to identify the problems at earlier stage, JCIA collaboration, pediatrics cardiac surgery data base, produce original research from the data.

Conclusion: Meticulously kept data base helps to identify deficiencies in practice and a direction for future improvement.

Keywords: Data Base, Clinical Practice, Research

15.210**CHANGE IN PATIENT'S PERCEPTION OF ROLE OF
ANESTHETIST AFTER PREOPERATIVE ANESTHESIA
CLINIC VISIT: AN AUDIT**

*Muhammad Imran, Fauzia Anis Khan
Department of Anaesthesia, Aga Khan University, Karachi*

Objective: The aim of this survey was to assess surgical patient's perception about the role of the anaesthetist in patient care and to determine any change in this perception after a visit to the preoperative clinic.

Method: A total of 481 patients were included in this single observer, prospective, observational study conducted over a

period of four months. Patients filled a questionnaire prior to and after attending the preoperative anesthesia clinic. The patients were asked to fill the questionnaire again after the clinic visit.

Results: Seventy one percent of the patient knew that anaesthetist were a medically qualified. Thirty three percent identified anaesthetist as a person who took care of patients during the surgery which increased to 38 % after clinic visit. In response to question as what an anaesthetist did after putting patient in sleep 67.3 % responded previsit that he or she stays with the patient, this increased to 74% after visit. For postoperative care 42% indentified anaesthetist as responsible before visit and 46% after it. Only 32% knew that anaesthetist has role outside operating room which increased to 48 % after visiting the anaesthetist. Majority wanted to know more about anaesthesia both before (77.1%) and after (73.2) clinic visit. Those who had previous anaesthesia exposure only 15.8 % remembered the anaesthetist. Almost half (48.1%) believed that mostly anaesthetist are male and this belief increased to 70% after the visit. Eighty percent would like to know more about their anaesthetist. Fifty six percent patients were anxious before hospital admission and surgery was the main cause for their anxiety (68.8%) rather than anaesthesia (28.4%) . Anxiety decreased in 80% of visitors after the visit. Sixty five percent wanted more information after visiting the anaesthetist in clinic.

Conclusion: This audit show poor perception of the role of anaesthetist both inside and outside the operating room. Some improvement was showed after preoperative anaesthesia clinic visit. There is a need to educate the patients on the role of the anaesthetist in surgical patient care.

Keywords: Awareness, Knowledge, Anaesthetist

15.211**DILUTE SOLUTIONS OF ISOPROPANOL TRIGGER
CELL DEATH IN SULFOLOBUS SOLFATARICUS P2**

*Junaid Iqbal, Yousuf Aqeel, Sohail A. Qureshi
Department of Biological & Biomedical Sciences, Aga Khan
University, Karachi*

Introduction: As a group the Archaea are referred to as extremophiles because of their ability to tolerate extremes of pH, salt, temperature and pressure. During the course of our work which attempts to understand the chemical stress response system in Sulfolobus, we have found that as little as 0.25% isopropanol is sufficient to rapidly kill Sulfolobus cells growing in culture medium. Our experiments showed that addition of isopropanol culminated in the degradation of genomic DNA as well as proteins within 10 minutes. This protein and DNA degradation activity was produced by isopropanol but not by n-propanol and other alcohol species. When incubated with 0.25% isopropanol, DNA degradation also occurred in cell extracts suggesting that isopropanol mediates its toxic affects by activating specific proteases and deoxyribonucleases. Moreover, Western analysis showed that protein degradation in isopropanol treated cells is not random but targeted. Taken together these results reveal the presence of a rudimentary cell-death system which is activated by low concentrations

of isopropanol in Sulfolobus, that is akin to programmed cell death (apoptosis) in eukaryotes.

Keywords: Isopropanol, DNA Degradation, Sulfolobus

15.212

HAIR PIN INHALATION IN A YOUNG WOMEN

Saulat Fatimi, Mehreen Kisaat

Department of Surgery, Medical College, Aga Khan University, Karachi

Introduction: A 39 year old woman presented to the emergency room with a continuous cough for the past 48 hours. According to the patient, she was pricking her nose with a hair pin when she suddenly sneezed and the hair pin disappeared in her nose. Following this, she started coughing and the cough had not stopped since then. On examination, she had a heart rate of 110/minute. On auscultation of her lungs, she had rhonchi on her right lower lung. The rest of her examination was unremarkable. A chest x-ray was done which showed a large hair pin in the right lung. We performed emergent flexible bronchoscopy under general anesthesia in the OR which revealed a hair pin lying in the right bronchus intermedius. A rigid bronchoscope was then introduced and the hair pin was removed without any complications. Patient was discharged home the following day on one week of oral Augmentin. Patient had an uneventful and complete recovery.

Keywords: Hairpin, Lungs, Cough

15.213

RE-EXPLORATION FOR HEMORRHAGE AFTER CORONARY ARTERY BYPASS GRAFTING: INCIDENCE, OUTCOME AND THE ROLE OF INTRA-OPERATIVE BLOOD PRODUCTS

Saulat Fatimi¹, Mehreen Kisaat², Zubair Luqman¹, Muhammed Murtaza¹

¹Department of Surgery and ²Medical College, Aga Khan University, Karachi

Objective: This study aimed to evaluate the incidence, risk factors and outcome of re-exploration for bleeding after CABG in patients at a tertiary care center in Pakistan. We also looked at the impact of the intra-operative use of blood products on re-exploration.

Method: Demographic data, comorbid, pre-operative characteristics, intra-operative details and post-operative outcomes were collected for 1,464 patients undergoing CABG as an isolated surgical procedure at AKUH between January 2006 and December 2008 from the institutional cardiac-surgery database. Multivariate logistic regression was used to identify pre-operative and intra-operative risk factors for re-exploration. Propensity matched controls were used to assess the association of intra-operative blood products with re-exploration for bleeding and the distribution of outcomes. **Results:** 69 patients (4.7%) underwent re-exploration for bleeding in this series. Congestive heart failure, left main

stenosis >50% and use of non-IMA graft were significant risk factors for re-exploration in the final multivariable model. Propensity-matched analysis showed that intra-operative use of packed red blood cells was significantly associated with re-exploration for bleeding amongst re-explored cases and propensity matched controls (p=0.006). In-hospital mortality, post-operative septicemia, cardiac arrest, prolonged need for mechanical ventilation and atrial fibrillation were significantly associated with re-exploration in propensity matched patients (p<0.05).

Conclusion: The incidence of re-exploration for bleeding in this center from Pakistan is comparable to that reported in Western studies. Severity of CAD and use of non-IMA grafts are possible risk factors for re-exploration. Intra-operative use of packed red blood cells is a risk factor for post-CABG bleeding requiring re-exploration. Re-exploration for bleeding is associated with a worse outcome.

Keywords: Re-exploration, Hemorrhage, CABG

15.214

INJURIES – HIDDEN KILLER OF CHILDREN UNDER 5 YEARS: DEMOGRAPHIC AND HEALTH SURVEY (DHS) FROM PAKISTAN

Uzma Rahim Khan, Nukhba Zia, Junaid A. Razzak

Department of Emergency Medicine, Aga Khan University, Karachi

Background: Globally, around 950,000 children under the age of 18 years die due to injury and violence each year. The rate of child injury death is 3.4 times higher in low-and middle-income countries than in high-income countries. **Objectives:** To study injury mortality patterns amongst children under 5 years of age in Pakistan. **Methods:** DHS in Pakistan was conducted from September 2006 - February 2007. It included 95,000 households. Child Verbal Autopsy Questionnaires (CVAQs) was administered to those households which had reported a death of a child under age five from January 2005 onwards. A total of 3,232 CVAQs were administered, of which 3,101 were completed. **Results:** Respondents were mostly parents (67.7%) of the deceased; between the ages of 20-59 year, illiterate (74.6%) and females (90.8%). About 83.8% of the respondents were present at the time of death of the deceased. Total 90 (2.9%) injury mortalities were reported. Ratio of deaths in urban versus rural areas was 1:3.5. Injury mortalities were common between ages of 1-5 years (77.8%) and among males (52.2%). Overall, mortality was due to drowning 20 (22.2%), road traffic injuries RTIs 11 (12.2%), fall 11 (12.2%). Mortality in children under one year was commonly due to RTIs (5.6%). Frequent injury mortalities between 1-5 years were drowning 18 (25.7%) and fall 11 (15.7%). RTIs (19.1%) in boys while drowning (30.2%) in girls were the most common causes of mortality.

Conclusion: Drowning followed by RTIs and fall were the most common injury mortalities under 5 years of children.

Keywords: Children, Injuries, Mortality

15.215**INCIDENCE OF SURGICAL SITE INFECTION AT A TERTIARY CARE UNIVERSITY HOSPITAL IN KARACHI**

Farida Dato¹, Khurshid Khowaja², Bushra Jamil³, Roshan Hadwani⁴

¹Alumni, School of Nursing, Departments of ³Medicine and ⁴Infection Control, Aga Khan University, Karachi

Objective: Surgical Site infections (SSI) lead to a significant clinical complication to surgical patients and contributes to hospital- acquired infections at large. In Pakistan very few studies conducted on SSI & the analysis of this study may serve as a baseline for future comparison & can contribute to reduction in the post-operative infection rate. **Objective:** The aim was to identify the baseline SSI rates and to assess the magnitude of the problem and its risk factors in a teaching hospital.

Method: A prospective study aimed to estimate the incidence of surgical site infection (SSI) during hospitalization and after discharge from the hospital up till 30 days was undertaken for seven months. We included all patients who underwent any form of surgery in the hospital (excluding Eye and ENT). They followed from the pre-operative period till 30 days post-discharge for signs of infections. NHSN based criterion was to identify SSI associated with surgeries. Logistic regression analysis used to obtain relative risk estimates for predictors of SSI.

Results: From Oct 2008 to April, 2009, total 758 surgical procedures were recorded out of which SSI was seen in 26 (3.4%) patients. Among these 7 (26.9%) had SSI during hospital stay and 19 (73.1%) within 30 days after discharge. Out of 26 SSI positive patients, 1 (3.8%) and 25 (96.2%) were classified as Superficial and deep incision infection, respectively. Cultures were performed for 20 (76.9%) infections. The highest SSI incidence rates were observed in Mastectomy 8 (26.7%), TAH 5 (6.3%) and Exploratory laparotomy 3 (7.9%).

Conclusion: We observed higher SSI in certain surgical categories and a significant proportion of SSI has been identified in the post-discharge period. Intervention to reduce SSI should be focused on these areas.

Keywords: Surgical Site Infection, Incidences, Surgical

15.216**VITILIGO IN A PATIENT WITH MULTIPLE AUTOIMMUNE PATHOLOGIES**

Asif Jafferani¹, Sadia Masood²

¹Medical College and ²Department of Medicine, Aga Khan University, Karachi

Introduction: Vitiligo is a common dermatological condition, associated with a number of autoimmune pathologies. We here present the case of a middle aged lady who presented with vitiligo while being treated as a case of a several autoimmune diseases. She had been diagnosed as a case of Coombs Positive Autoimmune Hemolytic Anemia 13 years ago, and subsequently after 5 years was diagnosed as a case

of Systemic Lupus Erythematosus (SLE). She also had for a short duration developed Psoriasis and after its complete resolution presented with complaints of Vitiligo. She was treated with topical Corticosteroids and Sunblock with advise on follow up. Although the relationship of autoimmune conditions with Vitiligo has been explored in the past, this case adds yet another dimension to the unique evolution of autoimmune pathologies.

Keywords: Vitiligo, autoimmune diseases, autoimmune dermatological conditions

15.217**HAPLOTYPE ANALYSIS OF PARAOXONASE GENE CLUSTER WITH MYOCARDIAL INFARCTION IN A PAKISTANI POPULATION**

Farzana Abubakar¹, Mohammad Saeed², M Perwaiz Iqbal¹, Siddiqa Perveen¹, M Shafiq¹, J Sajid¹, Philippe MFrossard¹
¹Department of Biological & Biomedical Sciences, Aga Khan University, Karachi, ²Northwestern University, Illinois, USA, and ³Royal Albert Edward Infirmary, Wigan, United Kingdom

Objective: Paraoxonase gene (PON) cluster polymorphism has been investigated in numerous studies for their association with myocardial infarction but the results have been conflicting although recent meta-analysis attempted to account for the discrepancies. Pakistani people belong to South Asian population which has the highest known rate of Coronary Artery Disease (CAD). The relative risk of CAD in South Asian men is highest in early ages suggesting that both environmental and genetic factors contribute to its development. In this study we have investigated the association of PON gene polymorphism and risk of CAD in Pakistani population through Haplotype analysis using Haploviewv3.2 and EHPLUS.

Method: A case control study was conducted. A total of 211 Pakistani patients with acute myocardial infarction admitted to the Armed forces Institute of Cardiology were selected for the study. Similarly 124 normal healthy subjects were also selected. Genomic DNA was extracted from whole blood was genotyped for six known polymorphisms in the PON gene cluster through Polymerase Chain Reaction and Restriction Fragment Length Polymorphism.

Results: The Q192R, C108T and A148G polymorphisms were found to be associated with myocardial infarction. Two haplotypes consisting of C108T, C311S and A148G have allele frequencies of 0.17 and 0.14 in the control population, predisposed to MI (global haplotype statistics $\chi^2=34.74$, $df=15$, $p=0.0027$).

Conclusion: This study demonstrates association of three polymorphisms (Q192R, C108T and A148G) in the PON gene cluster which appears to be a susceptibility locus for MI in Pakistani population.

Keywords: Myocardial Infarction, Paraoxonase Gene, Haplotypes

15.218

FOSTERING HEALTHY WORK ENVIRONMENT FOR NURSES WORKING IN AN ACUTE CARE SETTING IN PAKISTAN

Khairunnissa Hooda, Shabana Lalji
Nursing Education Services, Aga Khan University, Karachi

Objective: The purpose of this concept paper is to share recent advances in fostering healthy work environment for nurses working at acute care settings in Pakistan.

Background: For last few years, hospitals have been increasingly challenged by nurse's shortage as well as other organizational factors like system re-engineering, aggressive cost-cutting, dysfunctional work environment, inadequate recognition and support for professional nurses. There is mounting evidence that unhealthy work environment contribute to medical errors, ineffective delivery of care, conflict and stress among health professionals. Demoralizing and unsafe conditions in workplaces cannot be allowed. **Description:** The creation of healthy work environment is imperative to ensure patient safety, enhance staff recruitment and retention, and maintain organization's financial viability. In 2001, the American Association of Critical-Care Nurses (AACN) made commitment to promote creation of healthy work environment that foster excellence in patient care wherever acute care nurses practice. This commitment is based on the Association's dedication to optimal patient care and the recognition that, deepening nurse shortage cannot be reversed without healthy work environment. Six standards for establishing healthy work environment have been identified. The standards uniquely identify systemic behaviors that often discounted, despite growing evidence that contribute creating unsafe conditions and obstruct ability of individuals to achieve excellence. The success's ingredients proposed by AACN will be shared with nursing colleagues to learn and implement. Following standards are skilled communication, true collaboration, effective decision making, appropriate staffing; meaningful recognition and authentic leadership.

Conclusions/Implications: This information helps nursing leaders to contribute in organizational learning by understanding critical factors, illuminating not only accomplishment of changes need at work environment but how to make them happen

Keywords: Healthy, Work Environment, Nurses

15.219

EPIDEMIOLOGICAL DATA OF FIVE COMMON SOFT TISSUE SARCOMAS AS SEEN IN OUR PRACTICE

Zubair Ahmad, Romana Idress
Department of Pathology & Microbiology, Aga Khan University, Karachi

Objective: Our aim was to compile epidemiological data regarding age, gender and site distribution of these sarcoma types, and to correlate our findings with published western data in order to determine whether there were any significant differences in our population compared to the west.

Method: The Section of Histopathology, Department of Pathology, Aga Khan University, Karachi

Results: Large majority of rhabdomyosarcomas occurred in children and adolescents with a M:F ratio >2. Head and neck region was the commonest site. Large majority of extraskelatal Ewing's / PNET occurred in adolescents and young adults, head and neck region was again the commonest site. Large majority of leiomyosarcomas occurred in the fifth decade and onwards. Lower and upper limbs and retroperitoneum were the commonest sites. Large majority of synovial sarcomas occurred in adolescents and young adults. Largest proportion of cases occurred in lower limbs. Liposarcomas were evenly distributed from fourth decade onwards, M:F ratio was greater than 2. Majority were in retroperitoneum and thigh. **Conclusion:** Most of the sarcoma trends in our population are similar to western published data.

Keywords: Rhabdomyosarcoma, leiomyosarcoma, liposarcoma

15.220

HYDROGEN PEROXIDE IS THE MAJOR OXIDANT PRODUCT OF XANTHINE OXIDASE.

Umair Zafar Malik¹, Eric Kelley², Nicholas Khoo², Nicholas k. Hundley², Bruce A. Freeman², Margaret Tarpey²
¹Medical College, Aga Khan University, Karachi and
²University of Pittsburgh, School of Medicine, United Kingdom

Objective: Xanthine oxidase (XO) is a critical source of reactive oxygen species (ROS) in inflammatory disease. Focus, however, has centered almost exclusively on XO-derived superoxide (O₂(⁻)), whereas direct H₂O₂ production from XO has been less well investigated. **Method:** We examined the relative quantities of O₂(⁻) and H₂O₂ produced by XO under a range (1-21%) of O₂ tensions.

Results: At O₂ concentrations between 10 and 21%, H₂O₂ accounted for approximately 75% of ROS production. As O₂ concentrations were lowered, there was a concentration-dependent increase in H₂O₂ formation, accounting for 90% of ROS production at 1% O₂. Alterations in pH between 5.5 and 7.4 did not affect the relative proportions of H₂O₂ and O₂(⁻) formation. Immobilization of XO, by binding to heparin-Sepharose, further enhanced relative H₂O₂ production by approximately 30%, under both normoxic and hypoxic conditions. Furthermore, XO bound to glycosaminoglycans on the apical surface of bovine aortic endothelial cells demonstrated a similar ROS production profile.

Conclusion: These data establish H₂O₂ as the dominant (70-95%) reactive product produced by XO under clinically relevant conditions and emphasize the importance of H₂O₂ as a critical factor when examining the contributory roles of XO-catalyzed ROS in inflammatory processes as well as cellular signaling.

Keywords: Hydrogen Peroxide, Xanthine Oxidase, Free Radicals

15.221**FASCN AS A MARKER OF CLASSICAL HODGKIN'S LYMPHOMA AND VARIOUS TYPES OF NON-HODGKIN'S LYMPHOMA**

*Romana Idress, Zubair Ahmad, Shahid Pervez
Department of Pathology & Microbiology, Aga Khan University, Karachi*

Objective: To assess the usefulness of fascin in distinguishing classical Hodgkin's Lymphoma from various types of Non-Hodgkin's Lymphoma including Diffuse Large B Cell Lymphoma (DLBCL), Anaplastic large cell lymphoma (ALCL), and others.

Method: Fascin Immunostaining (monoclonal, mouse antibody) was performed on paraffin embedded tissue sections of 95 cases. This included previously diagnosed cases of Hodgkin's Lymphoma (n: 46) and various types of Non-Hodgkin's Lymphoma (DLBCL, 26; ALCL, 13, PTCL-NOS, 8 & AILD, 2). Cytoplasmic staining pattern was interpreted as positive. Intense staining of dendritic cells was used as internal control.

Results: All 46 cases of Hodgkin's lymphoma included in the study (22 cases of mixed cellularity type, 21 cases of nodular sclerosis type, and 3 cases of lymphocyte rich type) showed strong diffuse staining with fascin. 8 out of 26 cases of DLBCL (30.8%), 6 out of 13 cases of ALCL (46.1%) and 2 out of 8 cases (25%) of peripheral T cell lymphoma i.e. PTCL showed positivity for fascin. 2 cases of Angioimmunoblastic T cell lymphoma (AILD) were included, which were both negative.

Conclusion: Fascin is believed to be a highly sensitive marker for classical Hodgkin's lymphoma, however our results show that specificity of this marker is low and it may be expressed by a variety of other Non-Hodgkin Lymphomas. Knowledge of these cross relativities is important to avoid misdiagnosis.

Keywords: Fascin, Reed Sternberg cells, Hodgkin's Lymphoma

15.222**INHERITANCE PATTERN OF ESSENTIAL HYPERTENSION IN A POPULATION OF SINDH, PAKISTAN**

*Loung V. Umedani¹, Vikram Mehraj², Muhammad Ishaq³,
Philippe M. Frossard⁴*

Department of¹Biological & Biomedical Sciences, ²Pathology and Microbiology, Aga Khan University, Karachi, ³Sir Syed College of Medical Sciences, Karachi and ⁴Abu Dhabi University, UAE

Objective: Essential Hypertension (EHTN) is multifactorial in nature. Like other complex traits, it is characterized by transmission to subsequent generations. Generally consanguineous families display recessive pattern as compared to dominant pattern in non-consanguineous families. It is reported that risk of developing EHTN is increased 2 - 4 times, if both the parents are diagnosed to have EHTN. We aimed to study inheritance pattern of a newly discovered EHTN gene called- Serine Threonine Kinase 39 (STK39) in pedigrees characterized by prevalence of EHTN.

Methods: 130 subjects of age above 18, from four EHTN prevalent pedigrees were selected from Tharparkar Desert, Sindh- Pakistan. DNA was extracted from white blood cells. Genotyping was done by tetra primer ARMS PCR method. Data for STK39 gene SNP (rs# rs35929607) variant A to G were recorded. Pedigrees were drawn by using software Cyrillic v 2.1. Pedigree analysis was done by plotting homozygous AA & GG and heterozygous AG genotypes. Flow of pathogenic trait into subsequent generations was observed for analysis.

Results and Conclusions: In non-consanguineous pedigrees there appears to be a major gene effect at work indicated by a dominant pattern of inheritance The major features found were: the clinical presence and transmission of EHTN, predominant heterozygous genotype pattern of STK39 SNP in these families, marriage of both affected parents gave affected children and absence of positive history of consanguineous marriages. In consanguineous pedigrees inheritance pattern found was recessive pointing to pooling of multiple genes with weak penetrance.

Conclusion: Refer above.

Keywords: Essential Hypertension, Consanguinity, Inheritance pattern

15.223**PREVALENCE OF SERINE THREONINE KINASE 39 GENE SINGLE NUCLEOTIDE POLYMORPHISM RS35929607 AND ENVIRONMENTAL RISK FACTORS ASSOCIATED WITH ESSENTIAL HYPERTENSION IN A PAKISTANI POPULATION**

*Loung V. Umedani¹, Vikram Mehraj², Bushra Chaudhri¹,
Muhammad Ishaq³, Philippe M. Frossard⁴*

Departments of¹Biological & Biomedical Sciences, ²Pathology & Microbiology, Aga Khan University, and ³Sir Syed College of Medical Science, Karachi

Objective: We studied prevalence of SNPs of recently discovered EHTN gene (STK39) and environmental risk factors in a population based cross sectional study on 563 subjects from Tharparkar desert, Sindh, Pakistan. We used a questionnaire to record demographic, anthropometric data, blood pressure, comorbid and environmental risk factors. Non-hypertensive individuals were used as controls. Genetic analyses were carried out by tetra-primer ARMS-PCR method. We also performed lipid profile, Microalbuminuria, C-reactive protein (CRP) and ECG. Data obtained was analyzed by SPSS version 10.

Method: Pl. Refer above.

Results: Prevalence of essential hypertension (EHTN) was found to be 14.3% with mean age for EHTN was 52.1 years (\pm 15.9 SD). Prevalence of STK39 SNPs frequencies were 36.2% for AA, 61.0% for AG and 2.8% for GG genotypes. Frequency of reference allele (A) was 66.7% and of rare allele (G) was 33.3%, Chi square 73.1 and probability (P-value) 1.21431 E-17. Prevalence of variant allele-G was less in hypertensive subjects, subjects with raised systolic BP and raised diastolic BP i.e. 35%, 39%, 34% respectively as compared to reference allele-A i.e. 64%, 60%, 65%

respectively. This shows that STK39 gene is not strongly associated with EHTN. In subjects with EHTN only few of the environmental risk factors such as, increased age, raised BMI, diabetes, decreased physical activity, blood pressure in both parents and urinary infections showed significant association. Factors without association included male gender, consanguinity, isolated parental EHTN, extra salt usage, tobacco, saturated fat, alcohol, tea and coffee, non-vegetarian diet, stress, raised LDL cholesterol, TG cholesterol, low HDL cholesterol, C-reactive proteins, and raised microalbuminuria. Analyses for effects of genetic factors as compared to effects of risk factors combination showed effect of risk factors more pronounced and significant to raise systolic and diastolic BP than the genetic factors operating alone.

Conclusions: 1. STK39 gene is not strongly associated with EHTN. 2. It is concluded that STK39 SNPs when combined with various environmental risk factors enhance predisposition of individuals to developing essential hypertension.

Keywords: Essential Hypertension, Serene Threonine Kinase 39 Gene, Single Nucleotide Polymorphism

15.224

SCIENTIFIC BASIS FOR THE MEDICINAL USE OF AEGLE MARMELOS IN GASTROINTESTINAL AND CARDIOVASCULAR DISORDERS

Humaira Nasir¹, Malik Hassan Mehmood¹, Sher Rehman², Intasar Husain Taqvi³, Khalid Hussain Janbaz, Anwarul Hassan Gilani¹

Department of ¹Biological & Biomedical Sciences, Aga Khan University, Karachi, ²Bahauddin Zakariya University, Multan and ³Federal Urdu University, Karachi

Introduction: Aegle marmelos Corr. (family: Rutaceae) is commonly known as Bael Tree or 'Holly Tree'. This study was aimed at providing the scientific basis for its medicinal use in gastrointestinal and cardiovascular disorders using the in-vitro and in-vivo assays. When tested in isolated rabbit jejunum, the crude extract of Aegle marmelos (Ae.Cr) caused relaxation of spontaneous and high K⁺ (80 mM)-induced contraction at concentration range of 0.3-3 mg/mL and 0.03-1 mg/mL respectively. The CCB like spasmolytic effect of Ae.Cr was confirmed when it caused a non parallel rightward shift in the concentration response-curves of Ca⁺⁺ similar to verapamil. In anesthetized rats, it caused a dose-dependent fall in the mean arterial pressure at 1-30 mg/kg. When tested on the base line of isolated rat aortic preparations, Ae.Cr showed initial phentolamine sensitive contractions at 0.1-1 mg/mL followed by relaxation at 3-5 mg/mL. It also relaxed high K⁺-induced contractions at 1-10 mg/mL, similar to verapamil. These data indicate that Aegle marmelos possess blood pressure lowering effect, mediated through Ca⁺⁺ channel blockade and this study rationalizes the medicinal use beal fruit in gut and cardiovascular disorders.

Keywords: Aegle Marmelos, Antihypertensive, Ca⁺⁺ Channel Blockade

15.225

TETRALOGY OF FALLOT: IMPACT OF LEARNING CURVE ON THE SURGICAL OUTCOME OF PATIENTS

Samia Mazahir, Muneer Amanullah, Shazia Perveen
Department of Surgery, Aga Khan University, Karachi

Introduction: Tetralogy of Fallot is a congenital heart disease that was described in 1888 by Etienne Fallot. The incidence of congenital heart diseases (CHD) is 1% of live births per year. This translates to 75,000 children with CHDs in Pakistan every year. Incidence of ToF is 10% of the CHDs (approximately 7000 children per year). The surgical management of TOF has evolved over the past 56 years. The history of ToF has been radically altered however a controversy still exists between those who advocate direct primary repair and those who advocate palliative procedure followed by complete repair. The age of repair is debated; however various studies have proven advantages of repair in children less than 1 year of age. AKUH did its first TOF repair in 1998. In the past 2.5 years 225 open heart surgeries were performed at AKUH of which nearly 25% were complete repair for ToF. Multi-regional collaborations and a dedicated multi disciplinary team approach has resulted in better outcome for children with ToF.

Method: Retrospective review of medical records of children undergoing TOF repair between June 2006 and January 2009 was carried out. The children were divided into 2 groups. Group 1 was those operated between June 2006 and Sept 2007 while Group 2 included those operated between October 2007 and January 2009. Outcomes including complications and mortality were evaluated between the 2 groups and results analyzed using SPSS.

Results: There were 32 males and 21 females. The median age of presentation was 10 years. The commonest co morbid condition was a PDA (29%) followed by a hypoplastic pulmonary artery (26%). The median weight at repair was 15kgs while 13 patients had a previous BT shunt in place. The commonest method of VSD repair was trans-atrial (85% of the patients). The median aortic cross clamp time was 107 minutes while the median cardiopulmonary bypass time was 220 minutes. The median post op ICU stay was 3.5 days, the median post op ventilation time was 2 days and the median hospital stay was 9 days. 5 patients needed re operation. 8 patients had residual defects of which 2 were right ventricular outflow tract obstructions and 6 were VSDs >2mm. There were 6 surgical mortalities. On comparing the 2 groups it was found that in the later group we were operating on older patients, using milrinone as first line inotropic agent and creating more monocusp valves resulting in lesser re-operations and mortality.

Conclusion: We conclude that ToF is the commonest congenital open heart surgery performed at AKUH. With more experience and further maturity of the multi disciplinary team the results indicate better outcomes evidenced by lesser morbidity and mortality.

Keywords: TOF, Learning Curve, Outcome

15.226

COMPARATIVE STUDY OF TWO SUBETHNICITIES FOR EFFECTS OF GENETIC FACTORS ATTRIBUTED TO STK39 SNPS AND HYPERTENSIVE RISK FACTORS IN A PAKISTANI POPULATION.

Loung V. Umedani¹, Vikram Mehraj², Bushra Chaudhri¹, Muhammad Ishaq³, Philippe M. Frossard¹
Departments of ¹Biological & Biomedical Sciences, ²Pathology & Microbiology, Aga Khan University and ³Sir Syed College of Medical Science, Karachi

Objective: We aimed to study the risk factors associated with essential hypertension (EHTN) in two Pakistani subethnicities and determine to what extent polymorphisms in STK39 gene predispose individuals to developing EHTN under different genetic and environmental conditions.

Method: A population based cross sectional study on two subethnicities was done- SE1 n=366 subjects with remarkable prevalence of EHTN and SE2 n=197 with negligible prevalence from Tharparkar desert, Sindh, Pakistan. Demographic, anthropometric data, blood pressure, comorbids and environmental factors exposure was recorded. Non-hypertensive individuals of SE1 and SE2 were used as controls. Genotyping was done by tetra-primer ARMS-PCR method. Data was analyzed both descriptively and statistically by SPSS version 10.

Results: SE1 members showed prevalence of GG, AA and AG genotypes as 2%, 34% and 64% as compared to 4%, 39% and 55%, respectively, for SE2. SE1 subjects did not fall in concordance with Hardy-Weinberg Equilibrium (HWE; $p = 0.03$) as opposed to SE2 ($p = 0.2$). As compared to SE2, SE1 subjects had significantly different genotypes (SE1: $\chi^2 = 4.3$, $p = 0.03$; and SE2: $\chi^2 = 1.08$, $p = 0.2$). Similarly, SE1 and SE2 members also had dramatic differences in their allele frequencies ($\chi^2 = 4.48$, OR 1.38 (1.02, 1.87), $p = 0.03$). Taken together our data suggests that with respect to STK39 gene polymorphisms, SE1 and SE2 indeed represent genetically different subethnicities within the studied population. SE1 subjects showed increased incidence of EHTN (i.e., 20.4%) and comorbids notably diabetes mellitus 10.7%, Cardiac ischemia 3.03% and Stroke 0.8% as compared to markedly decreased incidence of EHTN 3.04%, Diabetes mellitus 1.01%, Cardiac ischemia 0.5% and Stroke 0.5%, respectively, in subjects of SE2. In subjects with EHTN only few of the environmental risk factors such as, increased age, raised BMI, diabetes, decreased physical activity, blood pressure in both parents and urinary infections showed significant association. Factors failing to show any association were male gender, consanguinity, isolated parental EHTN, extra salt usage, tobacco, saturated fat, alcohol, non-vegetarian diet and stress. Analyses for comparison of effect of genetic factors versus risk factors adjusted for raised systolic and diastolic BP showed markedly significant relation of risk factors than the genetic factors alone.

Conclusion: 1. Although at genetic level there are two different subethnicities but effect of genetic factors was found less as compared to environmental risk factors to raise BP in Subethnicity SE1. 2. Conclusion of genetically based protection from EHTN in other Subethnicity SE2 cannot be done as this

needs investigation in presence of more subjects with risk factors.

Keywords: Subethnicities, Essential Hypertension, Serine Threonine Kinase 39 Gene

15.227

TYPE A AORTIC DISSECTION IN A 28 WEEK PREGNANT

Saulat H. Fatimi¹, M. Sohail Halim², Sarah Samreen²
¹Department of Surgery and ²Medical College, Aga Khan University, Karachi

Introduction: Type A aortic dissection is an acute lesion of the aortic wall of ascending aorta accompanied by separation of the media due to rupture or intramural hematoma. It is rare in pregnancy with a high fetomaternal mortality. The limited experience reported in the literature does not allow the determination of guidelines for clinical and/or surgical management of aortic dissection in pregnancy.
Results/Case History: We present to you a case of a 37 year old pregnant female, who presented at 28 weeks of gestation with acute onset of chest pain radiating to the back. Trans-thoracic and Trans-esophageal echo showed aortic dissection with wide open aortic regurgitation and pericardial effusion. She was emergently taken to the operation room and via median sternotomy, the aorta was exposed. She had a tamponade with bloody pericardial effusion and acute aortic dissection involving the proximal ascending aorta. The findings were consistent with Type A aortic dissection. The patient was placed on cardiopulmonary bypass and entire aortic root along with aortic valve were replaced with 25mm conduit graft. The coronary arteries were reimplemented. Post-operatively ultrasound was done for fetal viability which showed intrauterine death. She underwent a normal delivery with no complication before she was discharged.

Conclusion: Early management of Type A aortic dissection is very vital for the safety of the hemodynamically compromised mother. Although there is high mortality with this condition, due to timely surgical intervention, the patient survived.

Keywords: Aortic Dissection, Aortic Root Replacement, Pregnant

15.228

DETERMINING THE EFFECTIVE MODE OF CONDUCTING CONTINUOUS EDUCATION FOR PHARMACISTS

Muhammad Hammad, Shaikh Hussam Lateef, Shahjahan Khan, Syed Shamim Raza, Salwa Ahsan, Abdul Latif Sheikh
Department of Pharmacy, Aga Khan University, Karachi

Objective: Continuing education (CE) for the pharmacy professionals is a structured process of education designed to support the continuous development of pharmacists to maintain and enhance their professional competencies. Pharmacy staff

attending the CE can develop skills like problem-solving and critical thinking, applicable to the practice of pharmacy. The established concept of CE and earning the credit hours is not properly channeled in developing country like Pakistan. Therefore, there is great need to realize and fulfill this requirement for the pharmacists of this part of the world. In the Aga Khan University Hospital, the department of pharmacy arranges CE on monthly basis for the pharmacists and trainee pharmacists. The department has adopted the guidelines of Accreditation Council for Pharmacy Education (ACPE) for on its own accord. Maximum participation in these activities by the pharmacists should be the target so that the entire pharmacy staff can match themselves with the modern trends of therapeutics. The turnout in the CE largely depends on the convenience of the attendees to comprehend the activity. Various modes of conducting CEs were adopted to ensure the maximum participation in the monthly CEs. The data analysis was carried out to determine the most effective mode of CE.

Method: A retrospective analysis of last two years (2007-2008) was made. Four modes of conducting the monthly CEs were evaluated. 1. Recorded Live Webcast 2. Reading Material Circulated 3. Oral Presentation 4. Questionnaire Based CE The participation of the pharmacy staff (pharmacists and trainee pharmacists) in the CE was evaluated in each category. Data analysis was carried out through Microsoft Excel Spread Sheets. The total number of participants was sum up, category wise, and percentage of attendance was elucidated. The results were expressed in percentage of participation in each category.

Results: Oral presentation was found to be the most effective way, in terms of participation, of conducting the monthly CE. On an average, 37 % pharmacy staff participated in the oral presentations. Whereas, 32 % participation seen in live recorded webcast > 27.6 % in questionnaire based CE > 24.4 % participation was in circulated reading material.

Conclusion: The analysis favored the oral presentations delivered and recorded live webcasts were the most effective mode of conducting the CE sessions in the pharmacy department.

Keywords: Continuous Education Session, Effective Method to Educate the Health Professionals, Training the Health Care Staff

15.229

INTERNATIONAL HEALTH SCIENCE PROJECT ON WATERBORNE DISEASES

Aslam Khan¹, Nataly Martini², Raul Caceres², Anwarul Hassan Gilani¹

¹Department of Biological & Biomedical Sciences, Aga Khan University, Karachi and ²Department of Pharmacy, University of Auckland, New Zealand

Introduction: The Triune-Uganda-2009 online project linked students, educators and professional practitioners from pharmacy, medicine, nursing, sociology and anthropology in an online environment to raise public awareness of critical health issues, Malaria, HIV/AIDS and waterborne diseases,

affecting a remote local community in Uganda. To our knowledge, this is the first fully online and international Health Sciences project that has joined such diverse groups of participants together with common educational and humanitarian aims. Triune was a voluntary project that saw over 80 participants join forces for seven weeks from 20th April to 7th June 2009, in a fully online environment, to research malaria, HIV/AIDS and waterborne diseases affecting a rural Ugandan community. Through academic debate and facilitation from health professionals/mentors, two waterborne diseases teams merged ideas to generate a research report that considered local language literacy, religion and cultural characteristics of the community. This final research report of this project provided a general overview of waterborne diseases globally and in rural Uganda and how this may be applied to the situation in other parts of the World. It also discussed intervention strategies that have already been adopted while exploring other ideas for community targeted programs, capacity building and community empowerment. The report also reflect on water treatment methods employed in other parts of the world and makes suggestions on how this could be realised through educational initiatives and health campaigns considering sustainability of these ideas and requirements for external support.

Keywords: Uganda, Voluntary Project, Waterborne Diseases

15.230

MAGNESIUM: A DRUG OF DIVERSE USE (A REVIEW)

Mohammad Irfan Akhtar, Hameedullah

Department of Anaesthesia, Aga Khan University, Karachi

Introduction: Magnesium is an important cation that functions as a cofactor in many enzyme pathways. Mg modulates and controls cell calcium entry and calcium release from sarcoplasmic and endoplasmic reticular membranes. This calcium transportation control is responsible for its numerous physiological roles among which are control of neuronal activity, cardiac excitability, neuromuscular transmission, muscular contraction, vasomotor tone, blood pressure and peripheral blood flow. Magnesium deficiency is multifactorial. Magnesium deficiency has been demonstrated in 7-11% of hospitalized patients and is co-existed with other electrolyte imbalances including potassium and phosphate in 40% of cases and to a lesser extent with sodium and calcium (2) Magnesium is an oligo-element which has an important effect on the myocardial function and peripheral vascular system (4) Intravenous Regional Anesthesia (IVRA) Magnesium as an adjunct to lidocaine improves the quality of anaesthesia and analgesia in IVRA Mg and obstetric anaesthesia. Magnesium prevents or control convulsions by blocking the neuromuscular transmission and decreasing the release of acetylcholine at the motor nerve terminals Magnesium and Tetanus. The use of magnesium sulphate infusions in the management of tetanus enables one to minimise sedation and reduce the need for mechanical ventilation, and thereby greatly simplifying the care of the tetanus patient. Magnesium may play a role in the control of asthma or in the development of bronchospasm. Magnesium antagonizes the bronchospasm

by its calcium blocking properties. Magnesium and Laryngoscopic Intubation Response: The role of magnesium in blunting the intubation response is evolving

Keywords: Magnesium, Drug, Diverse

15.231

PREVALENCE OF ALLERGIC CONJUNCTIVITIS IN SCHOOL CHILDREN IN KARACHI

Rashid Baig, Asma Wilayat Ali, Tuba Ali, Azam Ali, Mahnaz Naveed Shah, Adeel Sarfaraz, Khabir Ahmad
Department of Surgery, Aga Khan University, Karachi

Objective: To determine the prevalence of allergic conjunctivitis in children in selected schools in Karachi, Pakistan
Method: This study was conducted in September and October 2008 as part of the School Eye Health Initiative launched by the Aga Khan University, Karachi and the Adamjee Eye Hospital, Karachi. Children in the selected schools underwent vision assessment and a slit lamp examination by an ophthalmologist. The main outcome of the study was allergic conjunctivitis which was ascertained by the presence of papillae in the upper tarsal conjunctiva, redness of the eyes, and presence or history of itching and burning.

Results: A total of 818 children aged 5-19 years were examined. Of these, 19.2 % (95% CI 16.5 % to 21.9%) had allergic conjunctivitis. There was a significant association between increasing age and allergic conjunctivitis (Odds ratio: 1.19, 95% CI: 1.12, 1.26; P<0.001). Boys had a higher burden of allergic conjunctivitis than girls; however this difference was not statistically significant (Odds ratio: 1.31, 95% CI: 0.90, 1.91, p= 0.153).

Conclusion: There is a very high prevalence of allergic conjunctivitis in children in the selected schools in Karachi. Further research is needed to identify factors that contribute to such a high burden of this condition and to assess whether a similar pattern is also observed elsewhere.

Keywords: Allergic Conjunctivitis, Children, School

15.232

RISK FACTORS OF DIABETES IN PAKISTAN

Dilshad Bano, Razia Yousuf, Salima Bano
Nursing Education Services, Aga Khan University, Karachi

Objective: To assess risk factors of diabetes in Pakistan.
Method: study literature support and observed people with diabetes during our community health nursing clinical within 3 years.

Result: With the help of literature study and our observations in different communities we found the following risk factors of diabetes; obesity, hypertension, smoking, cardiovascular disease, ethnic groups, genetic factors, Age, and sedentary life style. According to 2006 research study Pakistan is

currently 8th in the world ranking of diabetes and it will become 4th by year 2025.

Conclusion: Implementation of community health nursing play an important role to decrease risk factors of diabetes by educating public (home visiting, community assessment and surveys), providing awareness about early screening.

Keywords: Hypertension, Smoking, Obesity

15.233

CLINICAL OUTCOME OF IRIDOTOMY WITH ARGON-YAG LASER AT A TERTIARY CARE CENTER IN KARACHI, PAKISTAN

Rashid Baig, Aziz Khan

Department of Surgery, Aga Khan University, Karachi

Objective: To assess the the efficacy and early and late complications of Argon-YAG combined laser iridotomy in the outpatient department of a tertiary care hospital.
Method: This was a prospective observational study conducted at Aga Khan University Hospital Karachi, Pakistan. After detailed history taking and clinical examination, patients who had gonioscopically evident closed angles and a positive provocative test were selected for laser iridotomy. They underwent iridotomy using Argon laser followed by YAG laser. The main outcome measures were patency of iridotomy at 6 months, angle grading at 6 months and early and late complications.

Results: Overall 40 eyes of 30 patients underwent iridotomy. Of these 18 (60%) were female. At presentation, 26, 10, 2 and 2 eyes had primary angle closure glaucoma (PACG), prodromal stage of PACG, chronic angle closure glaucoma, and secusio papillae with iris bombe secondary to uveitis, respectively. All the 40 iridotomies were patent at 6 months follow up. Majority of the eyes with primary acute angle closure glaucoma, and prodromal angle closure glaucoma had their angles opened from Grade 0 and Grade I to Grade III. At 6 months, 30(75%) eyes had a good control of intraocular pressure (IOP). As far as intraoperative complication, 14 eyes developed microhyphaema, 2 developed corneal burns. Postoperative complications were transient rise of IOP in 18 eyes and post-laser iritis in 32 eyes, but they responded to recommended treatment.

Conclusion: Iridotomy with Argon laser followed by Nd-YAG laser was associated with good clinical outcome and fewer complications in eyes with PACG.

Keywords: Argon-YAG, Laser Iridotomy, Outcome

15.234

TOPICAL ANAESTHESIA WHEN COMBINED WITH LOCAL INFILTRATION –A SAFE AND PAIN FREE APPROACH FOR PTERYGIUM EXCISION

Sharmeen Akram, P.S. Maher, Nisar Ahmed
Department of Surgery, Aga Khan University, Karachi

Objective: This study was aimed to assess intra and post-operative pain in patients undergoing primary pterygium excision using a combination of topical anesthesia and subconjunctival infiltration with local anesthesia. It also assessed the safety of this form of anesthesia. **Methods:** This was retrospective case series. Cases who underwent pterygium excision between Jan 1, 2000 and Dec 15, 2009 were reviewed. Cases where the anesthesia administered was a combination of topical anaesthesia and local subconjunctival infiltration with lignocaine were selected. Data collection involved chart review which determined age, gender, type of pterygium, pain and technique of surgical procedure. Sensation of pain was tested using forcep after installation of topical anesthesia. Any complications associated with local infiltration like hemorrhage, globe perforation and chemosis were assessed by surgeon. Data were entered in Microsoft Excel and entered in tables and analyzed using SPSS.

Results: 73 eyes were studied. The mean age of the patients was 42.6 years (SD). The male to female ratio was 50:18. There were no complications reported related to the anaesthesia. None of our patients required any other form of anaesthesia during surgery.

Conclusion: The study shows that the combination of topical anesthesia with subconjunctival infiltration is a safe and pain free approach for pterygium surgery.

Keywords: Topical Anaesthesia, Pterygium Excision, Pain

15.235

VISUAL OUTCOME OF TRAUMATIC CATARACT SURGERY

Nisar Ahmed, Sharmeen Akram, Tariq M Aziz
Department of Surgery, Aga Khan University, Karachi

Objective: To review the visual outcome of traumatic cataract caused by penetrating injury operated within 2 weeks of trauma

Method: 60 eyes operated at Jinnah Post Graduate Medical Center between Oct 1998 to March 2000, with traumatic cataract caused by penetrating injury who underwent early cataract extraction with IOL implantation were reviewed retrospectively, using information from patients files and operating room register. The information recorded on Performa included, the age, sex, cause of injury, preoperative vision, postoperative vision within 3 months to 6 months, postoperative complications responsible for decreased visual acuity. Cases of intraocular foreign body or retinal detachment were excluded from the study

Results: 60 eyes were studied. The age range of the patients was 5 to 41 years, with 41 cases falling within an age range

of 16 to 35 years. The male to female ratio was 52:8. All these patients had penetrating injury with no intraocular foreign body or retinal detachment, and underwent primary lens extraction and intra ocular lens implantation within 2 weeks of injury. According to WHO classification, the preoperative visual acuity was poor in all the 60 eyes. The postoperative visual outcome was good in 30 eyes, borderline in 26 eyes and poor in 4 eyes. The cause of poor outcome was mainly corneal opacity and post capsular opacity

Conclusion: Our study shows that early cataract extraction with IOL implantation in traumatic cataract results in good visual outcome.

Keywords: Outcome, Trauma, Cataract

15.236

REMOVAL OF SILICONE OIL; RETINAL REDETACHMENT AND OUTCOMES

Maria Choudhary¹, Moaz Choudhary¹, Azam Ali²
¹Medical College and Department of ²Surgery, Aga Khan University, Karachi

Objective: To evaluate the frequency of retinal redetachment in eyes undergoing removal of silicone oil endotamponade (ROSO) following pars plana vitrectomy and assess their visual acuity and possible prognostic factors.

Method: The study is a retrospective file review of 173 cases that underwent pars plana vitrectomy with silicone oil tamponade for complex retinal detachment and subsequent ROSO at Aga Khan University Hospital. Their Best Corrected Visual Acuity (BCVA) and Intraocular Pressure (IOP) were noted along with any abnormal findings on ocular examination at each office visit post vitrectomy and post ROSO. The outcome factors studied included anatomic success (completely attached retina on funduscopy), BCVA and IOP. **Results:** Anatomic success was achieved in 167 (96.5%) of the 173 eyes post ROSO. The mean duration of silicone oil (SO) tamponade was 70 ± 48 weeks (Median 56, Mode 48 weeks). The etiology for primary retinal detachment included proliferative diabetic retinopathy in 36 and proliferative vitreoretinopathy (PVR) in 137 cases. BCVA >20/100 was achieved in 83 (49.4%) cases at 3 months post ROSO. 10 cases had undergone previous unsuccessful surgeries for detachment including vitrectomy with SF6 and scleral buckle. Levene's test for equality of variances was used to determine the association between previous unsuccessful retinal surgeries and redetachment (p=0.523), duration of SO and anatomic success (p=0.451) and the age at initial presentation and retinal redetachment (p=0.126). Mean IOP immediately pre ROSO was 22mmHg, 19 mmHg and 17mmHg at 03 months and 06 months post ROSO.

Conclusion: The frequency of retinal redetachment in our study is 3.46%, which is the lowest ever reported in literature. Complete removal of vitreous base, performing retinotomies, ensuring complete SO fill and pre ROSO argon retinopexy are identified as possible factors leading to better anatomic results.

Keywords: Redetachment, Removal of Silicone Oil, Retina

15.237**LATE CONCOMITANT PSEUDOANEURYSM AND ARTERIO-VEIN FISTULA OF THE SUBCLAVIAN ARTERY CAUSED BY A GUNSHOT WOUND AND ITS SUCCESSFUL REPAIR**

Samiullah Khan Niazi, Ranish Deedar Ali Khawaja, Zubair Luqman, Saulat H. Fatimi
Department of Surgery, Aga Khan University, Karachi

Objective: Subclavian artery pseudoaneurysm is a rare clinical entity and a concomitant AV fistula has been rarely reported. They are mostly caused by penetrating trauma. There have been a few case reports which mentioned its repair by endovascular technique. We present a case of subclavian artery pseudoaneurysm with AV fistula caused by gunshot injury in a young female which was managed successfully by surgery.

Method/Case Report: This was a 25 years-old female executive who presented with gun shot wound to the upper right chest. At the time of presentation, she was vitally stable with a single entry wound right side of chest along 4th intercostal space and exit wound along right upper scapular border. Her physical examination was unremarkable with equal bilateral upper extremity pulses. She however, had decreased air entry on the right side. Chest x-ray showed hemothorax which was managed with tube thoracostomy. Patient was managed conservatively and she was discharged home in a stable condition. Six weeks after discharge, patient noticed a pulsatile swelling on the right upper chest with palpable thrill and paresthesia along the C8-T1 distribution. She was advised a CT scan of chest which showed a pseudo-aneurysm arising from the right subclavian artery measuring 5.8 x 2.6 cm associated with marked disruption of distal right subclavian vein, raising the possibility of traumatic AV fistula. She was planned for urgent surgical excision of pseudoaneurysm and fistula. During surgery a right infraclavicular incision was given. Pectoralis major was divided and a distal control of subclavian artery and vein was achieved. A large subclavian artery pseudo aneurysm was noted which was adherent to cords of brachial plexus. Proximal control of the subclavian artery and vein were also achieved without median sternotomy. Pseudoaneurysm was opened, excised and proximal and distal end of right subclavian vein, which were opening into aneurysm and forming post traumatic AV fistula, were ligated. The defect of artery was repaired with 5 mm ringed Gortex interposition graft. There were no intra-operative or post-operative complications and patient was discharged home on fifth postoperative day. Patient has been doing well on follow up visits.

Keywords: Subclavian Artery, Pseudoaneurysm, A Fistula

15.238**THE YOUNGEST PATIENT EVER TO UNDERGO PHACOEMULSIFICATION UNDER TOPICAL ANESTHESIA ALONE**

Azam Ali, Amarah Shakoor
Department of Surgery, Aga Khan University, Karachi

Introduction: Phacoemulsification is challenging in young children mainly because of possible risks of general anesthesia. We report the first ever case of phacoemulsification performed on a 10-year-old boy under topical anesthesia alone. The child had steroid-induced bilateral posterior subcapsular cataracts. The child had developed difficulty seeing in bright light. At our clinic his baseline BCVA was 20/40 and 20/60 in the right and left eyes, respectively. Phacoemulsification with IOL implant was planned for both eyes. Preoperative assessment for general anesthesia was done. However on the day of the procedure the surgeon we found that the child was co-operative enough to undergo the surgery on topical anesthesia alone. The family was adequately counseled before commencement of the surgery. The surgery lasted approximately 3 minutes during which the child was emotionally stable and cooperated extremely well. Postoperatively, the child was alert and comfortable and had no pain when assessed on the 0 to 10 pain scale. The patient was discharged the same day. The next day the child presented with an improved visual acuity of 20/30 in the right eye and had no associated complaints. The left eye was also operated in a similar manner and visual acuity in it improved to 20/30 also. Phacoemulsification can be performed under topical anesthesia alone in a select of young children if the operating surgeon has a demonstrated ability to perform safe and quick surgery. Our case report opens a new avenue to explore in the quest for making pediatric cataract surgery even safer.

Keywords: Phacoemulsification, Children, Anesthesia

15.239**VISUAL OUTCOME OF ECTOPIA LENTIS: A CASE SERIES**

Asaad Mahmood Syed, Azam Ali
Department of Surgery, Aga Khan University, Karachi

Introduction: Ectopia lentis is a displacement or malposition of the crystalline lens of the eye from its normal position. This study aimed to assess the visual outcome of eyes undergoing surgery for ectopia lentis in the Aga Khan University Hospital.

Method: This was a retrospective chart review involving all cases ectopia lentis, who underwent surgery between 1999 to 2009 at the Aga Khan University Hospital. Information was collected on age, sex, pre and postoperative vision, and complications. Our main outcome was change in the postoperative best-corrected visual acuity using Snellen's chart. Results During the 11-year period, 25 eyes in 16 individuals with ectopia lentis underwent surgery. The mean

follow-up duration was 31 months. Visual acuity improved by at least 2 lines after surgery in 21 (84%) eyes. 12 (48%) eyes had a visual acuity of at least 20/60. Complications included post-op OHT in 4 patients and ocular hypotony in one. No retinal detachment, re-operation or other severe complications were encountered.

Conclusion: Surgical management for ectopia lentis seems to be a safe and effective approach for restoring visual acuity when conservation measures are unsuccessful.

Keywords: Ectopia Lentis, Outcome, Case Series

15.240

ROLE OF LAMR1 IN ENDOTHELIAL CELL MOTILITY, WHEN LAMR1 IS A TIMAP/PP1 DEPENDENT SUBSTRATE IN ENDOTHELIAL CELLS

Ranish Deedar Ali Khawaja¹, Marya Obeidat², Laiji Li², Barbara J. Ballermann²

¹Medical College, Aga Khan University, Karachi and

²University of Alberta, Edmonton, Canada

Objective: TGF- β -inhibited membrane-associated-protein (TIMAP) is one of the molecules regulating endothelial cell (EC) motility. It is selectively expressed in endothelial cells and regulates protein phosphatase-1 (PP1c) activity. The non-integrin 67 kDa laminin receptor (LAMR1) also regulates EC motility. We have found that TIMAP interacts with LAMR1 in filopodia of EC, and this interaction is prenylation-dependent. The LAMR1 extracellular domain binds YIGSR of β 1 laminin, and this specific interaction is required for assembly of ECs into capillaries in vitro. Sequestration of TIMAP at the plasma membrane of EC via its interaction with LAMR1 occurs, which in turn binds extracellular laminin- β 1 – proposed to be stimulated by increase in transforming growth factor (TGF- β). Subsequently, loss of laminin causes re-localization of TIMAP to the nucleus (Figure 1A). It is the MLC2 phosphorylation/dephosphorylation status that determines the endothelial cell motility. We postulate that the association between TIMAP and LAMR1 may anchor TIMAP/PP1c complex in filopodia for the localized regulation of Myosin Light Chain II (MLC2) phosphorylation. The objective of this study was to address whether TIMAP regulates endothelial cell filopodia formation by interacting with LAMR1. Method: The regular human umbilical vein endothelial cells (HUVECs) were cultured in fetal bovine serum media. The cells were trypsinized, centrifuged and re-plated on coverslips. The coverslips were coated with three different extracellular matrices i.e., fibronectin, laminin, and a combination of both. The cells were incubated overnight (>20 hours) at 37°C. At specific time-point, immunofluorescence was performed to localize LAMR1 protein using rabbit His-LAMR1 primary antibody at the concentration of 1:100 and TIMAP protein using mouse TIMAP primary antibody.

Results: Our results for immunofluorescence show that at overnight incubation after replating: 1. TIMAP and LAMR1 were found co-localized at the filopodial plasma membrane and cytoplasm on fibronectin coated coverslips (Figure 1B). 2. They both showed co-localization strikingly at the filopodia plasma membrane on laminin coated coverslips (Figure 1C)

3. Both TIMAP and LAMR1 co-localized at the filopodial plasma membrane and perinuclear areas on both fibronectin and laminin coated coverslips (Figure 1D).

Conclusion: TIMAP/PP1c co-localizes with LAMR1 in presence of either fibronectin or laminin. LAMR1 is TIMAP/PP1c dependent substrate controlling the endothelial cell motility via regulation of MLC2 phosphorylation status.

Keywords: Endothelial Cells, LAMR1, TIMAP

15.242

GIANT ECTOPIC PARATHYROID ADENOMA AS CAUSE OF HYPERPARATHYROIDISM IN A THYROID CANCER PATIENT AFTER TOTAL THYROIDECTOMY

Saulat H. Fatimi¹, Sarah Samreen², M. Sohail Halim²

¹Department of Surgery and ²Medical College, Aga Khan University, Karachi

Objective: Ectopic parathyroid adenoma is a cause of recurrent and persistent primary hyperparathyroidism. We present to you case of a 50 year old male with past history of total thyroidectomy for follicular cancer presented with history of renal calculi and generalized weakness and bone pains for one year. On evaluation, he was found to have a raised calcium levels of more than 10.5 mg/dl and raised parathyroid hormone level; his PTH level was 108pg/ml (N 15-65 pg/ml). The parathyroid scintigraphy showed a large ectopic retrosternal parathyroid adenoma which was confirmed on CAT scan of the chest. After thorough evaluation, patient was taken to the OR and via partial median sternotomy, superior mediastinum was exposed. A large 4 by 4.5 cm parathyroid gland was identified along the left border of the thymic tissue. The entire thymus along with the parathyroid gland was excised. There were no intra-operative complications. Post-operatively patient was kept on IV calcium 1 gm every 6 hours and was later started on oral calcium supplements. Once his calcium levels normalized on oral calcium supplements, patient was discharged home in a perfect health. The histopathology confirmed the diagnosis of a large ectopic parathyroid adenoma.

Conclusion: A proper evaluation and management of patients with ectopic parathyroid adenomas is necessary.

Keywords: Ectopic PTH, Parathyroid Adenoma, Hypercalcemia

15.243

CONGENITAL PULMONARY CYSTOID MALFORMATION WITH SURGICAL RESECTION OF LEFT LOWER LOBECTOMY: A CASE REPORT

Ranish Deedar Ali Khawaja, Hashim H. Ahmed, Hasan Raza Hashmi, Saulat H. Fatimi

Department of Surgery, Aga Khan University, Karachi

Method/Case Report: We present a case of three and a half years-old girl presented with recurrent chest infections and fever since birth. Pre-natal ultrasound showed that she had

a congenital cystic malformation of the left lower lobe but there were no other congenital abnormalities. After birth, she was managed conservatively with nebulizers and frequent courses of antibiotics. Due to continuing recurrent infections and with the risk of rupturing of the cyst with subsequent course to pneumothorax, it was decided to proceed with left lower lobectomy. Patient had an uneventful left lower lobectomy via postero-lateral thoracotomy. The histopathology showed lung parenchyma exhibiting variable sized interconnecting cystic spaces resembling bronchioles and lined by bronchial type epithelium. Smooth muscle bundles are also seen around these cystic spaces. Intervening lung parenchyma shows alveolar ducts and underdeveloped alveoli. In some areas hemorrhage, intra alveolar collections of macrophages and interstitial mild chronic non-specific inflammation is also seen. No granuloma or malignancy seen. These features were consistent with Congenital Cystic Adenomatoid Malformation of Intermediate type. Patient did very well after the procedure and her symptoms resolved significantly.

Keywords: Cystoid Lesion, Lobectomy, Congenital Malformations

15.245

CLASSIC VIRILIZING CONGENITAL ADRENAL HYPERPLASIA PRESENTING LATE: CASE SERIES FROM PAKISTAN

Aysha Habib Khan¹, Muniba Aban¹, Rameez Ul Hassan¹, Naeem-ul-Haq², Jamal Raza³, Abdul Jabbar², Tariq Moatter¹
Departments of ¹Pathology & Microbiology, ²Medicine, and ³Paediatrics & Child Health, Aga Khan University, Karachi

Objective: Deficiency of 21 hydroxylase enzyme deficiency (21OH) activity accounts for 90% cases of congenital adrenal hyperplasia (CAH). This results in deficient cortisol, increased ACTH, adrenal hyperplasia and increased adrenal androgen secretion. There is marked virilization in genetic females which is the hallmark of this disorder. Genetic heterogeneity in 21 OHD is well recognized, and both severe and mild forms occur. We present three cases of adult females with the disease from a larger study to establish genotype, phenotype correlation of Pakistani patients with congenital adrenal hyperplasia (CAH) and to highlight issues such as diagnostic delay, inappropriate gender assignment at birth, and high degree of consanguinity among parents, psychosexual outcome of 21 OHD females and the need to develop expertise for early case detection.

Method: The analysis was done using Amplification Refractory Mutation System (ARMS) PCR.

Results: Form of CAH (SV-CAH) without SW. However, symptoms of androgen excess were not noted at birth or in early childhood and, due to late presentation.

Conclusion: These cases show that CAH frequently remains undiagnosed during the newborn period in our population due to lack of awareness in the society and lack of proper diagnosis by the primary physician. There is a need to develop expertise for early case detection.

Keywords: Non Classical-Congenital Adrenal Hyperplasi, Late presentation, PCR

15.246

PATTERN OF MORTALITY IN PEDIATRIC INTENSIVE CARE: A 2-YEAR STUDY

Omair Shakil¹, Zohaib Ashraf¹, Sarosh Saleem¹, Anwar-ul-Haq²

¹Medical College and Department of ²Paediatrics & Child Health, Aga Khan University, Karachi

Objective: To study the pattern of mortality over a two year period in the pediatric intensive care unit (PICU) of a developing country.

Method/Measurements: A retrospective patient medical chart review was done for all children who died in the PICU from January 2007-December 2008 (n=72). The data recorded for each patient included patient demographics, length of stay in the PICU, major admitting diagnosis, comorbidity (if any), and mode of death. We defined the death pattern into four categories: (1) failed cardiopulmonary resuscitation (CPR), (2) brain death, (3) do not resuscitate (DNR) and (4) withdrawal of support.

Results: The overall mortality rate during the study period was 15% (72/483). The mean age of death was 3 years and 7 months (Range: 37 days to 13 years). 52.5% of the patients were male (42 patients). The mean length of stay in the PICU was 4 days 20 hours. (Range: 1 hour to 32 days). 89% (64/72) of the cases had Multiorgan Dysfunction Syndrome (MODS). 38% (27/72) cases had associated comorbidity on admission. 14% (11/72) were surgical cases. The most common admitting diagnosis category was cardiovascular system (18.8%). The most common mode of death was failed CPR (30%), followed by DNR (28.8%), withdrawal of support (25%) and brain death (5%).

Conclusion: Our data concludes that the most common pattern of death was failed CPR, although most of the cases had MODS. We will review our end of life care policy in the limited resource of the PICU.

Keywords: Paediatric Intensive Care, Death Pattern, End-of-life care

15.247

NEAR COMPLETE AORTIC TRANSECTION AND ITS SUCCESSFUL REPAIR USING 'NOVEL' CARDIOPULMONARY BYPASS TECHNIQUE

Muhammad Naseer Khan¹, Adil Aijaz Shan¹, Saulat Hasnain Fatimi², Mubashir Zareen Khan², Zubair Luqman²

¹Medical College and ²Department of Surgery, Aga Khan University, Karachi

Introduction: A 38-year old lady presented with history of RTA in which three of her family members were fatally injured. She was found to be hemodynamically stable at the time of presentation. On X-Ray, she had fracture of the right distal femur, facial contusions, bilateral rib fractures and left hemothorax and a wide mediastinum. CT Chest showed an aneurysmal swelling at the confluence of aortic arch and descending aorta with clear evidence of transection at the level of isthmus. Patient was taken emergently to the OR and the aortic arch and the descending aorta was exposed via left postero-lateral thoracotomy. Aorta was mobilized up to the

diaphragm. Pericardium was opened and patient was placed on partial cardiopulmonary bypass via cannulation of the descending aorta and pulmonary artery. With this approach, we were able to perfuse both the brain and the lower extremities at the same time, via cardiac ejection and aortic cannula, respectively. Traditionally this is done via cannulation of the left atrium but that has a risk of air embolism. With the 'novel' technique, we were able to prevent air embolism while maintaining perfusion of the brain. After proximal and distal control, the pseudo aneurysm around the isthmus was opened. The aorta was more than 90% transected. However, why the patient did not bleed to death was unexplainable. The edges were freshened and the proximal and distal ends were brought together with the help of 4-O prolene. There were no intra- or post-operative complications. Patient's femur was fixed with internal fixation prior to discharge.

Keywords: Aortic, Transection, Trauma

15.248

EARLY TRACHEO-INNOMINATE FISTULA WITHIN 72 HOURS OF A TRACHEOSTOMY IN A MULTI DRUG RESISTANT PNEUMONIA PATIENT: A RARE COMPLICATION

Adil Aijaz Shah¹, Muhammad Naseer Khan¹, Saulat Hasnain Fatimi²

¹Medical College and ²Department of Surgery, Aga Khan University, Karachi

Introduction: Fifty years old female with known history of diabetes-mellitus and hypertension presented with road-traffic-accident, at which time she was hemodynamically-stable but very drowsy with GCS score of 7/15. CT-head showed left fronto-temporal-contusions with sub-dural hematoma. Decompressive-craniotomy and evacuation of subdural-hematoma was performed. Post-operatively, she developed pneumonia for which she was electively intubated and underwent tracheostomy after nine days on the ventilator. Four days later, patient started bleeding intermittently from the tracheostomy-site. CT-scan neck and upper-chest with contrast showed pseudo-aneurysm in the innominate-artery suggesting early tracheo-innominate fistula. An emergent bronchoscopy in the OR showed bleeding around the tracheostomy with blood in the distal-tracheo-bronchial tree. The tracheostomy was removed and replaced, after a clot at the 70° clock position of the lower-trachea was identified. Via median-sternotomy the proximal-innominate artery was controlled. The incision was extended into the neck, and the distal-subclavian-artery and carotid-artery were controlled as well. The distal-innominate artery was found to be adherent to the distal-trachea with an abscess-formation around this site. After the proximal and distal control, the innominate artery was separated from the trachea and reconstructed with a saphenous vein patch. The trachea was reconstructed with rotation muscle flaps. The abscess site was cleaned and cultures sent which grew methicillin-resistant-staphylococcus-aureus and multi-drug-resistant-pseudomonas. Vancomycin and polymyxin were started. On the fifth post-operative day, the

tracheostomy started bleeding again. The vein-patch to the innominate-artery had been disrupted secondary to continuing infection. At this time, according to family's wishes, no further intervention was done and the ventilatory and inotropic support was terminated.

Keywords: Tracheo-Innominate, Fistula, Tracheostomy

15.250

COMPARATIVE STUDY ON RESISTANCE PATTERN OF DIFFERENT PATHOGENS AGAINST CEFIXIME AND CEFEPIME

Ale-Zehra¹, Baquir Shyum Naqvi², Rabia Bushra³, Syeda Qadam Ali²

¹Department of Pharmacy, Aga Khan University, ²Department of Pharmaceutics, University of Karachi, ³Ziauddin College of Pharmacy, Ziauddin University, Karachi

Introduction: Irrational use of antibiotics has fueled a major increase in prevalence of multi drug resistant pathogens, leading some to speculate that we are nearing the end of antibiotic era. The assessment of the activity of an antibiotic is crucial to the successful outcome of antimicrobial therapy. The objective of the study is to evaluate the resistance pattern between cefixime (a third generation cephalosporin) of 5µg and cefepime (a fourth generation cephalosporin) of 30µg, on a total of 138 different clinical isolates namely as; *Escherichia coli* (30%), *Staphylococcus aureus* (30%), *Salmonella typhi* (14%), *Klebsiella pneumoniae* (13%) and *Pseudomonas aeruginosa* (13%). The isolates were collected over a period of one year (January 2008 to January 2009) from pathological laboratories of different hospitals in Karachi, Pakistan, which comprised of 59 urine, 30 skin pus, 29 ear pus, 15 blood and 5 stool samples. In-vitro antibiotic sensitivity was performed by disk diffusion or Bauer-Kirby method using 0.5 McFarland standard. Cefepime showed good sensitivity of about 92.6% against *Escherichia coli*, 85% against *Staphylococcus aureus*, 94% against *Klebsiella pneumoniae*, 77.77% against *Pseudomonas aeruginosa* and 65% against *Salmonella typhi*. Cefixime showed least sensitivity against *Pseudomonas aeruginosa* (16.66%) and maximum effectiveness against *Salmonella typhi* (90%). Results of the study indicate that cefepime is more effective for the treatment of infections caused by the above pathogens except for *Salmonella typhi*. It is concluded that in the face of continuing development of resistance, considerable effort will be required to maintain the effectiveness of these drug groups.

Keywords: Cefixime, Cefepime, Disk Diffusion Method, Microbial Resistance, Pathogens

15.251**PATTERNS OF NOCTURNAL DIP IN PATIENTS UNDERGOING AMBULATORY BLOOD PRESSURE MONITORING**

Halima Tabani¹, Saniya Siraj Godil¹, Aamir Hameed Khan², Ayscha Almas²

¹Medical College and ²Department of Medicine, Aga Khan University, Karachi

Introduction: Ambulatory blood pressure monitoring (ABPM) has made it possible to study the circadian variation in blood pressure (BP). The normal circadian rhythm of BP has a nocturnal decrease of 15% to 25% in BP compared with awake values. However, in 25% to 40% of patients with hypertension, a “nondipper” pattern is present. The nondipping pattern has been defined as when the BP reduction during sleep is less than 10% compared with BP while awake. The objective was to determine the patterns of nocturnal dip in patients undergoing ABPM at a tertiary care hospital, to compare the changes in pattern of nocturnal dip in normotensives, prehypertensives and hypertensives and to correlate nocturnal hypertension with systolic load, diastolic load, mean arterial pressure (MAP), pulse pressure (PP) and heart rate (HR).

Method: This is an analytical cross-sectional study comprising of patients who were recommended ABPM. The data was identified from a computer-generated inquiry of patients seen at The Aga Khan University Hospital. ABP was measured using Space Labs 90217-1q. The data on ABPM comprised of demographics, BP, PP and MAP readings at every 30 mins interval and also a graphical representation of patients’ 24-hr blood pressure recording from which nocturnal dip was calculated. SPSS was used for data analysis.

Results: This study comprised of a total of 277 patients with a mean age of 48.98±17.52 yrs. There were 189(68.2%) males and 88(31.8%) females; 139(50.2%) were non-dippers and 138(49.8%) were dippers. Non-dipping pattern was more common in females; 53(60.2%) of the females were non-dippers while 86(45.5%) of males were non-dippers. The proportion of non-dippers increased with increasing age (p value<0.05); in the age group 21-30 yrs, 41.2% were non-dippers while in age group 61-70 yrs, 60.5% were non-dippers. 45.3% of the non-dippers had abnormal systolic loads compared to 39.1% of dippers. Similarly, 36.7% of non-dippers had high MAP compared to 28.3% of dippers and 46.8% of non-dippers had high PP compared to 39.1% of dippers. Average HR, MAP and PP during sleep time were significantly higher in non-dippers (p value<0.05). A higher proportion of non-dippers (66.2%) were hypertensives compared to dippers (58.0%).

Conclusion: Different patterns of nocturnal dip are found in patients undergoing ABPM and loss of nocturnal dip is a common phenomenon. Non-dippers have a poorer ABP profile as compared to dippers (high PP, MAP, HR and systolic load) and are therefore at a greater risk of cardiovascular damage.

Keywords: ABP, Nocturnal dip, Hypertension

15.252**DUAL EFFECT OF RUBIA CORDIFOLIA ON PLATELET AGGREGATION**

Shagufta Khan¹, Anum Shahid Nawab¹, Mohammad Nadir Khan¹, Fatima Shahid¹, Rabia Jamy¹, Anwarul-Hassan Gilani², Qaiser Jabeen³

¹Medical College and ²Department of Biological & Biomedical Sciences, Aga Khan University, Karachi and ³Islamia University, Bahawalpur

Introduction: Rubia cordifolia (R. cordifolia) is locally known as Manjeth. It is used in traditional medicine for a variety of disorders such as inflammation, pain, fever, and hypertension. The aim of this study is to investigate the effect of R. Cordifolia extract on platelet aggregating activity. The antiplatelet and antiinflammatory properties are probably linked, as the platelets can interact with leukocytes and accelerate the inflammatory cascade. Inflammatory reactions are one of the causes of cardiovascular diseases, viz myocardial infarction, and neurological disorders, such as stroke and Alzheimer’s disease. Venous blood was taken from healthy human volunteers reported to be free of medications for minimum one week prior to sampling. Platelet aggregation was monitored using Aggregometer. Different doses of R. Cordifolia extract were evaluated for their effect on platelet aggregating activity in the presence of aggregating agents; arachidonic acid, epinephrine and adenosine-di-phosphate, with their standard blockers; aspirin, yohimbine and clopidogrel, respectively. Our results showed that R. Cordifolia extract was effective against, arachidonic acid (0.5-10 mg/ml), and epinephrine (0.25-10 mg/ml) induced platelet aggregation in dose dependent manner. Whereas, in case of adenosine-di-phosphate the extract exhibited a biphasic response on platelet aggregation i.e. at lower doses (0.1-1mg/ml) it showed enhancement of platelet aggregation followed by inhibition of platelet aggregation at higher doses (2-10 mg/ml). Therefore, our present findings suggest that R. Cordifolia extract possess both antiplatelet aggregating and platelet aggregating activities. However, further studies via bioassay guided fractionation are required to investigate active principle(s) responsible for these activities.

Keywords: Rubia Cordifolia, Platelet Aggregation, Biphasic Response

15.253**IS INCREASING AGE A RISK FACTOR IN SURGICAL REPAIR OF COMPLETE ATRIOVENTRICULAR SEPTAL DEFECT? A CASE REPORT**

Muneer Amanullah¹, Osama Tariq Siddiqui², Mubashir Khan¹, Asif Hasan³

Department of ¹Surgery, ²Medical College, Aga Khan University, Karachi and ³Freeman Hospital, Newcastle upon Tyne, United Kingdom

Objective: Is Increasing Age a Risk Factor in Surgical Repair of Complete Atrioventricular Septal Defect? A Case Report

Method: We describe a case of CAVSD in a 10 years old girl known to have Down's syndrome. She was diagnosed soon after birth to have CAVSD and was advised surgery. Due to family reasons surgery was deferred. She presented now with cyanosis. She underwent right heart study and was found to have reversible pulmonary pressures.

Results: The patient underwent successful repair of CAVSD without any post-operative complications.

Conclusion: This is the oldest patient who has undergone successful surgical repair of CAVSD in Pakistan. Even when the pulmonary pressures are high with cyanosis, surgical correction should be offered to these older children with CAVSD if there is any reversibility on right heart study.

Keywords: Complete Atrioventricular Septal Defect, Congenital Heart Disease, Down's Syndrome

15.254

THE ASSOCIATION BETWEEN METABOLIC SYNDROME AND LONG-TERM SURVIVAL IN PATIENTS UNDERGOING ORTHOTOPIC HEART TRANSPLANTATION

Sema Yaman¹, Osama Tariq Siddiqui¹, Veli Topkara², Ken Schaeffle², Tuba Khawaja, Michael Argenziano³, Donna Mancini³, Yoshifumi Naka³, Mehmet C. Oz³, Faisal H. Cheema³, ¹Medical College, Aga Khan University, Karachi, ³Columbia University College of Physicians & Surgeons, New York Presbyterian Hospital, Division of Cardiothoracic Surgery, New York, ²Cardiovascular Division, Washington University School of Medicine, Saint Louis, USA

Objective: The Metabolic Syndrome (MetSyn) has been linked to a wide set of cardiovascular events and short-term mortality following cardiac surgery. Our objective was to find any association between pre-existing MetSyn and poor long-term survival in patients undergoing orthotopic heart transplantation.

Method: 797 patients were retrospectively reviewed from 1992 to 2008 at a single institution for whom the MetSyn information was available. Patients were defined to have the MetSyn when at least 3 of the 5 ATP III criteria were met. BMI>30kg/m² was substituted for waist measurement. Long-term survival was determined by the Social Security Death Index.

Results: 28.7% of heart transplant recipients had MetSyn prior to transplantation. These patients were older (p=0.002) and had higher incidences of hypertension (65.1% vs. 23.1%, p<0.001), diabetes (60.3% vs. 27.0%, p<0.001), CAD (51.1% vs. 36.6%, p<0.001), and renal failure (17.2% vs. 6.9%, p<0.001) at baseline. Early post-transplant outcomes including reoperation for bleeding (8.3% vs. 9.5%), stroke (0.4% vs. 0.7%), wound infection (5.7% vs. 5.5%), and in-hospital mortality (0.9% vs. 0.5%) were comparable between the MetSyn and non-MetSyn patients (all p>0.05). Long-term actuarial survival was significantly reduced in patients with MetSyn.

Conclusion: The prevalence of the MetSyn at the time of cardiac transplantation was significantly associated with decreased long-term survival in patients undergoing

transplantation. These findings indicate that preexisting metabolic derangements in patients with advanced heart failure contribute to the long-term clinical outcome and survival even after hemodynamic normalization through cardiac transplantation.

Keywords: Metabolic Syndrome, Heart Transplant, Survival

15.255

THE EFFECT OF HONEY WITH TURMERIC ON THE DURATION OF COUGH AMONG ADULTS IN KARACHI: A PILOT STUDY

Amynah Mevawala
Alumni, Aga Khan University, Karachi

Objective: The purpose of this study was to explore the outcomes of the use of honey with turmeric on the duration of non-pathologic cough among adults between the age of 20 and 60 years in Karachi, Pakistan.

Method: A pilot test pre-experimental two groups design was used for the study. Descriptive statistics was used to organize the demographic variables and to obtain the frequencies and means. The chi-square test (X²) was used to calculate if there was a significant difference in terms of the duration of cough between the study and the control groups by using the mean frequencies.

Results: It was found that both the control and experimental groups were comparable at the beginning of the study. There were significant differences in the study group before and after taking honey with turmeric, in the control group before and after the intervention period, and between the study and control group after the intervention period. Those in the study group had more participants with less than or equal to three days duration of cough after three days of intervention than those in the control group.

Conclusion: The result of this study is a step towards future empirical studies on the use of honey with turmeric for cough. The improvement of cough in terms of its outcomes on its duration, although encouraging, needs further exploration using true experimental designs with larger sample size both in the clinical and community settings. This may support evidence based practice for health professionals which could lead to safe and quality care.

Keywords: Age, Cough, Cultural Norms

15.256

PREDICTORS OF UNINTENTIONAL POISONING AMONG CHILDREN UNDER 5 YEARS OF AGE IN KARACHI, A MATCHED CASE CONTROL STUDY

Bilal Ahmed¹, Zafar Ahmed Fatmi², Amna Rehana Siddiqui², Abdul Latif Sheikh³

Departments of ¹Medicine, ²Community Health Sciences and ³Pharmacy Services, Aga Khan University, Karachi

Aims: Poisoning is the fourth leading cause of unintentional injury and a common pediatric emergency in children under

5 years of age. The study objective was to determine the factors associated with unintentional poisoning among children under-5 years of age reporting to emergency rooms of tertiary care hospitals in Karachi, Pakistan.

Methods: Children were recruited from emergency room (ER) of three biggest tertiary care hospitals of Karachi. A matched case-control study was conducted on 120 cases and 360 controls with matching done on gender and age. Parents were interviewed by using structured questionnaire containing information on socio-demographic factors, child's behavior, and storage practices of hazardous substances of caregivers inside homes. Conditional logistic regression was performed to analyze the data.

Results: Accessibility to hazardous chemicals and medicines due to unsafe storage of chemicals and medicines (adj mOR = 5.6, [95% CI 1.9,16.7]), child's behavior reported as usually aggressive (adj mOR = 8.2, [95% CI 4.6,16.1]), storage of kerosene oil and petrol in soft drink bottles (adj mOR = 3.8, [95%CI 2.0,7.3]), low socioeconomic status (adj mOR = 9.2, [95% CI 2.8,30.1]), low mothers education (adj mOR = 4.2, [95% CI 1.8,9.6]) and history of previous poisoning (adj mOR = 8.6, [95% CI 1.7, 43.5]) were independently related to unintentional poisoning.

Conclusion and Recommendation: Storage practices of kerosene and petroleum in soft drink bottles and easy accessibility of chemicals and medicines are potentially modifiable. Key health messages focusing on safe storage practices of chemicals and medicines may help in reducing the burden of childhood poisoning in Karachi, Pakistan.

Keywords: Care Givers, Petroleum, Drink Bottles

15.257 ANAESTHETIC CHALLENGES IN EMERGENCY SURGICAL REPAIR OF ACUTE AORTIC DISSECTION RUPTURING INTO THE PERICARDIUM IN A PREGNANT PATIENT: A CASE REPORT

*Mohammad Irfan Akhtar, Khalid Samad
Department of Anaesthesia, Aga Khan University, Karachi*

Introduction: Acute aortic dissection in pregnancy is often a troublesome entity because rapid and appropriate surgical decision making is required to save the life of both mother and baby. Aortic dissection is rare in young women but is more during pregnancy (third trimester) secondary to the hyperdynamic and hypervolemic circulatory state associated with pregnancy.

Case Report: A 35 years old 27 weeks pregnant patient weighing 90 kg presented in the emergency with severe chest pain. Initial workup was done in some private hospital which raised the suspicion of aortic dissection that was later confirmed on TEE. In the immediate post cardiopulmonary bypass period, the patient was bleeding profusely from the anastomotic sites irrespective of utilization of all the conventional methods of hemostasis including multiple units of whole blood, fresh frozen plasma, platelets, calcium and cryoprecipitates. The bleeding was so torrential that the patient times and again gets hypotensive due to hypovolemia. Then as a last resort we give low dose r FVIIa (1.2 mg containing 60 KIU of Factor VII). It worked and the patient stops bleeding and consequently haemodynamics gets stable.

Conclusion: Most published studies reported reduction in blood loss either as witnessed by surgeon, decreased chest tube drainage or decreased need for further blood products, in the absence of large double-blinded, placebo-controlled, randomized studies, the exact role of rFVIIa in cardiac surgery is hard to predict with certainty. Current data suggest a potential benefit in refractory bleeding, but further investigation is warranted in order to design guidelines on the use of rFVIIa in cardiac surgery and to determine its safety profile in the parturients.

Keywords: Aortic Dissection, Pregnancy, Pericardium

15.258 RANDOMIZED CONTROL TRIAL OF WITHANIA SOMNIFERA IN PARKINSON'S DISEASE

*Muhammad Fahad Saleem, Nadir Ali Syed, Anwarul Hassan Gilani, Khabir Ahmed, Hina Ghole
Departments of Surgery and Biological & Biomedical Sciences,
Aga Khan University, Karachi*

Background: Usually stiffness, shaking (tremor), postural instability and slowness of movement are the main symptoms of Parkinson's disease. Available treatment options have been attempted with variable success. Many herbal drugs are also used in the treatment Parkinson's disease. One of these herbal medications is 'Withania somnifera' that was known to be used in Ayurveda for a disorder described as 'kampavata' (kampa-tremors) also known as 'shaking palsy' or Parkinson's disease for centuries but lacks a good quality scientific evidence for its use.

Objective: To compare the efficacy of 3 grams per day of *Withania somnifera* root powder to placebo, as an adjuvant therapy to Standard Medical Care for Parkinson's disease.

Methods: A total 30 patients with Idiopathic Parkinson's Disease presenting to Out Patient Department (OPD) of Aga Khan University Hospital Karachi and Jinnah Post Graduate Hospital, Karachi, will be recruited. Patients with Parkinson's Plus syndromes, Essential tremors, Dementia with Lewy bodies, Progressive supranuclear palsy, the syndromes of olivopontocerebellar atrophy, striatonigral degeneration, and Shy-Drager will be excluded. After an informed consent, patients will be randomized to two arms. *Withania somnifera's* root powder pretest for stability and shelf life would be administered in one group and placebo in another as an add-on therapy to Sinemet. Both the drug would be encapsulated and coded by a third person. Therapy will be given for 4 weeks. Improvement in Unified Parkinson's Disease Rating Scale (Clinical score scale) will be assessed every 7 days in two groups for 4 weeks.

Results: It is expected to see an improved UPDRS score among patients with Parkinson's disease receiving *Withania somnifera's* root powder compared to placebo on 4th week. Results will be analyzed by SPSS-15 using Mannwhitney U-test.

Keywords: *Withania somnifera*, Ayurveda, Parkinson's disease, shaking palsy

AUTHORS INDEX

AUTHORS INDEX

Aamir, Riffat, 245

- Aaqil, Hina, 57, 61, 185
 Aarabi, Shadmeen R., 260
 Aban, Muniba, 13, 14, 286
 Abbas, Farhat, 13, 183, 188, 252
 Abbas, Kashif, 46, 47(3), 50, 53(2),
 55, 56, 69, 161
 Abbas, Zaigham, 56
 Abbasi, Anwar H., 225
 Abbasi, Ayesha, 129
 Abbasi, Zohaib, 239
 Abid, Shahab, 44, 49(2), 52, 53(2),
 56(2), 69
 Abubakar, Farzana, 276
 Adhi, Fatima, 155, 179
 Adhi, Fatima, 179
 Adil, Amina, 42, 144, 264
 Adil, Asfi Sameen, 262
 Adil, Salman N, 7, 8(2), 9, 14, 31,
 42, 58, 93, 163, 205, 263,
 Adnan, Farzana, 186
 Afridi, Asad Ali, 257
 Afroze, Bushra, 231, 179
 Afshan, Gauhar, 199, 249
 Aftab, Kanwal, 55
 Afzal, Noureen, 273
 Afzal, Shaista, 162, 219, 246, 251
 Aga, Rashna Firoze, 23, 24, 27(2)
 Agboatwala, Mubina, 145
 Agha, Ajmal, 64, 104, 124
 Ahmad, Khabir, 28, 103, 152, 226,
 264(2), 265(2), 282
 Ahmad, Khan, Javaid, 192
 Ahmad, Mehwish, 181
 Ahmad, Nadeem, 246
 Ahmad, Owais, 129
 Ahmad, Riaz, 114
 Ahmad, Saira, 155, 179
 Ahmad, Sana, 76
 Ahmad, Tashfeen, 208
 Ahmad, Zubair, 14, 50(2), 277, 278
 Ahmed, Aliya, 216(2), 245(2)
 Ahmed, Arsalan, 54, 110
 Ahmed, Ashfaq, 50, 54
 Ahmed, Asma, 34(2), 35
 Ahmed, Ayaz, 61
 Ahmed, Aziz, 157
 Ahmed, Bilal, 272, 289
 Ahmed, Hashim H., 18(2), 19(2), 20,
 87, 285,
 Ahmed, Humaid, 225
 Ahmed, Imran, 179
 Ahmed, Khabir, 290
 Ahmed, Khalid, 156
 Ahmed, Lubna Khaleeq, 263
 Ahmed, Mansoor, 144
 Ahmed, Maqsood, 109
 Ahmed, Mehnaz Atiq, 233 (*Also Atiq,
 Mehnaz*)
 Ahmed, Mehwish, 180
 Ahmed, Mubashir, 120
 Ahmed, Nausheen, 108
 Ahmed, Nisar, 283 (2)
 Ahmed, Rashida, 77, 95, 101
 Ahmed, S.N., 110
 Ahmed, Saad, 234
 Ahmed, Saeed, 255
 Ahmed, Sagheer, 270 (2), 271
 Ahmed, Samina, 171
 Ahmed, Shahid, 45, 49(2), 56
 Ahmed, Shahzad, 106
 Ahmed, Shakeel, 2, 229
 Ahmed, Sheraz, 173
 Ahmed, Shezad, 20
 Ahmed, Tashfeen, 3
 Ahmed, Tauseed, 238
 Ahmed, Tauseef, 43, 93, 244
 Ahmed, Umair Syed, 33, 49
 Ahmed, Zafar, 122
 Ahmed, Zubair, 239(2)
 Ahmed, Zubair, 45, 51
 Ahmer, Syed, 112
 Ahsan, Humera, 43, 212(2),
 213(3), 214(3), 215(2)
 Ahsan, Mirat-al-Fatima, 266
 Ahsan, Salwa, 5, 176, 280
 Aijaz, Saba, 36(2)
 Aisha, Afzal, 192
 Ajani, Khairlunissa, 224, 230
 Ajmal, Agha, 73, 132
 Akbar, Anam Waheed, 118
 Akbar, Zainab, 227
 Akhlaq, Batool, 160
 Akhtar, Irfan Nake, 57, 61
 Akhtar, Mirza, Waseem, 197
 Akhtar, Mohammad Irfan, 281, 290
 Akhtar, Nida, 10
 Akhtar, S., 269
 Akhtar, Shabbir, 198, 240, 259, 262,
 267
 Akhtar, Waseem, 196, 197, 225
 Akhter, Calvin S., 74, 193
 Akhter, Jaweed, 32, 33, 37(2), 38,
 140, 141, 145,
 Akhter, Omar, 33
 Akhter, Saleem, 165
 Akram, Sharmeen, 283(2)
 Alam, Amna, 82
 Alam, Muhammad Shahbaz, 197
 Alam, Parvez, 132
 Alam, Zaheer, 187(2)
 Ale-Zehra, 287
 Ali, Absar, 185, 186(2)
 Ali, Ailia Welayat, 33
 Ali, Anita Naushir Akbar, 260
 Ali, Anum, 178
 Ali, Arif, 130, 144
 Ali, Asad, 64, 74
 Ali, Ashique, 65
 Ali, Asho, 73, 74
 Ali, Asif, 257, 259, 260
 Ali, Asma Wilayat, 282
 Ali, Azam, 283, 284(2)
 Ali, Badar Sabir, 120, 123
 Ali, Farheen, 65, 80, 97
 Ali, Faridah Amir, 178
 Ali, Fariha Sadiq, 266, 268
 Ali, Farzana Nawaz, 124, 225, 242
 Ali, Liaquat, 108
 Ali, Mahrukh Ayesha, 62, 180
 Ali, Mariam Shoukat, 93
 Ali, Mohammad Usman, 62, 180
 Ali, Munsif Zaman, 260
 Ali, Nadia Akber, 187
 Ali, Naeem Sultan, 198
 Ali, Najia, 226
 Ali, Naseem Parvez, 120
 Ali, Nasir, 16
 Ali, Natasha, 7, 8
 Ali, Naureen, 57, 61
 Ali, Nilofer Sultan, 90, 124, 242
 Ali, Pervez, 133
 Ali, Rabia, 75
 Ali, Rehan, 229
 Ali, Rushna, 118
 Ali, Saira Amir, 153
 Ali, Shahnawaz, 201, 261
 Ali, Shazia Meraj, 135
 Ali, Sheila, 253
 Ali, Sikander, 79
 Ali, SM Turab, 154
 Ali, Syed Asad, 71, 193, 250
 Ali, Syed Rehan, 2
 Ali, Syed, 31, 63, 64, 206, 209,
 Ali, Syeda Kauser, 94, 95
 Ali, Syeda Qadam, 287
 Ali, Taimur Asif, 18, 87
 Ali, Tazeen Saeed, 142
 Ali, Tazeen, 179
 Ali, Tuba Ali, Azam, 282
 Ali, Yasir, 195
 Ali, Yasmin Sher, 212
 Ali, Zahra, 178
 Allana, Anita, 212, 266,
 Allana, Salim, 79, 82, 125,
 Almas, Ayesha, 210
 Almas, Aysha, 254, 288
 Alnoor, Nadiya, 145
 Alvi, A. Rehman, 44, 67(3), 200, 202
 Alwani, Khalid Razzak, 248
 Alwani, Nasreen, 254
 Alwani, Nousheen, 163
 Aman, Nadia, 23, 28
 Aman, Tahreem, 2 63
 Amanullah, M. Muneer, 200, 203,
 204(2), 205(2), 207, 224, 250(2),
 260, 262, 267, 279, 288
 Amanullah, M., 269
 Ambani, Elizabeth, 91
 Amin Rajani, 202
 Amin Shah, 208
 Amin, Almas, 247
 Amin, Hasina, 66, 237

- Amin, Zubeda, 39
 Amirali, Saira, 114
 Andrades, Marie, 9 3(2), 94
 Anis, Fauzia Khan, 30
 Ansari, Ambreen, 84
 Ansari, Amna, 64
 Ansari, Asma, 127
 Ansari, Bushra, 153
 Ansari, Junaid, 129(2), 264
 Ansari, Sajjad, 259
 Anwar, Nabila, 24
 Anwar, Shaheena, 173, 181
 Anwar-ul-Haq, 175
 Aqeel, Masooma, 78, 80
 Aqeel, Yousuf, 256, 274
 Ara, Iffat, 155
 Arain, Fazal Manzoor, 260
 Arbabni, Habiba, 159
 Argenziano, Michael, 289
 Arif, Fauzia, 104, 132, 159
 Arif, Hamza, 270
 Arif, Hasan, 146
 Arif, Mansoor, 260
 Arif, Shabina, 115
 Arif, Shabina, 86, 240
 Arif, Shireen, 116, 150, 151, 152, 153
 Armstrong, Robert, 197
 Arshad, Ayesha, 67
 Arshad, Huma, 14
 Arshad, Muhammad, 171
 Arshad, Shamvil, 116
 Arshad, Sumera Ali, 225
 Arudo, John, 91
 Asad, Nargis, 124, 125, 212, 271, 272
 Ashfaq, Awais, 157, 158(2), 194, 199, 204, 205(2), 236, 241, 243, 250, 260
 Ashiqali, Hamidah, 66
 Ashraf, Zohaib, 286
 Ashraf, Dilshad, 212
 Ashraf, Mohammad Kashif, 77
 Ashraf, Mussarat, 70, 88
 Ashraf, Nabiha, 137
 Ashraf, Omer, 200
 Ashraf, Sohail, 188
 Asif, Maryum, 138
 Asif, Naila, 186
 Asif, Shaheen, 269
 Aslam, Arsala, 165
 Aslam, Arsala, 180
 Aslam, N, 269
 Aslam, Nadeem, 233
 Ather, Hammad, 95, 183, 185, 187(2), 188, 190(2), 197, 252,
 Atiq, Mehnaz A., 165, 203, 204(2), 207, 233(2), 262, 269
 Aurangzeb, Sidra, 110
 Ausaf, Sadaf, 78
 Avan, Bilal Iqbal, 139
 Awais, Mohammad, 113
 Awaldad, Razia, 130, 149
 Awan, M Sohail, 262
 Awan, Safia, 32, 42, 44, 52, 106, 110, 192, 201(2)
 Awan, Sohail, 171, 260
 Awan, Zara, 155, 202
 Ayaz, Afsheen, 169
 Ayaz, Sana, 79, 80
 Ayaz, Zeenat, 126
 Ayoub, Nadia, 5
 Ayub, Mohammad, 157, 158(2)
 Azam, Iqbal, 37, 101, 107, 133, 139, 169, 173, 248, 250,
 Azam, Mohsin-e- , 3(2)
 Azam, Rashid, 237
 Azam, Syed Iqbal, 27(2), 27, 40, 78
 Azam, Zahid, 44, 52, 53
 Azeemuddin, Muhammad, 43, 105, 212(2), 213(3), 214(2), 215(2), 217, 218
 Azhar Rehman, 233
 Azhar, Maimoona, 255
 Aziz, Ayesha, 150, 156, 233, 253, 271
 Aziz, Ayesha, 272
 Aziz, Faisal, 187(2),
 Aziz, Fatima, 76, 80, 81(2),
 Aziz, Laila, 261
 Aziz, Tariq M., 283
- Babajan, Amber, 43**
 Babar, M., 192
 Badruddin, Shirin, 132, 230
 Bahadur, Sher, 151
 Baig, Mirza Amir, 134
 Baig, Rashid, 282(2)
 Baig, Sultan, 104, 132, 159, 180
 Baig, Tanveer, 245
 Ballermann, Barbara J., 6, 285
 Baloch, Maqbool, 267
 Baloch, Naveed, 3
 Baloch, Noor ul Ain, 133, 153, 193
 Bano, Dilshad, 282
 Bano, Gulshan, 35
 Bano, Rafat, 235
 Bano, Salima, 282
 Bano, Samina, 155
 Baqir, Maryam, 118
 Baqir, Syed Muhammad, 99, 127, 128
 Bari, Ehsan, 200, 227, 228, 119
 Bari, Hassaan, 6, 11(2), 200, 256
 Bari, Muhammad Ehsan, 115
 Bari, Vaqar, 182, 247
 Barolia, Rozina, 219
 Barolia, Rubina, 247
 Baseer, Fasia, 101
 Bashir, M., 159, 160
 Bashir, Muhammad Umair, 155
 Bashir, Nasira H, 130, 149
 Bashir, Saad, 217
 Bashir, Samra, 189
 Bashir, Shaheena, 75
- Basir, Najeeb, 268
 Batool, Rooshana, 138
 Bawa, Danish, 129
 Bawany, Samira A., 1
 Beg, M. Asim, 47, 50, 68(2), 76, 81, 69
 Beg, Madiha, 152, 226
 Benjamin, Parveen, 104, 132
 Bhagat, Zohra, 114
 Bhanji, Seema, 93(2), 94
 Bhatti, Junaid A., 130, 131
 Bhatti, Mustafa, 182
 Bhatti, Umer Aziz, 118
 Bhimani, Mukesh M., 102, 112
 Bhutta, Zain Ali, 119
 Bhutta, Zulfiqar A, 136, 137, 138, 141, 157, 159, 161, 168, 170, 73(3), 175(2), 176, 177(2), 178, 179, 180, 181, 197, 240
 Bibi, Hahida, 44
 Bilal, Anum, 113
 Bilal, Rakhshanda, 53
 Bilgrami, Shumaila, 13
 Biyabani, Raziuddin, 95, 188, 189, 190
 Black, Robert E, 178
 Blum, Jennifer, 122, 123
 Braganza, Veronica, 9
 Brohi, Hazim, 110
 Burfat, Aziza, 150, 223(2)
 Burghari, Yasmin, 14
 Burlass, Usman, 117
 Bushra, Rabia, 287
 Butt, Naima, 75
 Butt, Zahid Ahmed, 162
- Caceres, Raul, 281**
 Carter, E.M., 217
 Chaudhri, Bushra, 41, 86, 155, 205, 278, 280, 55
 Chaudhry, Tanveer Anjum, 264(2), 265(2)
 Chawala, Tabish, 17, 54, 92, 245
 Cheema, Faisal H., 289
 Chohan, Farah Naz, 62
 Choudhary, Maria, 283
 Choudhary, Moaz, 283
 Clemens, John D., 138
 Cliff, Jackie, 70
- Dal, Waliullah, 131**
 Damjee, Shahla, 206
 Daniel, Haroon, 110
 Dattoo, Farida, 276
 Dawood, Ghaffar, 72, 235
 Dean, Sohni Vicky, 117
 Dhakam, Sajid, 266
 Dhanani, Shaheen, 100
 Dhanjee, Nazia, 22
 Dias, Jacqueline, 230(2)
 Dildar, Babar, 11, 191, 194

- Dockrell, Hazel, 70
 Dojki, Farheen Kassim, 37
 Droucher, Jill, 122, 123, 169
 Durrani, Hammad, 258, 259, 259, 267
 Durrani, Mohsin, 145
 Durre-Sadaf (See Sadaf, Durre-)
- East, Linda, 91**
 Ejaz, Adil, 19
 Ejaz, Ayesha, 117
 Ejaz, Iram, 134
 Ejaz, Kiran, 66, 99, 131, 154, 155, 156, 163, 218, 221, 225(2), 226, 227,
 Enam, Ather, 5, 118
 Enam, Kishwar, 116
 Enam, Syed Ather, 13, 102, 103(2), 115, 116, 118
 Enam, Syed Faaiz, 242
 Essani, Rozina, 9
 Evans, Catrin, 91
- Fadoo, Zehra, 10**
 Fadoo, Zehra, 9
 Fahadullah, Mohammad, 79
 Faheem, Muhammad, 195
 Faheem, Zahid Ali, 267
 Fahim, Ammad, 127, 138
 Faisal Shamim, 233
 Faisal, Abida, 263
 Faizi, Shaheen, 62
 Farazdaq, Hamida, 123
 Farhad, Nazish, 125
 Farid, Farah N., 267
 Farid, Huma, 25
 Farooqi, Najiha Bilal, 119
 Farooqui, Arshi, 94
 Farooqui, Saadia Zohra, 260
 Farrukh, Iram S., 121
 Farrukh, Zia, 105
 Faruqi, Hina, 159
 Faruque, Ahmad Vaqas, 165, 241
 Faruqui, Hina, 227
 Faruqui, Nuzhat, 183
 Faryal, Afsheen, 59(2)
 Fatima, Anis, 232
 Fatima, Saira, 239(2)
 Fatima, Urooj, 250
 Fatimi, Saulat H., 1, 18(2), 19(2), 20(2), 62, 77, 87, 193, 194, 199, 200(2), 207, 209, 236, 238, 241, 243, 249, 252, 264, 267, 275(2), 280, 284, 285(2), 286, 287,
 Fatmi, Zafar Ahmed, 120, 289
 Favorov, Michael, 137
 Fazal, Akil, 208(2)
 Fazal, Fareha, 67
 Feroze, Asher, 120
 Fida, Mubassar, 23(2), 24(3), 26(2), 27(2), 29
 Fredrikson, Sten, 105
- Freeman, Bruce A., 277
 Frossard, Philippe M., 63, 71, 276, 278(2), 280,
 Furnaz, Shumaila, 252, 267, 274
 Furqan, Muhammad, 225
 Furrugh, Zia, 223
- Gangwani, Amar Lal, 238**
 Ghaffar, Farhana, 24, 26
 Ghaffar, Shehzad, 20, 22, 257
 Ghanchi, Najia, 68(2), 69, 76
 Ghani, Farooq, 131, 148, 239, 39
 Ghani, Samina, 83(2)
 Ghias, Kulsoom, 12, 94
 Ghirano, Rajab Ali, 189
 Ghnai, Alina, 199
 Ghole, Hina, 290
 Ghufuran, Noman, 82, 83
 Gilani, Anwar H, 13, 58(2), 62, 180, 181, 189, 290, 248, 258, 263, 279, 281, 288
 Gillani, Rozeena, 116(2), 121, 151, 152, 153, 167
 Godil, Saniya Siraj, 155, 288
 Gul, Raisa B., 247, 251
 Gulzar, Saleema, 126
 Gunaratne, Padma, 161, 222, 238
 Gunaratne, Padma, 105, 106
- Habib, Manal, 34**
 Habib, Muhammad Atif, 149, 159
 Habib, Muhammad Irfan, 10
 Habib, Zehra, 41
 Hadden, WC, 148
 Hadwani, Roshan, 237, 276
 Hafeez, Kamran, 185
 Haider, Ali, 164
 Haider, Batool Azra, 136, 170
 Haider, Qurratulain, 164
 Haleem, Sohail, 12 (See also Halim, M. Sohail)
 Halim, M. Sohail, 280, 285
 Hamdani, Insha, 170
 Hameed, Aamir, 58, 214, 273
 Hameed, Anam, 22
 Hameed, Kamran, 104, 210
 Hameed, M. Hamayun, 1
 Hameed, Saeed, 83
 Hameedullah, 30, 233, 236, 238(2), 281
 Hamid, Mohammad, 98(2), 204, 250(2),
 Hamid, Sadaf, 74
 Hamid, Saeed, 45(3), 46, 47, 49(3), 51(2), 52, 53, 54, 55(2), 59, 77
 Hammad, Muhammad, 87, 176, 211, 228(2), 280,
 Hanafi, Zaid, 160
 Hanif, Beenish, 73
 Hanif, Hashim M., 252
 Hanif, Raheela, 217
- Hanif, Sonya, 108
 Haq, Anwar ul, 10, 174(2), 175, 224, 286, (See also Haque)
 Haq, Farhan ul, 129
 Haq, Inam Ul, 137, 138
 Haq, Naeem-ul-, 286
 Haq, Tanveer Ul, 103
 Haque, Ahmed Suleman, 11, 146, 191(2), 192(2)
 Haque, Anwarul, 63, 71, 156, 220
 Haque, Suleman A. 192
 Haran, Dave, 162
 Harir, Bibi, 150
 Haroon, Anila, 46
 Haroon, Fahad, 263
 Haroon, Fahd, 162
 Haroon, Sarah, 222
 Hasan, Asif, 288
 Hasan, Rameez Ul, 103
 Hasan, Rumina, 73, 74, 75, 85
 Hasan, Sarah, 8
 Hasan, Sheema H., 14, 239(2),
 Hasan, Syeda Fauzia, 243
 Hasan, Zahra, 70, 73, 74, 75, 80, 82, 83, 84(2), 85(2), 88(2)
 Hashim, H., 20
 Hashmi, Farzeen Khalid, 144, 265
 Hashmi, Hasan Raza, 285
 Hashmi, Mubashira, 108(2), 109, 214
 Hashmi, Pervaiz, 1, 4
 Hashmi, Salman, 129
 Hashmi, Syed Yasir Aki, 41
 Hasnain, Kulsoom, 37
 Hasnain, Syed Farid-ul-, 117, 121, 137
 Hassan, Narmeen, 188
 Hassan, Obaid ul, 188
 Hassan, Omer ul, 188
 Hassan, Rameez Ul, 118(3), 119(2), 286
 Hassan, Saba, 15
 Hatcher, Juanita, 122, 123, 140, 141, 145, 149, 162, 169
 Heller, David, 127, 128
 Hidayat, Ijaz, 200
 Hilal, Kiran, 263
 Hirani, Doulat, 232
 Hoda, Mehar, 119
 Hoda, Qamarul, 43, 238
 Hooda, Barkat, 9
 Hooda, Khairunnissa, 206, 277
 Huda, Anwar-ul-, 211, 231, 244(2)
 Humayun, 20
 Humayun, Khadija Nuzhat, 40, 152, 226,
 Humayun, Quratulain, 127, 170, 248
 Hundley, Nicholas K., 277
 Husen, Yousuf, 216
 Hussain, Ather, 182
 Hussain, Aziza, 245
 Hussain, Ejaz, 138

- Hussain, Fawwad, 3
Hussain, Izza, 270
Hussain, Jamal, 270
Hussain, Javed, 191
Hussain, Kashif, 195
Hussain, Manzar, 5, 227, 228
Hussain, Marium, 263
Hussain, Mudabbir, 207
Hussain, Mushtaq, 48(2)
Hussain, Rabia, 63, 70, 71, 84, 88, 235
Hussain, Riaz, 208
Hussain, Riffat, 273
Hussain, Sajjad, 113
Hussain, Salima, 39
Hussain, Shah, Islam, 260
Hussain, Shajee, 146
Hussain, Syed Ather, 210, 225
Hussain, Zahir, 144
Hussam, Shaikh, 195
- Ibrahim, Afsheen M., 89**
Ibrahim, Hussain, 117
Ibrahim, Saira, 88
Ibrahim, Shahnaz Hamid, 115, 117, 157, 197, 273
Idrees, 208
Idress, Romana, 6, 16, 277, 278
Ikram, Mubasher, 198, 240, 259, 267,
Ilhaq, Humera, 148
Imam, Haider, 117
Imdad, Amer, 175, 176, 177(2), 178
Imran, Mohammad, 245, 274
Iqbal, Junaid, 256, 273, 274
Iqbal, Kiran, 84, 88
Iqbal, Mehvish, 79, 80(2)
Iqbal, Mohammad Perwaiz, 56(2), 129, 173, 181, 269, 276,
Iqbal, Rasheed, 188
Iqbal, Romaina, 35, 39, 41, 127, 248
Iqbal, Saleem Perwaiz, 129
Iqbal, Shagufta, 132, 180
Iqtidar, Nagma, 137
Irfan, Aida, 137
Irfan, Furkan Bin, 118(2), 119
Irfan, Mashhooda, 270
Irfan, Muhammad, 11, 70, 146, 191(2), 192(2)
Irfan, Seema, 65, 75, 85
Irvine, Jim, 255
Ishaq, Muhammad, 278(2), 280
Ishaque, Sidra, 2, 229(2),
Ishitiq Chisti, 202
Ishtiaq, Osama, 38
Islam, Mohammad, 47, 50, 113, 118, 183, 254
Islam, Muniba, 72, 88
Islam, Najmul, 33, 34, 35, 37, 38, 40
Islam, Zafar Ul, 25
- Ismail, Faisal Wasim, 50
Ismail, Hamidah Ashiqali, 232(2)
Ismail, Javed, 129(2)
Ismail, Muhammad, 89
Ismail, Samina, 211(2), 236
- Jabbar, Abdul, 32, 34,35, 36, 37(2), 39, 41, 42, 200, 286**
Jabbar, Jawaid, 39, 131, 148,
Jabeen, Kausar, 73, 85
Jabeen, Nusrat, 48(2), 74
Jabeen, Qaiser, 288
Jafar, Tazeen H., 140, 141, 145, 183, 185,254
Jafferani, Asif, 144, 194,276
Jaffri, Shehla Batool, 35
Jafri, Farhat, 138
Jafri, S, 68(2)
Jafri, SM Wasim, 51, 55
Jafri, Sana, 69, 73, 76
Jafri, Tabassum, 95
Jafri, Waseem, 83
Jafri, Wasim, 34, 44, 45, 45, 46, 47, 47(2),49(3), 50(2), 52(2), 53(2), 54, 55, 56(2), 59(2), 69
Jahan, Firdous, 32, 90, 95
Jahan, Nusrat, 123
Jalbani, Imran Khan, 189
Jalbani, Imran, 67
Jaleel, Aneela, 101
Jalil, Fatima, 173
Jamal, Kishwar, 90
Jamal, Sheikh, Asim, 16
Jamali, Seemin, 225
Jameel, Sadia, 38
Jameel, Zafar, 272
Jamil, Bushra, 63, 65, 70, 71, 81, 237, 276,
Jamil, Sajjad, 56
Jamil, Zafar, 207, 209
Jamy, Fatima Shahid, Rabia, 288
Jamy, Omer Hassan, 17
Jamy, Umer, 61
Jan, Rafat, 167
Jan, Rahim, 111
Janbaz, Khalid Hussain, 248, 279
Janjua, Ahmedyar, 14, 16
Janjua, Naveed Z., 35, 128, 254
Janjua, Sahar Ashraf, 155
Jawad, Saddakat, 165
Jawaid, Asmita, 111(2)
Jawed, Fayez, 248
Jaweed Akhter, 70
Jayasuriya, Rohan, 39, 41
Jehan, Imtiaz, 113
Jessani, Saleem, 183
Jewani, Erum, 254
Jokhio, Abdul Hakeem, 140, 166
Juma, Jokha, 91
- Jumani, Fareed, 100
Jumani, Natasha, 116, 151, 152, 153
Junaidi, Babar, 33
- Kabir, Furqan, 74, 81**
Kadir, Masood, 97, 103
Kakal, Fatima, 202
Kalar, Muslah uddin, 129
Kamal, Ayeesha K, 107(2), 115
Kamal, Kamran, 107
Kamani, Luban, 51
Kamran, Muhammad, 74
Kanji, Akbar, 75
Karim, Farheen, 7
Karim, Mehtab S., 179
Karim, Sana, 116, 151, 152, 153
Karim, Shahid, 59(2)
Karmaliani, Rozina, 122, 124,126, 222, 238, 271, 272
Kashif, Waqar, 97, 182(2), 184, 210
Kassamali, Gulrose, 9
Kaul, Subash, 105, 106
Kausar, Samreen, 94
Kausar, Toheed, 83
Kayani, Naila, 6, 15, 16, 17
Kazi, Sayyeda Ghazala, 10
Kazmi, Faraz, 144, 264
Kazmi, Shahana U., 31, 63, 64
Kazmi, Tahseen, 109, 131, 148
Kazmi, Zehra, 97
Kelley, Eric, 277
Khairunnissa Hooda, 203
Khakwani, Amir, 153
Khalid, Abdullah Bin, 52
Khalid, Ahmed, 124, 125
Khalid, Mirza Umair, 265
Khalid, Roha, 113
Khalid, Salman, 113
Khalid, Umair, 40, 233
Khalifa, Ahmed, 105
Khamisa, Ayesha, 239
Khan, Abraar S., 204
Khan, Shaista, 6
Khan, Aamir H., 288
Khan, Abrar H., 129, 269
Khan, Anis, 45
Khan, Asif Rashid, 114
Khan, Aslam, 189, 281
Khan, Ayisha, 222
Khan, Aysha Habib, 131, 148, 286
Khan, Aziz, 282
Khan, Ehsan Raza, 195
Khan, Fahad Hanif, 217
Khan, Faheem, 112
Khan, Faisal, 30
Khan, Farhan Raza, 23, 25, 28, 29(3)
Khan, Farrukh S, 108
Khan, Fauzia Anis, 91(2), 231, 244, 261, 274, 63, 211, 245

- Khan, Fazal Hameed, 201
 Khan, Fouzia, 71
 Khan, Ghawar, 117
 Khan, Ghufuran A., 273
 Khan, Gul Nawaz, 141, 168
 Khan, Hamna, 41
 Khan, Hassan Mehmood, 136
 Khan, Hizbullah, 114
 Khan, Hyder, 158
 Khan, Imad Saeed, 117
 Khan, Iqtidar, 74
 Khan, Irfan Ali, 31
 Khan, Irfan, 209
 Khan, Javaid A., 11, 133, 146(2), 153, 191(2), 192, 193(2), 193, 194,
 Khan, Kashif, 58
 Khan, Kausar S., 94, 105, 136, 150, 156, 222, 238, 253, 271, 272
 Khan, Khalid M., 2
 Khan, Khalid Mehmood A., 10
 Khan, Khalil A., 273
 Khan, Mansoor A., 204, 262
 Khan, Mansoor Ahmad, 98, 204, 262, 250
 Khan, Maria, 115
 Khan, Maryam, 81, 129
 Khan, Mir Asghar Ali, 224
 Khan, Mohammad Nadir, 62, 288
 Khan, Mubashir Z., 262, 264
 Khan, Mubashir Zareen, 203, 267, 274, 286,
 Khan, Mubashir, 288
 Khan, Muhammad Arif Mateen, 165
 Khan, Muhammad Arsalan, 47
 Khan, Muhammad Faisal, 236
 Khan, Muhammad Imran, 137
 Khan, Muhammad Naseer, 286, 287
 Khan, Muhammad Rehan, 63, 71, 156, 165, 220
 Khan, Muhammad Rizwan, 50
 Khan, Muhammad Shoaib, 97
 Khan, Muhammad Talha, 77
 Khan, Muhammad Umar Rais, 255
 Khan, Mumtaz Jamshed, 12(2)
 Khan, Munizeh, 26, 27
 Khan, Murad M., 94, 102
 Khan, Mustafa, 109, 111(2), 124, 125
 Khan, Nadeem Ullah, 210, 225
 Khan, Nadir, 197(2)
 Khan, Nasir, 109
 Khan, Noman, 159
 Khan, Rashid Iqbal, 122, 151
 Khan, Reema S., 86
 Khan, Rehmatullah, 257
 Khan, Rizwan, 6, 61, 59, 256
 Khan, Robyna, 94
 Khan, Rustam, 47, 50(2)
 Khan, Sadaf M., 90, 95, 99
 Khan, Saeed, 63, 64
 Khan, Salma, 202
 Khan, Samiullah, 44
 Khan, Sarosh A., 119
 Khan, Shaguffa, 62, 288
 Khan, Shahjahan, 87, 176, 211, 228(2), 280
 Khan, Shahzad A., 90
 Khan, Shaista, 9, 13, 21(2), 251
 Khan, Shala, 161
 Khan, Shehla, 43, 125
 Khan, Shereen, 77
 Khan, Sohail A., 204, 266
 Khan, Tahir, 221
 Khan, TE, 33
 Khan, Uzma R., 127(2), 128, 130, 132, 156, 275
 Khan, Yasmin, 202
 Khanani, M. Rafiq, 48(2), 63, 64, 78
 Khanani, Samina, 164
 Khatoon, Fahmida, 146, 147
 Khatri, Aftab A., 98(2)
 Khawaja, Fariha B., 40
 Khawaja, Ranish D., 5, 6, 18(3), 19(2), 20(2), 87, 99, 207, 209, 284, 285(2)
 Khawaja, Saleem, 139, 143(2)
 Khawaja, Tuba, 289
 Khealani, Bhojo A., 109, 110, 111
 Khoja, Adeel Akbar, 139, 143(2)
 Khoja, Shariq, 258, 259(2), 267
 Khoo, Nicholas, 277
 Khowaja, Asif Raza, 124(2), 216
 Khowaja, Fahmida, 104, 132, 159, 180
 Khowaja, Khurshid, 245, 246, 276
 Khurram, Shahzad, 236
 Khursheed, Munawar, 66, 226, 227, 218,
 Khursheed, Syed Faraz, 115
 Khurshid, Mohammad, 7, 8, 126
 Khuwaja, Ali Khan, 23, 28, 37(2), 40, 90, 120, 124, 139, 143(2), 144, 242, 257
 Khwaja, Huzair Ali, 79
 Kisat, Mehreen, 110, 249, 275(2)
 Krebs, Nancy F., 240
 Krishanani, Mukesh Kumar, 120
 Kubra, Fatima, 43, 125
 Kumar, Ameet, 144, 185, 257
 Kumar, Dileep, 30, 253
 Kumar, Rajesh, 103, 118, 119, 185
 Kumar, Rohail, 97
 Kumar, Santosh, 222
 Kumar, Suneel, 106
 Kumar, Suresh, 216
Ladak, Laila Akbar, 224
 Ladha, Hina, 179
 Laghari, Altaf Ali, 17
 Laiq, Rabia, 73
 Lakdawala, Riaz H., 3, 189, 208
 Lakhani, Amina, 265
 Lakhani, Arusa, 96, 167
 Lakhani, Madiha, 12
 Lakhani, Samina, 198
 Lakho, Ghulam Rehmani, 13
 Lalani, El-Nasir, 21(2), 88
 Lalani, Karishma, 114
 Lalani, Saima, 37, 144, 157, 158(2)
 Lalani, Shireen, 269
 Lalji, Shabana Saleem, 203, 206, 277
 Lalji, Zohra Sultan Ali, 196
 Lalkhan, 230
 Lasi, Abdul Razzaq, 137
 Lasi, Seema, 112, 142, 215, 220, 222
 Lassi, Zohra S, 128
 Lateef, Shaikh Hussam, 87, 176, 211, 228(2), 280
 Latif, Sheikh Abdul, 196, 218, 228
 Lessley, Todd, 138
 Li, Laiji, 285
 Lindberg, Greger, 44, 52, 53,
 Lindblad, Bo S., 129
 Lone, Saira, 66
 Luqman, Zubair, 249, 267, 275, 284, 286
Maan, Wajiha, 157, 158(2)
 MacArthur, Christine, 140, 166
 Madhani, Farhana Irfan, 96
 Madiha, Lakhani, 77
 Mahboob, Maria, 144, 241
 Maher, P.S., 283
 Maheshwari, Prem Kumar, 71, 63, 165, 220
 Mahmood, Afsheen, 100
 Mahmood, Faisal, 65, 71, 80
 Mahmood, Muhammad Afzal, 170
 Mahmood, Sajid, 130, 144
 Mahmud, Sadia, 29(3), 128
 Majeed, Fouad, 93(2), 94
 Majeed, Hina, 113
 Majid, Shahid, 52
 Majid, Uzma, 40
 Makhani, Asma, 162
 Malik, Abdul, 106, 109
 Malik, Amina, 178, 198
 Malik, Anum I., 144, 243
 Malik, Ashar M, 133
 Malik, Ayesha, 207
 Malik, Umair Zafar, 65, 174(2), 277
 Mancini, Donna, 289
 Mansoor, Faisal, 69
 Mansoor, Khan, 204
 Mansoor, Nadia, 113
 Mansoor, Sana, 22
 Mansoor, Shireen, 239
 Maqsood, Javeria, 138
 Marie, Andrades, 101
 Maroof, Sarwat, 14
 Martensson, A, 68(2)
 Martini, Nataly, 281
 Masood, Komal, 63, 117

- Masood, Muhammad Qamar, 34
 Masood, Nehal, 14, 15, 16(2)
 Masood, Qamar, 37, 186
 Masood, Sadia, 220, 221(2), 276
 Masood, Sara, 56
 Masoom, Aria, 240
 Masroor, Imrana, 196, 219, 246, 251, 263
 Massod, Qamar, 37
 Mazahir, Samia, 279
 Mbalinda, Scovia, 91
 Meghani, Zara, 232
 Mehboob, Kiran, 232
 Mehboobali, Naseema, 129
 Mehdi, Fahmida, 265
 Mehdi, Munira, 43
 Mehmood, Amber, 154, 155, 221
 Mehmood, Malik Hassan, 58(2), 62, 248, 258, 279
 Mehndiratta, MM, 105
 Mehraj, Jaishri, 78, 130, 144
 Mehraj, Vikram, 278(2), 280
 Memon, Adil, 56
 Memon, Amanullah, 190
 Memon, Ashfaq Ahmed, 134
 Memon, Ghulam Ali, 147
 Memon, Ismail, 2
 Memon, Javaid, 157
 Memon, Nadeem A., 109
 Memon, Sarwat, 23
 Memon, Waseem, 209, 207
 Memon, Yousuf, 104, 132, 259(2), 160, 165, 180
 Memon, Zaibunnisa, 244
 Menon, Bindu, 105, 106
 Mevawala, Amynah, 116, 151, 152, 153, 289
 Minai, Fauzia, 91(2), 92, 243
 Minhas, M. Khurram, 17
 Mir, Fatima, 86
 Mirani, Amjad, 138
 Mirani, Mushtaq, 137
 Mirza, Farhan Arshad, 157, 158(2)
 Mirza, Shirin, 43, 57, 126
 Mirza, Waseem Akhtar, 164, 216
 Mistry, Rozina, 124
 Mithani, Yasmin, 230
 Mizokami, Masashi, 45
 Moatter, Tariq, 13, 14, 45, 83, 85, 89, 126, 270, 286
 Mobeen, Naushaba, 122, 123, 145, 151, 169, 170
 Moez, Salima, 247
 Mohammad, Sanum Dost, 244
 Mohammad, Seema, 90, 96
 Mohammed, Nuruddin, 172(2), 202
 Mohammed, Seema, 90, 96
 Mohiuddin, Syed, 81, 124, 125, 126
 Mohsin, Raheela, 95, 164
 Mohsin-e-Azam, 3(2)
 Mohyuddin, 174
 Mohyuddin, Ghulam Rehman, 174
 Moin, Omer, 1 46
 Moiz, Bushra, 7, 93, 126, 205, 263, 268, 270
 Momin, Saira, 254
 Moss, Paul, 88
 Motwani, Komal, 139, 143(2)
 Muhammad, Irfan, 192
 Muhammad, Shah, 159
 Mumtaz, Khalid, 45(3), 49(3), 50, 51(2), 53, 57, 61
 Mumtaz, Nida, 155
 Mumtaz, Uzma, 138
 Munir, Sehrish, 135
 Muqet, M Abdul, 267
 Murtaza, Muhammed, 110, 249, 275
 Murtaza, Naquiya, 243
 Musharraf, Faisal, 247
 Mushtaq, Naseem, 159, 160
 Muslehuddin, Kalar, 138
 Mustufa, Muhammad Ayaz, 134
 Muttaqi, Syed Shaukat Ali, 211
 Muzaffar, Marium, 252
 Muzaffar, Sindhu, 72

Nadeem, Naila, 216, 219, 225
 Nadeem, Sanobar, 112, 139(2), 255
 Naeem, Muhammad, 62, 191(2), 193,
 Naeem, Naghma, 90
 Naimatuallah, Najeeb, 11
 Naka, Yoshifumi, 289
 Nanji, Kashmira, 103
 Naqi, Rohana, 43, 212(2), 213(3), 214(3), 215(2), 217, 218
 Naqvi, Ahmed, 10
 Naqvi, Baquir Shyum, 287
 Naqvi, Farnaz, 124, 125
 Naqvi, Haider A., 32, 103, 104, 113
 Naqvi, Hamid Iqil, 216
 Naqvi, Kashif, 247
 Naqvi, Syed Ahmed, 9
 Naqvi, Syed Mansoor, 211, 272, 273
 Naqvi, Syed Zulfiqar Ali, 21(2), 126
 Naqvi, Syed Zulfiqar Ali, 21
 Naseeb, Samina, 63
 Naseem, Azra, 98
 Naseem, Fauzia, 242
 Naseer, Rizwan, 145
 Nasim, Rizwana B., 79, 80(2)
 Nasim, Sadia, 34
 Nasim, Sumera, 182
 Nasir, Abdul Razzaq, 190, 252
 Nasir, Amna, 126
 Nasir, Humaira, 279
 Nasir, Nosheen, 63, 71
 Nasir, Razzaq, 190
 Nasiruddin, 14
 Nawab, Anum Shahid, 288
 Nawaz, Ahmad, 257, 260
 Nawaz, Zohaib, 59
 Nayani, Parvez, 94
 Naz, Farah, 77
 Naz, Shagufta, 47, 50, 69, 240
 Nazeer, Haroon, 153
 Nazeer, Shaista, 272
 Nazim, S. Muhammad, 183(2), 185
 Nazir, M. Ressam, 22, 155
 Nazir, Zafar, 171
 Nekakhtar, Irfan, 258
 Nematullah, Najeeb, 54
 Niazi, Samiullah Khan, 209, 284
 Nigar, Saira, 267
 Nisa, Tayyab un, 76(3), 81
 Nisar Rao, 80
 Nizamani, Tanveer Ahmed, 156
 Nizami, Sobia, 133, 153, 193
 Nizamuddin, Summiya, 65
 Noman, Fatima, 269
 Noorani, Ambreen, 237
 Nouman, Anna, 238
 Nuruddin, Rozina, 148, 172(2)

Obeidat, Marya, 6, 285
 Ochiai, R. Leon, 137
 Oighor, Farooq, 80, 194
 Omair, Amir, 39
 Omar, Sobiya M., 134
 Otho, Muhammad S, 149
 Owais, Aatekah, 125, 130, 149
 Oz, Mehmet C., 289

Pach, Alfred, 138
 Pal, Inam, 11(2), 60, 257, 261
 Panju, Sukaina, 10
 Panjwani, Asmita, 109
 Panni, Roheena Zainab, 236, 260
 Parakash, Om, 45, 51, 55
 Pardan, Amin, 67, 261
 Parekh, Maria Adnan, 113, 115
 Parsonnet, Julie, 235
 Parvani, Zehra, 7, 234(2)
 Parveen, Sheeba, 85
 Patel, Muhammad Junaid, 97, 210
 Peermohammed, Habib, 215, 220
 Perry, Sharon, 235
 Pervaiz, Ali, 152
 Perveen, Ghazala, 108
 Perveen, Shagufta, 135
 Perveen, Shazia, 149, 264, 267, 274, 279
 Perveen, Siddiqa, 2, 276
 Pervez, Shahid, 5, 13, 15, 16, 18, 57, 61, 278
 Pervez, Shahid, 13
 Peterson, MR, 148
 Pethani, Asmina S. 26, 28
 Pinjani, Sheila K., 92, 93, 94, 95
 Pirani, Laila, 99
 Pongvarin, Niphon, 06
 Premji, Shahirose, 224

Qadir, Irfan, 65(2)

Qadir, Maqbool, 176
 Qamar, Farah, 75(2), 188
 Qamarunnissa, Syeda, 48
 Qamruddin, Saima Allauddin, 251, 252
 Qayyum, H. Arisha, 142
 Qazi, Fahad, 81
 Qazi, Romena, 13, 74, 76(2), 77, 79, 80(2), 81, 82(2) 82(2), 89, 193
 Qazi, Umer Anwar, 129
 Qidwai, Waris, 79, 102(2), 120, 112, 217
 Quadir, Ahmer Syed Abdul, 218
 Quadri, S.A.Q, 110, 116
 Quadri, Zahaib, 44, 52, 59
 Quratulain Shaikh, 70
 Qureshi, Adnan, 31
 Qureshi, Aurangzeb H., 3
 Qureshi, Humaira H., 77, 242
 Qureshi, Mustafa, 46
 Qureshi, Rahat Najam, 35, 39, 41, 90, 98, 163, 167, 171, 172(2)
 Qureshi, Shahi.M., 76
 Qureshi, Shahida M., 79, 80(2), 81
 Qureshi, Sohail A, 13, 77, 82242, 256, 273, 274,

Rabbani, Madiha, 34

Rafiq, Ammar, 17, 61
 Rafiq, Yasraba, 73, 74
 Rafique, Ghazala, 36, 40, 112, 139, 142, 149, 2165, 222, 255
 Rahman, Arshalooz, 188
 Rahman, Munawar, 25, 29
 Rahman, Nighat, 188
 Rais, Abida, 76(2)
 Raja, Andleeb, 85
 Raja, M. Kamran, 193
 Rajani, Amin, 96, 100
 Rajput, Shaheryar, 259, 260
 Ramani, N V, 105
 Rana Shoaib, 202
 Rao, Nisar Ahmed, 78, 84, 88(2), 192
 Raooof, Sidra, 107
 Rasheed, Muneera A, 157, 197
 Rashid, Yasmin A., 16
 Rashid, Abdul, 40
 Rashid, Ambreen, 114, 147
 Rashid, Haroon Ur, 2, 3
 Rashid, Tuba, 113
 Rashid, Yasmin Abdul, 14, 15, 16
 Rasool, Ambreen, 248
 Rasool, Mashhooda, 268
 Rasool, Shahid, 56(2)
 Rasool, Sheikh Ajaz, 48
 Rattani, Salma Amin, 126, 156, 222, 238
 Raza, Afsheen, 69, 76, 205, 218
 Raza, Asif, 120, 125, 126, 222
 Raza, Emmon, 133, 153, 193

Raza, Farrukh, 157, 168
 Raza, Hasnain, 2
 Raza, Jamal, 286
 Raza, Johar, 187(2), 187, 190
 Raza, Mohammad Qasim, 185, 199
 Raza, Rushna, 59, 60, 61(2), 107
 Raza, Saboohi, 48
 Raza, Sajjad, 47, 55
 Raza, Saleha, 155
 Raza, Sana, 86
 Raza, Shamim, 5
 Raza, Soobia, 178, 223
 Raza, Syed Jamal, 66
 Raza, Syed Shamim, 41, 87, 196, 211, 228(2), 280
 Razeer, Husna, 39, 41
 Razzak, Junaid A., 127(2), 128, 130, 131, 132, 154, 155, 156, 225(2), 275
 Rehanuddin, 220, 221(2)
 Rehman, Alvi A., 77
 Rehman, Azhar, 216, 242
 Rehman, Fasih ur, 80
 Rehman, Ghulam, 174
 Rehman, Hasan, 197(2)
 Rehman, M. Aamir, 4
 Rehman, Mustaqeem ur, 129(2)
 Rehman, Najeeb-ur-, 258
 Rehman, Sameer ur, 97
 Rehman, Shafiq ur, 255
 Rehman, Sher, 279
 Rehman, Zia-ur-, 257
 Riaz, Fozia, 104, 240
 Riaz, Mehmood, 83, 97, 210
 Riaz, Nashmia, 178
 Riaz, Talha, 97
 Rizqui, Ibrahim, 113
 Rizvi, Narjis, 163
 Rizvi, Arjumand, 120, 240
 Rizvi, Dilawar Abbas, 220, 221(2)
 Rizvi, Farhan, 105
 Rizvi, Farrukh, 9
 Rizvi, Javed, 140, 166
 Rizvi, Raheela M., 140, 166
 Rizvi, Sameera A., 173
 Rizvi, Syeda Naghma, 99, 142
 Rizwan, Azra, 37(2), 38(2), 140, 141, 145
 Rottenberg, Martin, 84, 88(2)
 Routz, Marcela K Tello-, 41
 Rozi, Shafquat, 162, 254

Saadatnia, Mohammad, 106

Sabri, Shafaq, 239
 Sabzwari, Saniya, 96, 113, 253
 Sadaf, Durr-e-, 25
 Sadaf, Shahmina, 205
 Sadaf, Shazia, 90(2), 95(2)
 Sadaqat, 180
 Sadruddin, Gulshan, 150
 Saeed, Mohammad, 276

Saeed, S. Abdul, 100, 180, 181
 Sagheer, Mehwish, 180, 181
 Sahh, Syed Amin, 209
 Sajid, J., 276
 Sajid, Raihan, 7, 8, 31
 Sajjad, Zafar, 107
 Salahuddin, Moiz, 33
 Salahuddin, Naseem, 88
 Salahuddin, Nawal, 77, 78, 80, 194, 210
 Salam, Basit, 185
 Salam, Rehana A., 161
 Salat, M. Sohail, 179
 Saleem, Ali Faisal, 86(2), 117
 Saleem, Mehreen, 272
 Saleem, Muhammad Fahad, 107, 290
 Saleem, Rubina, 159, 160
 Saleem, Sarah, 78, 109, 118, 169, 179, 250, 257
 Saleem, Sarosh, 286
 Saleem, Taimur, 34, 40, 229, 233, 265
 Salih, Mohammad, 47, 52, 54, 55, 184
 Salim, Misbah, 96
 Salman, Mohammed, 93
 Salman, Zafirah, 157, 158(2)
 Salwa, Ahsan, 196, 218
 Samad, Abdul, 104, 129
 Samad, Khalid, 30, 236, 238, 290
 Samani, Zahra, 144, 157, 158(2)
 Sameena, Shah, 101
 Sami, Nabil, 2
 Sami, Neelofar, 163
 Sami, Shahid A., 264
 Samreen, Sarah, 280, 285
 Sarang, Zubaida, 264
 Sarfaraz, Adeel, 282
 Sarwant, Maria, 168
 Sattar, Abdul, 50
 Sattar, Shahid, 155, 179
 Sayal, Saima, 157
 Sayani, Raza, 96
 Schaeffle, Ken, 289
 Sellke, Frank W., 269
 Shabuddin, 18
 Shafiq, Faraz, 234, 236, 242
 Shafiq, M., 276
 Shafique, Yasir, 195
 Shafiqat, Gulnaz Y., 251, 219, 246, 248
 Shafiqat, Saad, 124, 125
 Shah, Adil Aijaz, 287
 Shah, Hasnain Ali, 49(2), 54
(See Also Shah, Syed Hasnain Ali)
 Shah, Mahnaz Naveed, 282
 Shah, Mehboob Ali, 147
 Shah, Nighat, 168
 Shah, S.H. Ali, 59
 Shah, Samana Z., 271
 Shah, Sameena, 95
 Shah, Sara Aslam, 271

- Shah, Syed Attaullah, 148
 Shah, Syed Hasnain Ali, 51, 52, 53
 Shah, Syed Khurram O., 144
 Shahab, Farrukh, 110
 Shahabuddin, Syed, 200 (3), 205, 267
 Shahbaz, Sana, 221
 Shaheryar, Ayesha, 119
 Shaheryar, M., 262
 Shahid, Farhana, 39, 41
 Shahid, Firdaus, 72, 84
 Shahid, Mehmood, 196
 Shahid, Muhammad, 104
 Shahid, Nida, 138
 Shahid, Zain, 97
 Shahzad, Khurram, 199, 249
 Shaikh, Attiya, 25(2)
 Shaikh, Babar T., 134(2), 142, 162
 Shaikh, Lumaan, 184, 172(2), 207
 Shaikh, M. Shariq, 31
 Shaikh, Quratulain, 71, 225
 Shaikh, Shakeel, 229
 Shaikh, Usman, 7, 8(2), 14
 Shaikh, Zulfiqar Ali, 146, 147
 Shakil, Omair, 15, 16, 60, 61, 155, 174(2), 175, 257, 286
 Shakir, Tanzila, 117
 Shakoor, Amarah, 284
 Shakoor, Sadia, 85
 Shalwani, Hussain, 20
 Shamim, Adeel A., 12, 262
 Shamim, Khusro, 34
 Shamim, M. Shahid, 227, 255
 Shamim, M. Shahzad, 115
 Shamim, Nudrat, 271
 Shamim, Raza Syed, 196
 Shamsi, Uzma, 173
 Shan, Adil Aijaz, 286
 Sharif, Hasanat, 200(2), 207, 241, 267, 269
 Sharif, Mohammad, 95, 98(2)
 Sheerani, Mughis, 108, 109, 111, 118, 119, 243, 253
 Shehzad, Khurram, 236
 Shehzad, Muhammad Umer, 225
 Sheikh, Abdul Latif, 5, 87, 289, 211, 228, 280
 Sheikh, Adil, 20
 Sheikh, Baber, 169
 Sheikh, Ghulam Murtaza, 67
 Sheikh, Lumaan, 184, 172(2), 207
 Sheikh, Sana Sadiq, 64
 Sheikh, Usman, 58
 Sherali, Yasmin, 266
 Shezad, Farrukh, 83, 97
 Shohab, Farrukh, 109
 Sibtain, Zul, 234
 Siddiqi, Emaduddin, 10
 Siddiqi, Hasan Salman, 58, 258
 Siddiqi, Muhammad N., 149
 Siddiqi, Shaista, 108, 109
 Siddique, Khurram, 43, 57, 126
 (Also Siddiqui, Khurram)
 Siddique, Rehana, 248
 Siddique, Saad, 260
 Siddiqui, Khurram, 92, 190
 Siddiqui, Amna R., 73, 75, 152, 226, 231, 254, 289
 Siddiqui, Anwar Ali, 21(2), 88
 Siddiqui, Emad uddin, 66, 163, 225
 Siddiqui, Fowzia, 110
 Siddiqui, Haseeb Ahmed, 122
 Siddiqui, Ibrahim Alam, 110
 Siddiqui, Imran, 39, 131, 148, 239
 Siddiqui, M. Bilal, 137, 172
 Siddiqui, Maria, 203
 Siddiqui, Nabeel Hassan, 97
 Siddiqui, Nadeem Ahmed, 60
 Siddiqui, Naveed-ur-Rehman, 175
 Siddiqui, Nida, 79, 82
 Siddiqui, Osama Tariq, 288, 289
 Siddiqui, Rehana *(See Siddiqui, Amna R.)*
 Siddiqui, Saad, 175
 Siddiqui, Sammer, 2, 206, 209
 Siddiqui, Shaheryar A., 118
 Siddiqui, Shahla, 63, 71, 91(2)
 Siddiqui, Soobia, 44, 52, 53, 59
 Siddiqui, Uzma, 163
 Siddiquillah, Syed, 61
 Sikandar, Samra, 159
 Sindhu, Muzaffar, 72
 Sobani, Zain A, 42, 81, 116, 133, 193(2), 152, 153
 Solangi, Riaz Ahmed, 216
 Somani, Mehreen, 63, 202
 Sommer, Jacoline, 161
 Sonawalla, Aziz B., 110
 Soofi, Sajid Bashir, 137, 141, 149, 158, 159, 168, 173(2),
 Soofie, Raafay, 137
 Soomro, Kashifuddin, 190(2)
 Soomro, Mohammad U., 173
 Soomro, Riaz H., 104
 Sophie, Salma, 196
 Sophie, Ziad, 209
 Sorathia, Ayesha, 210
 Stein, Aryeh D, 130, 149
 Stein, Lincoln, 41
 Stephen, Rebecca, 104
 Subhan, Amna, 54(2)
 Suhag, Zamir, 137, 138
 Sulaiman, Nasreen, 126, 150, 189, 222, 238, 271, 272
 Suleman, Haque A., 192
 Sultan, Adnan, 157, 158(2)
 Sultan, Nabeel, 211
 Sultan, Naeem, 257
 Sultana, Aisha, 21(2)
 Sultana, Nuzhat, 251
 Sultana, Shazia, 130, 149
 Sundar, Shiyam, 79, 82
 Syed, Asaad Mahmood, 284
 Syed, Ehsan Ullah, 128
 Syed, Gulzareen, 206
 Syed, M., 237
 Syed, Madiha, 40
 Syed, Nadir Ali, 111, 290
 Syed, Sadia, 97
 Syed, Shershah, 168
Tabani, Halima, 288
 Tabassum, Farhana, 137
 Tabassum, Rumina, 217
 Tabassum, Sadia, 83, 221, 270
 Tabbusum, Ghurnata, 138
 Tahir, Hasan Nawaz, 129
 Tahir, Muhammad Zubair, 102, 103(2)
 Tahir, Muhammad, 254
 Tai, Javed, 266
 Talat, Najeעה, 71, 72, 84, 235
 Talati, Jamsheer, 95
 Tambawala, Arwa Quresh, 74
 Tanveer ul Haq, 202
 Tanveer, Mahnaz, 73, 75
 Taqvi, Intasar Husain, 263, 279
 Tariq, Mohammad, 97, 110, 210
 Tariq, Perween, 240
 Tariq, Usman, 59
 Tariq, Zunera, 270
 Tarpey, Margaret, 277
 Tasleem, Samia, 15
 Tauheed, Sanam, 25
 Tauseefullah, A., 173
 Teizoon, Mehreen, 80
 Thanewala, Sehrish M., 141, 248
 Tharani, Ambreen, 99
 Tharani, Safin, 116
 Thaver, Ali M., 69
 Thaver, Ali M., 81
 Thaver, Daniyal, 69
 Thobani, Rozina, 219 *(See Barolia, R.)*
 Tipoo, Fateh Ali, 204, 254, 266
 Topkara, Veli, 289
 Travers, Mark, 146
 Tunio, Israr Ali, 131
Uddin, Rehan, 220, 221
 Ullah, Syed Siddiq, 61
 Ullah, Syed Siddiq, 57
 Umar, Beena, 16
 Umedani, Loung V., 278(2), 280
 Umer, Masood, 2, 3, 65, 92
 Ursing, J, 68(2)
 Uzzaman, Maseeh, 53
Vakani, Farhan, 247
 Vellani, Camer, 222
 Vellani, Yamin, 198
 Virk, Muneeb, 155
 Vohra, Lubna Mushtaque, 6

Waheed, Zeeshan, 191

Waheed, Abdullah, 157, 158(2)
 Waheed, Shahan, 138
 Wajid, Naureen, 195
 Waki, Nida, 227
 Wali, Rabia, 9
 Wallani, Karim, 98
 Walraven, Gijs, 123
 Waqar, Abdullah, 83
 Waqar, Abdullah, 97
 Waris, Muhammad Shiraz, 102
 Warris, Rabbia, 270
 Wasay, Mohammad, 105(2), 106,
 107(2), 110, 115
 Waseem, Hanniya, 104, 145
 Wasim Memon, 208
 Wasim, Saba, 123, 162
 Westcott, Jamie E., 2 40
 White, Franklin, 40

Yakoob, Javed, 47, 48, 50, 55, 69

Yakoob, Mohammad Yawar, 136,
 175(2), 176, 177(2), 178, 180
 Yakub, Mohsin, 152
 Yaman, Sema, 289
 Yameen, Anjum, 139, 255
 Yaqub, Sonia, 182(2), 184, 185
 Yasir, Mohammad, 20, 43, 196
 Yasir, Shafiq, 218
 Yasmeen, T., 33
 Yosufzai, Aisha, 157
 Younus, Syed Muneeb, 133, 232
 Yousafzai, Abdul Wahab, 136
 Yousafzai, Aisha K., 105, 138, 141,
 168, 197
 Yousuf, Adnan, 105, 107
 Yousuf, Aisha, 112
 Yousuf, Aisha, 102(2)
 Yousuf, Farzana Abubakar, 86, 269
 Yousuf, Muniza, 268
 Yousuf, Naveed, 95
 Yousuf, Razia, 282
 Yusuf, Farzana A., 129
 Yusuf, Mohammad, 222

Zafar Jamil, 208

Zafar, A., 110
 Zafar, Afia, 65, 81, 85
 Zafar, Hasnain, 58, 60, 61, 95
 Zafar, Sahar, 107
 Zafar, Wajiha, 202
 Zaheer, Farhat, 195(3)
 Zahid, Beenish, 138
 Zahir, Muhammad Nauman, 32
 Zai, Aisha Yosuf, 157, 223
 Zaidi, Anita KM, 64, 75(2), 73, 74,
 79(2), 80(2), 81, 82(2), 86, 120,
 130, 124, 125, 149, 169, 216
 Zaidi, Masooma, 19(2)
 Zaidi, Syed Asad, 119

Zaidi, Syed M. Asad, 146, 163
 Zainab, 96
 Zaka, Royala, 108
 Zaki, Samar, 79
 Zaman, Maseeh Uz, 272, 273
 Zaman, Mohammad, 113
 Zaman, Umer, 169
 Zarina, Shamshad, 206, 209
 Zeeshan, Muhammad, 246
 Zehra, Ale-, 287
 Zehri, Ali Akbar, 188
 Zehri, Ali Akbar, 252
 Zia, Hassaan Ashraf, 12, 65, 205, 250
 Zia, Nukhba, 100, 132, 275
 Zia, Sadaf, 171
 Zubair, Madiha, 235
 Zubairi, Ali Bin Sarwar, 191, 192
 Zubairi, Ali, 194, 193
 Zuberi, Lubna, 34, 37
 Zuberi, Nadeem F., 123, 169
 Zuberi, Nadeem, 78
 Zuberi, Rukhsana W., 95