Oman Medical Specialty Board
Career and Research Forum 2016: Abstracts
December 14, 2016

ANESTHESIA

Influence of Intraoperative Serum Lactate Levels on Postoperative Renal Function in Patients Undergoing Pump Coronary Artery Bypass Grafts Surgery

Faisal Khalfan Al Balushi[1], Shatha Nasser Al-Zaabi[1] and Madan Mohan Maddali[2*]

[1]Graduating, Anesthesia Residency Training Program, Oman Medical Specialty Board, Muscat, Oman; [2]Assistant Program Director, Anesthesia Residency Training Program, Oman Medical Specialty Board, Muscat, Oman; Senior Consultant, Cardiac Anesthesia, National Heart Center, Royal Hospital, Muscat, Oman

*Corresponding author: ✉madanmaddali@hotmail.com

ABSTRACT

Objectives: Low cardiac output resulting in reduction in tissue oxygen delivery and hypoperfusion could occur at any time during cardiopulmonary bypass (CPB). This could result in tissue hypoxia that could lead to serum lactate generation as well as adverse effects on the kidneys. Hence, if an intraoperative parameter like serum lactate level could predict postoperative renal dysfunction, recourse to advanced renal function markers could be avoided and corrective measures could be taken to prevent overt post CPB related renal failure. The primary aim of this study was to seek a correlation between the highest serum lactate levels measured throughout surgery and postoperative creatinine (Cr) clearance levels that was empirically considered as a surrogate marker for early identification of renal dysfunction. Also, we aimed to identify any correlation between highest intraoperative serum lactate levels with inotrope score, duration of CPB, intraoperative hematocrit, duration of ventilation, and intensive care unit (ICU) and hospital stay. **Methods:** A cohort prospective observational study of patients scheduled for elective coronary artery bypass grafting surgery over a period of two months in a single tertiary cardiac care center. One hundred consenting patients were enrolled. The baseline demographic data, laboratory investigations, EURO score II, operative data, cross clamping, and total bypass time were recorded. Intraoperatively, the serum lactate levels were measured from time of arterial line insertion, and almost every 30−45 minutes throughout the surgery until patients were transferred to cardiac ICU. The inotrope score at the time of shifting to ICU was also recorded. Postoperatively, the serum Cr for the first 48 hours, total intubation time, and ICU and hospital stay were also documented in each patient. The data were transferred to EPI-DATA and was analyzed using SPSS program. Independent t-test and Pearson's correlation coefficient were the statistical tests performed. A $p < 0.050$ was considered significant with 95% confidence limits. **Results:** Out of the 100 cases enrolled, only 96 patients completed the study. Thirty-one patients had high serum Cr postoperatively while 45 patients developed moderate renal impairment with Cr clearance below 85%. The serum Cr clearance was below 50%, and the eGFR was below 60% in 14 and 20 patients, respectively. A negative linear relationship was noticed between highest serum lactate and Cr clearance postoperatively ($p = 0.029$, Pearson Correlation = -0.3). Negative linear relationship was found between highest serum lactate and eGFR ($p = 0.043$, Pearson Correlation = -0.20). However, the highest serum lactate levels did not correlate with increase of serum Cr within 48 hours post-surgery ($p = 0.135$). There was no correlation between the highest serum lactate levels and inotrope scores, duration of cardiopulmonary bypass, intraoperative hematocrit, the duration of ventilation, and the ICU and hospital stay. **Conclusions:** When serum lactates increased during cardiopulmonary bypass, the Cr clearance decreased probably indicating early renal dysfunction. No association was found between serum lactate levels and post coronary bypass surgery complication in cardiac patients.

Effects of Adding Hyalurodinase on the Quality of Single Injection Peribulbar Block using Short Needle

Hanan Al Ghannami[1*] and Abdelkader Mahfouz[2]

[1]R4, Anesthesia Residency Training Program, Oman Medical Specialty Board, Muscat, Oman; [2]Sr. Consultant Anesthesiologist, Al Nahda Hospital, Muscat, Oman

*Corresponding author: ✉lghannami-1987@hotmail.com

ABSTRACT

Objectives: The aim of this study was to assess the effect of adding hyaluronidase on the quality of single injection peribulbar block using short needle (16 mm). **Methods:** Five hundred patients posted for cataract surgery were enrolled in this prospective double blinded randomized study. The patients were divided into two equal groups to receive peribulbar anesthesia with short needle (16mm). Group A received mixture of local anesthetics of lignocaine and bupivacaine, and in group B, hyalurodinase was added to the previous mixture in a dose of 15 IU/mL. The parameters evaluated were Akinesia, need of supplementary injections, incidence of

complications, surgeon satisfaction, and pain assessment by the patients. **Results:** The percentage of patients with akinesia who scored three or less (successful block) after 10 minutes from the block) was significantly higher in group B (78.4%) compared to group A (52.8%). The percentage of patients who required supplementary block was significantly higher in group A (32%) compared to group B (8%). There was no significant difference between the two groups as regards to surgeon assessment for quality of block or pain score as mentioned by patients postoperatively. **Conclusions:** Adding hyaluronidase to local anesthetic mixture resulted in a better quality of block with lower incidence of ocular movements with less volume of local anesthetic injected.

The Influence Of Body Mass Index On Post Operative Drainage And Blood Transfusion Requirements In Patients Undergoing Primary Coronary Bypass Surgery On Cardiopulmonary Bypass

Yahya Al Myahi[1] and Madan Mohan Maddali[2]*

[1]Graduating, Anesthesia Residency Training Program, Oman Medical Specialty Board, Muscat, Oman; [2]Assistant Program Director, Anesthesia Residency Training Program, Oman Medical Specialty Board, Muscat, Oman & Senior Consultant, Cardiac Anesthesia, National Heart Center, Royal Hospital, Muscat, Oman

Corresponding author: ✉madanmaddali@hotmail.com

ABSTRACT

Objectives: Intra operative and post operative blood loss with requirements of transfusions is an important aspect of coronary artery bypass (CABG) Surgery. The primary objective of this study was to explore if there was a correlation between body mass index (BMI) and postoperative blood loss. The secondary objectives were to look for a correlation between BMI and packed red blood cell [PRBC] transfusions, inotrope scores and vasomotor index at the time of shifting the patients to the post cardiac surgical units (PCSU), duration of mechanical ventilation, and length of PCSU stay and morbidity and mortality. **Methods:** In this prospective observational study at a tertiary cardiac care center, 105 patients undergoing elective primary CABG surgery were included. Ninety-nine patients completed the study. The patients were classified into three groups: normal weight (n = 38), over weight (n = 37), and obese (n = 24). The postoperative chest drainage was measured in each group for the first 24 hours. The number of units of PRBCs transfused, duration of mechanical ventilation in hours, inotrope scores, and vasomotor index at the time of shifting out of the operation rooms, mortality and morbidity in each group was recorded. Data collection was collected on epidate 3.1 and analyzed using SPSS version 22.0 program. Non parametric tests such as Kruskal-Wallis test and Spearman's rho were used to find a correlation between the primary objectives. **Results:** The 24 hours chest drainage was significantly less in obese patients ($p = 0.024$). There was a tendency for reduced blood transfusions in obese group though not statistically significant. The other factors were similar between groups. **Conclusions:** There was a statistically significant reduction in 24 hour chest drainage in obese patients and not in over weight patients. Intraoperative transfusions were uniform across the BMI groups. However, fewer patient received more than three units of PRBC in the obese group which clinically significant though not statistically significant.

BIOCHEMISTRY

Reference Range of Serum anti-Mullerian Hormone (AMH) in Omani Healthy Women in their Reproductive Age

Elham Al Risi[1]* and Waad-Mula Abed[2]

[1]R, Biochemistry Residency Training Program, Oman Medical Specialty Board, Muscat, Oman; [2]Dept of Clinical Biochemistry, Sultan Qaboos University Hospital, Muscat, Oman

Corresponding author: ✉elhamalrisi@yahoo.com

ABSTRACT

Objectives: Anti-Mullerian hormone (AMH) is a glycoprotein belonging to transforming growth factor beta family that are involved in tissue growth and differentiation. It has a lot of clinical application in the field of women health, it assess the ovarian reserve, prediction of response to controlled ovarian stimulation, monitoring granules cell tumors, surrogate biomarker for antral follicle count in diagnosis of polycystic ovarian syndrome (PCOS), and it helps in prediction of time of menopause. The objective of this study is to establish the reference range of AMH in healthy Omani women during their reproductive life as an overall reference range and as age-dependent reference range in different age groups (20−45years). **Methods:** This is a pilot study conducted in healthy fertile Omani women aged between 20−45years. The subjects was divided into five age groups, total sample size was 350−400 and each interval had a number that is calculated using statistical analysis. Subjects were healthy volunteers. The inclusion criteria included females with a regular period, no history of any chronic illness, not using any type of hormonal contraceptive, no history of PCOS and any gynecological operation, and body mass index (BMI) < 30. Blood collection was done on day 21of the period. Progesterone, LH, and FSH hormones along with AMH measured to insure the fertility status of the women. **Results:** This is the primary data of 165 women, for age group (20−25 years) AMH median was 22.86 and the range was (2.38−53.72), age group (26−30) median was 18.91 (2.31−61.95), age group (31−35) median was 13.48 (1.37−55.83), age group (36−40) median was 11.39 (1.56−41.54), age group (41−45) median was 4.68(1.15-47.77). Distribuation of AMH is not the same across the age group ($p = 0.000$). **Conclusions:** Age

dependent reference range of AMH was determined. The level of AMH is decrease with age and this support the physiology of this hormone and previous studies done in this field.

Cord Blood Glucose-6-phosphate Dehydrogenase from Apparently Healthy Term Neonates Using Different Analytical Methods: A Cross Sectional Study in Oman

Faiqa M. Al-Nadabi[1]*, Waad-Allah S. Mula-Abed[2], Nafila B. Al-Riyami[1] and Murtadha K. Al-Khabori[1]

[1]Dept of Clinical Biochemistry, Sultan Qaboos University Hospital, Muscat, Oman; [2]Directorate of Laboratory Medicine and Pathology, Royal Hospital, Muscat, Oman

*Corresponding author: ✉umali1212@gmail.com

ABSTRACT

Objectives: Glucose-6-phosphate dehydrogenase (G6PD) deficiency is the most common genetic enzymatic disorder of red blood cells in humans. It affects approximately 400 million people worldwide. There are different tests for the diagnosis of G6PD deficiency that include qualitative, semi-quantitative and quantitative assays. In Oman, there is no clear published data on the assays' type and the technical preference for G6PD method of analysis. To the best of our knowledge, almost all laboratories in Oman are using either the qualitative or the semi-quantitative assays. Also, there is no agreed local cut-off for the quantitative assay to be used in diagnosing G6PD deficiency in Oman. The objectives of this study was to evaluate the performance of the quantitative G6PD assay in comparison with the qualitative method, which is currently used in the ministry of health institutions in Oman. Also to establish a normal reference range of G6PD level by assessing the enzyme activity in cord blood collected from normal full-term newborns during their screening for disorders including G6PD deficiency. Also to establish the prevalence of G6PD deficiency in the newborns delivered at Sultan Qaboos University Hospital (SQUH) in Oman, based on G6PD cut-offs. ***Methods:*** This is a cross-sectional study of 644 newborn infants who were delivered at SQUH from December 2015 to October 2016. Cord blood G6PD activity was measured using two assays, a qualitative fluorescent spot test and a quantitative direct nicotinamide adenine dinucleotide phosphate (NADPH) generating test, both utilizing Kits supplied by Randox (UK). NADH generation was checked by UV lamp in the qualitative assay and by RX Monza analyser in the quantitative assay. ***Results:*** A total number of 644 newborn blood samples were collected. Of the total, 501 had normal G6PD activity, 19 had partial activity, and 124 had low activity according to the qualitative test.The normal reference range was obtained using the samples classified as normal by the qualitative method. The normal reference range for males is 5.05 to 19.5 U/gHb and for females is 2.13 to 19.67 U/gHb. Therefore, the cut-off value for males for deficiency is 5.05 gHb and for female is 2.1 U/gHb. The prevalence of G6PD deficiency using the qualitative is 22.2% and using the quantitative method is 20.8%. Using quantitative method less women were diagnosed as deficient (15.1%) compared with qualitative method (11.9%); however slightly more men (29.2%) were diagnosed as deficient than using qualitative (28.9%) methods. There were 3.3% subjects who were misclassified by qualitative testing; 2.5% as falsely positive) falsely deficient) by qualitative and 0.8% falsely negative (falsely normal) by qualitative test. ***Conclusions:*** The quantitative method is more reflective of actual G6PD enzyme activity and the status of deficiency can be better described. The prevalence of G6PD deficiency is less using quantitative than qualitative methods with less females were diagnosed as deficient compared with qualitative method; however slightly more males were diagnosed as deficient as when using qualitative methods; quantitative method appears to be more valid for women than men. Qualitative method identifies more partial deficiency which will be considered as deficiency using quantitative method.

DERMATOLOGY

The assessment of the Response to the Narrow-Band UVB in the treatment of various skin diseases among Omani patients visited Al-Nahdha Hospital in the period between Jan 2013

Amira Mohamed Al-Ajmi[1]* and Ilham Al-Lawati[2]

[1]Graduating, Dermatology Residency Training Program, Oman Medical Specialty Board, Muscat, Oman; [2]Dermayology Department, Al Nahdha Hospital, Muscat, Oman

*Corresponding author: ✉dr.princess77@yhaoo.com

ABSTRACT

Objectives: We aimed to study the various skin diseases that were treated with NB-UVB which was not studied previously among Omani population and to assess the response and the development of any side effects. ***Methods:*** This is a retrospective cross-sectional study. The responses of 80 patients with different dermatoses to treatment with NB-UVB was assessed. The doses of NB-UVB, side effects, and complications were recorded. The study included Omani patients older than 18 years who received at least 30 sessions of NB-UVB. Patients with acrofacial vitiligo were excluded, which accounted for 12 patients. ***Results:*** From a total number of 314 patients who were treated with NB-UVB in the period of January 2013 to December 2015, 80 patients met the inclusion criteria and were included in this study. Among the 80 patients studied, they were 43.75% (n = 35) with vitiligo, 30% (n = 24) with psoriasis, 11.25% (n = 9) with Mycosis fungoides, 6.25% (n = 5) with Pityriasis Lichenoidis Chronica, 5% (n = 4) with Alopecia Universalis, 2.5% (n = 2) with severe eczema, and 1.25%

(n = 1) with hypo-melanosis. Among the studied group, the improvement was more than 90% in 50% (n = 40) of patients and was 70−89% among 31.25% (n = 25) of patients. The failure of therapy (improvement of less than 10%) was seen in 8.75% (n = 7). The NB-UVB was well tolerated with only 13.75% (n = 11) experienced side effects that range between erythema and pruritus, which were mild to moderate and resolved spontaneously after withdrawing the therapy. *Conclusions:* NB-UVB is a viable, comparably safe, and easily administered alternative in the management of different dermatoses in particular psoriasis, vitiligo and early stage MF.

Epidemiology of Anogenital Warts in Three Dermatological Centers in Muscat Region, Oman

Salma Al Kharusi[1]*, Abdullah Al Taie[2] and Noora Al Robaiei[2]

[1]Graduating, Dermatology Residency Training Program, Oman Medical Specialty Board, Muscat, Oman; [2]Dermayology Department, Al Nahdha Hospital, Muscat, Oman

*Corresponding author: ✉s.t.alkharusi@gmail.com

ABSTRACT

Objectives: Anogenital warts (AGWs) are common, highly infectious disease caused by the human papillomavirus (HPV). High recurrence rate of AGWs contribute to direct medical costs, productivity loss, and increased psychosocial impact. Due to lack of epidemiology studies in Oman, this study was conducted to assess the incidence and prevalence of AGWs in Oman. *Methods:* A two-year (2013−2014) retrospective observational study was conducted in three dermatological centers in the Muscat region in Oman (Al Nahdha Hospital, Bowsher Polyclinic, and A'Seeb Polyclinic). Males and females with newly diagnosed, follow-up or recurrent AGW of all age groups were included. We estimated the incidence and prevalence of AGW. *Results:* The overall tow-year incidence of AGW was estimated at 8.68 cases per 1000 population. The incidence was higher among males (11.20 per 1000 population) than females (6.49 per 1000 population). The overall recurrence rate was 10.2% and was significantly higher among males (14.1%) than females (4.1%). Incidence peaked at an earlier age in females (21−30 years) than in males (31−40 years). The overall prevalence of AGWs was estimated to be (1.2%). *Conclusions:* This study provided a first overview of the epidemiology of AGW in Oman. A quadrivalent HPV vaccine that prevents HPV 6, 11, 16, and 18 related diseases will have the potential to decrease the socio-economic burden associated with AGW in Oman.

EMERGENCY MEDICINE

Pattern of Ordering Specialized Imaging in Emergency Department

Khaloud Al-Shaaibi[1]*, Mahmood Al-Jufaili[2] and Mohammed Al-Azri[3]

[1]Department of Emergency Medicine, Oman Medical Specialty Board, Muscat, Oman; [2]Department of Emergency Medicine, Sultan Qaboos University Hospital, Muscat, Oman; [3]College of Medicine, Sultan Qaboos University, Muscat, Oman

*Corresponding author: ✉khuloood19@hotmail.com

ABSTRACT

Objectives: Specialized imaging plays a major role in the evaluation of emergency department (ED) patients. Due to medico-legal concerns and the pressure of rapid clinical decisions, some emergency physicians tend to order many unnecessary radiologic studies exposing patients to cumulative radiation. The purpose of this study was to assess the pattern of ordering specialized imaging from the ED and to measure the agreement between the radiologist and emergency physicians in order to regulate the overuse of computed tomography (CT) and ultrasound (US) scans. *Methods*: This prospective, quality improvement study was carried out at the Royal Hospital (adult ED) in Muscat, Oman, from August 2014 to March 2016. A random sample of emergency doctors and other specialty doctors on duty were requested to fill a data sheet and provide justifications of ordering imaging scans from the ED, at the same time all radiologist on duty filled another sheet for the same patients independently. *Results:* Of the 275-paired forms, 496 sheets were analyzed and 27 forms were excluded. Emergency physicians requested 80% of the studies, and two-third of the requested studies were CT scans. Around 89% of the forms showed that the radiology study helped the requesting doctor in managing the patient regardless of a positive or negative result. Agreement between radiologist and ordering doctors from the ED were almost 98%, including the rejected studies. *Conclusions:* Improving the system will be achieved by wise clinical decisions and working collaboratively for the patients' benefit.

ENT

Menstrual Pattern and Disorders among Secondary School Female Students in Muscat, Oman

Mahasin Al-Abri[1]*, Suad Al-Saifi[1] and Kawther Al-Shafi[2]

[1]R[5], Family Medicine Residency Training Program, Oman Medical Specialty Board, Muscat, Oman ;[2]Department of Family Medicine and Public Health, Sultan Qaboos University Hospital, Muscat, Sultanate of Oman

*Corresponding author: ✉m.alabri85@gmail.com; sams3_86@hotmail.com

ABSTRACT

Objectives: Menstrual cycle is an important indicator of women's reproductive health and of their endocrine function. The characteristic features of the menstrual cycle

are influence by many factors. This study aim to identify the prevalence of common menstrual patterns and associated disorders among female student as well their knowledge and attitudes toward their menstrual cycle. **Methods:** A cross sectional study was conducted during September 2015 on 300 female students from grade 10 and 11 attending governmental secondary schools in Muscat (the capital of Oman). The sample was selected by randomized stratified process. The Information was collected by a self-administered questionnaire which was Adapted from The Parker Sneddon MDOT (Menstrual Disorder of Teenagers) Questionnaire© 2004. **Results:** The mean age of menarche was 12 years. 66% had regular cycle with bleeding on average 6 days. Dysmenorrhea reported in 97.3 %. Self-medication was found in 55% of girls. 45 % of girls had symptoms of premenstrual syndrome (PMS). 36% of the subjects report missing school because of their period. 38.7 % worries about their period. 57.7% tend to withdrawn themselves during period.13.7% of student they consult doctor for problem related to their cycle. Their knowledge about polycystic ovarian syndrome, pelvic inflammatory diseases and endometriosis is 28.3%, 21% and 2% respectively. **Conclusions:** Menstrual irregularity, dysmenorrhea and premenstrual syndrome (PMS) are common among female student in Muscat. This has great impact on their life and academic activities. Routine screening for menstrual disorders and school health education about menstrual period is recommended.

Squamous Cell Carcinoma of Mobile Tongue Tumor Thickness as Independent Poor Prognostic Factor

Amur Alwardi[1]* and Jamil Hayder[2]

[1]R[5], ENT Residency Training Program, Oman Medical Specialty Board, Al-Khoud, Oman; [2]Department of Otolaryngology and Head & Neck Surgery, Al Nahda Hospital, Muscat, Oman

*Corresponding author: ✉alwardi11@gmail.com

ABSTRACT

Objectives: Tongue cancer remains as one of the most difficult cancer to treat due to a high rate of recurrence. It is well known that the tumor thickness plays a major role in lymph nodes metastasis. However, no studies addresses the tumor thickness as an independent factor for poor prognosis, which was the aim of our study. **Methods**: A retrospective analysis of all patients with squamous cell carcinoma (SCC) of the tongue who were operated in Al Nahdah Hospital from January 2005 to October 2015 were included. **Results:** Twenty one patients were included in the study with a follow-up period of 44.9 months. Six patients had primary or lymph nodes recurrence (28%). The average tumor thickness was 9.7 mm. There was no statistical significance between recurrence group and the non-recurrence group in regards to the tumor thickness. **Conclusions:** From the current data we can not conclude

that tumor thickness is an independent risk factor for primary and lymph node recurrence. Five years follow up of all patient is required.

The Accuracy of IOS Device-based uHear as a Screening Tool for Hearing Loss: A Preliminary Study from the Middle East

Rashid Al-Abri[1], Mustafa Al-Balushi[2]*, Arif Kolethekkat[1], Deepa Bhargava[1], Amna Al-Alwi[2], Hana Al-Bahlani[3] and Manal Al-Garadi[3]

[1]ENT Division, Surgery Department, College of Medicine & Health Sciences, Sultan Qaboos University, Oman; [2]R[1], ENT Residency Training Program, Oamn Medical Specialty Board, Muscat, Oman; [3]Clinical Physiology Department, Sultan Qaboos University Hospital, Sultan Qaboos University, Oman

*Corresponding author: ✉sanjoor123@gmail.com

ABSTRACT

Objectives: To determine and explore the potential use of uHear as a screening test for determining hearing disability by evaluating its accuracy in a clinical setting and a soundproof booth when compared to the gold standard conventional audiometry. **Methods:** Seventy Sultan Qaboos University students above the age of 17 years who had normal hearing were recruited for the study. They underwent a hearing test using conventional audiometry in a soundproof room, a self-administered uHear evaluation in a side room resembling a clinic setting, and a self-administered uHear test in a soundproof booth. The mean pure tone average (PTA) of thresholds at 500, 1000, 2000, and 4000 Hz for all the three test modalities was calculated, compared, and analyzed statistically. **Results:** There were 36 male and 34 female students in the study. The PTA with conventional audiometry ranged from 1 to 21 dB across left and right ears. The PTA using uHear in the side room for the same participants was 25 dB in the right ear and 28 dB in the left ear (3-54 dB across all ears). The PTA for uHear in the soundproof booth was 18 dB and 17 dB (1-43 dB) in the right and left ears, respectively. Twenty-three percent of participants were reported to have a mild hearing impairment (PTA > 25 dB) using the soundproof uHear test, and this number was 64% for the same test in the side room. For the same group, only 3% of participants were reported to have a moderate hearing impairment (PTA > 40 dB) using the uHear test in a soundproof booth, and 13% in the side room. **Conclusion:** uHear in any setting lacks specificity in the range of normal hearing and is highly unreliable in giving the exact hearing threshold in clinical settings. However, there is a potential for the use of uHear if it is used to rule out moderate hearing loss, even in a clinical setting, as exemplified by our study. This method needs standardization through further research.

FAMCO

Menstrual Pattern and Disorders Among Secondary School Female Students in Muscat, Oman

Mahasin AlAbri[1]*, Suad AlSaifi[1], Kawther AlShafi[2]

[1]R5, Family Medicine Department. Oman Medical Specialty Board. Muscat, Sultanate of Oman; [2]Department of Family Medicine and Public Health, Sultan Qaboos University Hospital, Muscat, Sultanate of Oman

*Corresponding author: ✉m.alabri85@gmail.com

ABSTRACT

Objectives: Menstrual cycle is an important indicator of women's reproductive health and of their endocrine function. The characteristic features of the menstrual cycle are influence by many factors. This study aim to identify the prevalence of common menstrual patterns and associated disorders among female student as well their knowledge and attitudes toward their menstrual cycle. *Methods:* A cross sectional study was conducted during September 2015 on 300 female students from grade 10 and 11 attending governmental secondary schools in Muscat (the capital of Oman). The sample was selected by randomized stratified process. The Information was collected by a self-administered questionnaire which was adapted from the Parker Sneddon menstrual disorder of teenagers (MDOT) questionnaire ©2004. *Results:* The mean age of menarche was 12 years. Sixty-six percent had regular cycle with bleeding on average six days. Dysmenorrhea reported in 97.3%. Self-medication was found in 55% of girls. Forty-five percent of the girls had symptoms of premenstrual syndrome (PMS). Thirty-six of the subjects report missing school because of their period, 38.7 % worries about their period, 57.7% tend to withdrawn themselves during period, and 13.7% of student consulted the doctor for problem related to their cycle. Their knowledge about polycystic ovarian syndrome, pelvic inflammatory diseases and endometriosis is 28.3%, 21%, and 2%, respectively. *Conclusions:* Menstrual irregularity, dysmenorrhea and premenstrual syndrome (PMS) are common among female student in Muscat. This has great impact on their life and academic activities. Routine screening for menstrual disorders and school health education about menstrual period is recommended.

The Association Between Bullying Among School Children and Anxiety: A Cross-Sectional Study in Muscat

Abdullah Al Salmi[1]*, Saif Al 'Alawi[1] and Mohammed Al Shafaee[2]

[1]R5, Family Medicine Residency Program, Oman Medical Specialty Board, Muscat, Oman; [2]Vice Dean for Clinical Affairs, Oman Medical College, Al Tareef, Sohar, Oman.

*Corresponding author: ✉mu7al_82@hotmail.com

ABSTRACT

Objectives: Bullying can be defined as a repeated, aggressive behavior intended to hurt another person, physically or mentally. It is characterized by an individual behaving in a certain way to gain power over another person. The aims of this study are to estimate the prevalence, nature and characteristics of school bullying among students of both genders at grade seven and eight in Muscat area and to investigate its association with anxiety symptoms. *Methods:* A cross-sectional study was conducted from 9 February 2014 to 3 April 2014 on 1775 middle school students of both genders in grades seven and eight (12−14 years) attending governmental schools in Muscat governorate (The capital city of Oman). The sample was selected by randomized stratified process. Students were asked to complete a self-report anonymous questionnaire measuring bullying and victimization (Revised Olweus Bully/Victim Questionnaire) along with an anxiety scale questionnaire (Spence Children's Anxiety Scale). The descriptive statistics analysis was done. The Pearson's chi-squared test and odds ratio (OR) were performed with gender, bullying variables to explore the association between bullying and anxiety. *Results:* The overall prevalence rate of bullying based on the cut-off point at two or three times a month was 22.4%. The prevalence of each type of bullying was 20.7% verbal, 8.5% relational, 11.2% physical, 12.3% racial, 8.1% sexual and 7.9% cyber bullying. Boys were more involved in all forms of bullying behaviors. The majority of bullying incidents (29.3%) happened in the class when the teacher was not in the room. Almost half of the male victims (52.9%) showed elevated level of total anxiety symptoms OR = 2.26, confidence interval (CI) 1.68−3.03, ($p < 0.001$) and 74.5% of the female victims showed elevated level of total anxiety symptoms OR = 2.02, CI: 1.34-3.03, ($p < 0.050$). *Conclusions:* The overall prevalence rate of bullying was 22.4% which is almost similar to those of many western countries. Significant association between bullying in schools and elevated anxiety symptoms among Omani students aged 12−14 years (grades seven and eight) attending governmental school in Muscat governorate have been observed. The exact nature of these associations should be investigated in future longitudinal studies.

GENERAL SURGERY

Laparoscopic Cholecystectomy Ten Years Review, One Centre Experience

Badriya Al-Kendi[1]* and Yahya Al Azri[2]

[1]R4, General Surgery Residency Training Program, Oman Medical Specialty Board, Muscat, Oman; [2]Senior Consultant Hepatobiliary Surgeon, Royal Hospital, Muscat, Oman

*Corresponding author: ✉mrd3059@gmail.com

ABSTRACT

Objectives: Laparoscopic cholecystectomy is one of the

most common laparoscopic general surgical procedures and the gold standard treatment for management of gallbladder stones. There were no studies conducted locally to review the outcome from this procedure. In this retrospective study, we reviewed the demography, mode of admission, rate of complications for these procedures over the past 10 years at Royal Hospital, Muscat, Oman. In addition, we compared the rate of complications when these procedures were done after establishment of the hepatobiliary unit. *Methods*: This retrospective study included inpatients admitted in general surgery department at the Royal Hospital that underwent laparoscopic cholecystectomy during the period between January 1, 2006 and Decemeber 31, 2015. Epidata software was used to collect the data from Al Shifa system and then analyzed using SPSS. *Result:* There were 1 330 adult patients included in the study. The mean age was 42 years, Females were 79%, and 35% were obese with BMI > 30. Other morbid conditions were: diabetes in 12.4%, hypertension 19% and sickle cell disease in 2.2%. Approximately 12% were admitted as emergency for laparoscopic cholecystectomy. In the emergency admissions, the mortality rate was 0.6%, conversion rate was 3.9%, and bile leak was 1.3%. In the elective admissions: mortality rate was 0.5%, conversion rate was 1.1%, and bile leak rate was 0.6%. After establishment of hepatobiliary unit conversion rate for elective admissions was 0.9% compared to 1.3% prior to that, mortality of 0% versus 0.2% however bile leak was the same; 0.5%. for the elective admissions, conversion 3% versus 4.5%, mortality 0% versus 1.1%, and bile leak 0% versus 1.1%. *Conclusions:* overall complications of laparoscopic cholecystectomy done at our institution are comparable to international standards.

HEMATOLOGY

Stable Mixed Chimerism after Bone Marrow Transplant in Patients with Sickle Cell Disease

Musleh Al Musalhi[1]*, Shoaib Al Zadjali[2], Mohammed Al Huneini[2], David Dennison[2], Abdulhakim Al Rawas[3], Salam Al Kindi , Khalil Al Farsi[2],Yasser Wali[3] and Murtadha Al Khabori[2]

[1]R[3], Hematology Residency Training Program, Oman Medical Specialty Board, Muscat, Oman; [2]Hematology Department, Sultan Qaboos University Hospital, Muscat, Oman; [3]Pediatric Hematology Department, Sultan Qaboos University Hospital, Muscat, Oman

*Corresponding author: ✉musleh1987@gmail.com

ABSTRACT

Objectives: Sickle cell disease (SCD) is a common hemoglobinopathy in Oman. Bone marrow transplantation (BMT) is curative for patients with SCD. Increased amount of hemoglobin A in SCD can alleviate the complications of the disease and this could be achieved with stable mixed chimerism from a reduced intensity BMT. The study aims to estimate the proportion of patients who develop stable mixed chimerism after BMT for SCD. In addition, it aims to define the progression pattern of stable mixed chimerism in patients who develop it and to assess the impact of graft versus host disease (GVHD) prophylaxis medications, age at transplant, gender, red blood cells (RBC) alloimmunization, conditioning regimen, and ferritin on the stable mixed chimerism. *Methods*: This is a retrospective cohort study conducted at Sultan Qaboos University Hospital (SQUH). We included all patients with SCD who received BMT from May 1995 to May 2016. Patients who received second BMT were excluded. Short tandem repeat- polymerase chain reaction (STR- PCR) was used for chimerism testing. Stable mixed chimerism was defined as 5–95% chimerism at six months from BMT. The data was analyzed by IBM SPSS statistics program. Continues variables were presented as means or medians as appropriate. Categorical variables were presented as proportions. Pearson chi-square test, independent t-test and Mann-Whitney test were used to test the association between the variables and stable mixed chimerism. *Results:* Chimerism testing data was available between May 2007 and May 2016 for only 59 patients who had BMT for SCD at SQUH, of whom, 56 patients were eligible for analysis. The median follow-up time for patient was 26 months (IQR: 17.3–50.3 months). The mean age at transplant was 19.9 years (SD = 8.44). Fifty-nine percent of patients were male. Most patients had S/S genotype (77%), followed by S/beta-thalassemia mutation (20%). The indications for BMT were: stroke in 7%, acute chest syndrome (ACS) in 9%, recurrent vaso-occlusive crisis (VOC) in 38%, stroke and ACS in 7%, ACS and VOC in 31%, orbital compression syndrome in 2%, stroke and Moyamoya disease in 4%, and Moyamoya disease in 2%. Twenty-five percent of patients developed stable mixed chimerism at six months after BMT. On follow-up of stable mixed chimerism, 10% rejected the graft, 20% developed complete chimerism, and 70% continued to be in stable mixed chimerism. Conditioning regimen was a statistically significant predictor of stable mixed chimerism. GVHD prophylaxis medications, age at transplant, gender, RBC alloimmunization, and ferritin were not statistically significant predictor of stable mixed chimerism ($p > 0.050$). *Conclusions:* The study showed that stable mixed chimerism is common among SCD after BMT and can remain stable on follow-up. Conditioning regimen is a predictor of stable mixed chimerism. This is one of the largest series in patients with SCD, however, it was limited by the retrospective design and the missing data.

Myeloprolifrative Neoplasm in Oman: Clinical Characteristics of BCR-ABL Negative M1PNs Patients Followed at Sultan

Qaboos University Hospital

Iman Al Noumani[1]*, Murtadha Al Khabori[2], Shoaib Al Zidjali[2], Mohammed Al Hunaini[2], Khalil Al Farsi[2], Arwa Al Ryiami[2] and Salam Al Kindi[2]

[1]R[5], Hematology Residency Training Program, Oman Medical Specialty Board, Muscat, Oman; [2]Department of Hematology, Sultan Qaboos University Hospital, Muscat, Oman

*Corresponding author: ✉doc20111@windowslive.com

ABSTRACT

Objectives: Philadelphia negative myeloproliferative neoplasms (MPNs) are a group of disorders characterized by proliferation of one or more cell lines of myeloid origin. They include polycythemia vera (PV), essential thrombocythemia (ET), and primary myelofibrosis (PMF). They have heterogeneous clinical presentation and outcome, which has an impact on quality of life. Using molecular classification, the BCR-ABL negative MPN can be divided to JAK2 positive and Calreticulin (CALR) positive MPN, which also have different characteristics and outcomes. This study aims to describe the baseline characteristics of patients with MPN seen at Sultan Qaboos University Hospital (SQUH) and to compare patients with the JAK2 vs. CALR positive ET. *Methods:* This retrospective study included all patients diagnosed with BCR-ABL negative MPNs at or referred to SQUH for confirmation of diagnosis from January 2006 to January 2015. Patients included in the study have confirmed diagnosis of BCR-ABL negative MPN based on the World Health Organization 2008 criteria. This includes PV, PMF, ET, and chronic myeloproliferative disease unclassified. Clinical and laboratory data were collected from electronic health records. Testing for JAK2 and CALR mutations was performed on samples collected at diagnosis and were analyzed by molecular based techniques. Variables are descripted using means, medians or proportion, and analytical tests were used as appropriate. *Results:* Eighty-seven patients with BCR-ABL negative MPNs were included in the study with a mean age of 56 years, 51% of whom were females. Eleven patients were CALR positive and 76 patients were JAK2 positive. Majority of the patients were diagnosed with ET (46%) and PV (38%). Only eight patients were diagnosed with MF. Splenomegaly was found in 43% of the patients. Thrombosis found to be the commonest (36% in PV, 35% in ET, and 25% in PMF) complication seen in these patients. Bleeding was the second most common complications and was found in 20% of patients with ET and MF. Two patients with PV transformed to MF and one patient with ET transformed to systemic mastocytosis. Majority of JAK2 positive ET were females with higher mean age than CALR positive ET (57 vs. 52 years was found 27% of patients with JAK2 positive and 18% of CALR positive ET. CALR positive group had lower levels of hemoglobin (mean 11.1 g/dL vs 12.2 g/dL)

and white cells count (mean 7.7×10^9/L vs 9.1×10^9/L). Platelets count was higher in patients with CALR positive ET (mean 953×10^9/ L vs 786×10^9). *Conclusions:* The study showed majority of BCR-ABL negative MPNs are JAK2 positive, and ET and PV were the most common disorders. Thrombosis and bleeding were the most encountered complication in Omani patients. JAK2 positive ET has better hematological parameters than CALR positive one. Our future plan is to include all patients with BCR-ABL negative MPNs following at different centers in Oman and we are in process to get the ethical approval from Ministry of Health.

INTERNAL MEDICINE

Predictive Factors of Asthma Exacerbation in Omani Asthmatics Attending Chest Medicine Clinic at Royal Hospital

Salim Al-Gharibi[1]* and Nasser Al-Busaidi[2]

[1]R[4], Internal Medicine Residency Training Program, Oman Medical Specialty Board, Muscat, Oman; [2]Internal Medicine Department, Royal Hospital, Muscat, Oman

*Corresponding author: ✉salim8642@gmail.com

ABSTRACT

Objectives: Asthma exacerbations impose considerable morbidity on patients and constitute a major burden on health care resources. The prevalence rates of reported diagnoses of asthma in older children (13−14 years) 20.7%, and 10.5% in younger children (6−7 years) in Oman. No clear data yet available about the common triggering factors of asthma exacerbations among adult Omani asthmatics. This study aims to identify the predicting factors for asthma exacerbation in adult Omani asthmatics who attend chest medicine clinic at Royal Hospital. *Methods:* This study is a prospective, non-interventional study aims to determine the predictive factors of asthma exacerbation in Omani Asthmatics following chest medicine clinic at Royal Hospital over one year period. If these factors identified then those patients will be managed closely. One hundred and seventy patients were enrolled in for the study and will include those who are more than 12 years old with persistent asthma and seen at least once in chest medicine clinic. Those who are younger than 12 years and those who have other cardiac or pulmonary comorbids will be excluded. Patients will be followed up every 3 months in the clinic and assessed by FEV1 and numbers / causes of asthma exacerbations during each visit. *Result:* Out of 170 patients, 128 were included (28.9% (37) male, 71.1% (91) female) while 42 patients were excluded. Cough was the most common presenting symptom 53.9%, chest tightness 3.9% and only 2.3% presented with wheeze. Noted that 23.5% of the patients are overweight and 54.9% are obese. 55.5% have normal FEV1, 17.3% moderate asthma , 17.3% mild asthma and 10% severe asthma (FEV1 <50% of predicted). 57% of patients have positive history of allergy that

showed statistically significant correlation with asthma ($p = 0.006$). There was no significant correlation between FEV1 predicted and BMI of the patients ($p = 0.92$). In first stage, 3.1% of all patients have episode of acute asthma exacerbation (mean FEV1= 75%). *Conclusion:* The preliminary results showed that 3.1% of patients have acute asthma exacerbation and all were triggered by chest infections. While 10% of all patients have severe asthma (FEV1 <50%) and more than 60% of them have BMI > 25.

Male Gender Increases the Risk of Liver Fibrosis in Patients with Thalassemia Major Independent of Iron Overload

Al Ghalya Ali Nasser Al Umairi*

R², Internal Medicine Residency Training Program, Oman Medical Specialty Board, Muscat, Oman

Corresponding author: ✉alomairighost@gmail.com

ABSTRACT

Objectives: Iron overload in patients with thalassemia major (TM) leads to various complications including liver fibrosis. The independent impact of gender on this risk has been previously investigated but not established or confirmed. We planned to assess the independent impact of gender in patients with TM on the risk of liver fibrosis. *Methods:* We included 96 patients with TM followed-up and transfused in one academic tertiary hospital. Patients underwent assessment of liver fibrosis by ultrasound elastography with cutoff value of 7.8 Ka. The mean ferritin for five years prior to elastography assessment was used to represent iron overload. Association was tested using Chi-squared test and the independent impact of gender was confirmed in the multivariable logistic regression with mean ferritin and gender in the model. *Results:* The median age of the 96 patients was 26 years (Interquartile range (IQR): 22–30). Females constituted 55% of patients and 33% of patients had splenectomy. The median alanine transaminase (ALT), aspartate transaminase (AST), albumin, and total bilirubin were 30 U/L (IQR: 18–64), 30 U/L (IQR: 18–46), 46 g/L (IQR: 44–48), and 21 μmol/L (IQR: 14–32), respectively. The median ferritin and liver iron concentration assessed by MRI T2* were 1 293 μg/L (IQR: 753–2 715) and 6.7 mg/gdw (IQR: 3.5–16.1), respectively. Thirty seven percent of patients had positive serology for HCV while 1% of patients had positive serology for HBV. The proportion of patients with fibrosis as assessed by elastography was 59%. The proportion of male patients with fibrosis was 70% compared to 51% in female patients and there was a trend towards statistical significance (odds ratio [OR] = 2.2, $p = 0.094$). In the multivariable logistic regression model with ferritin (OR = 1.0004, $p = 0.0036$) and gender (OR = 3.0, $p = 0.0188$) were statistically significant independent predictors of liver fibrosis. *Conclusions:* Male gender increases the risk of liver fibrosis independent from iron overload. Our study confirms the previously suspected association. Follow-up and therapy may be tailored to include gender as a decision factor. Larger studies are needed to further confirm these results.

The Pattern of Mycobacterium Tuberculosis Resistance in Oman

Zakariya Al Riyami[1]* and Saleh Al Azri[2]

[1]R⁴ Internal Medicine Residency Training Program, Oman Medical Specialty Board, Al-Khoud, Oman; [2]Infectious Diseases Department, Ministry of Health, Muscat, Oman

Corresponding author: ✉zakriami@gmail.com

ABSTRACT

Objectives: Mycobacterium tuberculosis (TB) is recognized as one of the difficult infections to be treated in view of the long duration of therapy and the new strain of drug resistance developed over the years. World Health Organization (WHO) has recognized TB as one of the top 10 causes of death in 2015. Multi Drug Resistance TB (MDR-TB) is one of the big burden affecting high prevalence TB countries like India, China and Russian. In Oman, drug resistance TB is not well studied. Here, we aimed to look for the prevalence of all types of drug resistance TB in Oman in the last five years with their geographical distributions among the different governorates. Also we aimed to look if there is any difference in drug resistance TB between previously treated cases and new registered cases. Along, we have compared between pulmonary and extra-pulmonary TB. As our country has high number of immigrants reaching about 45% of the population in Oman 2015, we looked at the number of MDR-TB among the expatriates cases registered as well. *Methods*: In this research, retrospectively all positive TB culture cases in the last five years were included from Public Health Laboratory records in Ministry of Health, Oman. *Results:* As a result of the analysis we found that 1 392 cases registered with frequency 270–285 cases per year. Out of those, 150 (10.8%) are mono drug resistance TB cases, 23 (1.6%) are multi-drug resistance TB cases and only 9 (0.65%) cases has extended drug resistance TB. Almost all drug resistance cases are located in Dhofar Governorate. 46% of those cases are expatriate patients with 10 cases has MDR-TB and 13 cases are Omani patients. *Conclusions:* Out of this research we concluded that Oman has low prevalence of TB cases with around seven cases for 100,000 of population and it has high burden of expatriate cases reaching almost half of the registered cases. In Oman the high prevalence governorate with resistance TB is Dhofar. As in other previous studies, we found that resistance TB cases are high among previously treated cases. With all registered resistance TB cases are pulmonary TB.

MICROBIOLOGY

The National Survey for Social Awareness of Antibiotics Resistance

Sulien Al Khalili[1]*, Maya Al Salti[1], Amina Al Jardani[2] and Abdullah Al-Maniri[3]

[1]Microbiology Residency Training Program, Oman Medical Specialty Board, Muscat, Oman; [2]Central Public Health Laboratory, Ministry Of Health, ; [3]Research Department, Oman Medical Specialty Board, Muscat, Oman

*Corresponding author: ✉ds33654@gmail.com, bessanmed@gmail.com

ABSTRACT

Objectives: Antimicrobial resistance is considered a major public health threat at local, regional, and international level. The phenomenon of antimicrobial resistance rises to a level that the prevention and treatment of diseases becomes difficult or even impossible due to lack of active antibiotics in treating these kind of diseases. At present, little is known about the general public knowledge of antibiotic resistance at national level. The aim of this survey is to assess the current public awareness and common behaviors related to antibiotics and its resistance. *Methods*: An Arabic and English online-based survey for adult Omani citizens and residents was run from May 5–31, 2016. It consisted of 12 questions adopted from the World Health Organization multinational antibiotic resistant survey 2016. *Results:* A total of 3 015 (2 841 Arabic and 174 English) online responses were obtained. There were 70.5% females and 46.7% were at the age range of 25−34 years. Omani citizens were 96.6% and 28.8% from Muscat governorate. There were 90.9% that took the antibiotics as prescribed from a doctor and 75.8% stopped the antibiotics after full course. Seventy five percent believed that sore throat can be treated by antibiotics as well as other viral diseases such as HIV (8.2%), measles (10%), and cold/flu (28.1%). Awareness of antibiotic resistant reached 60.0%−66.0% with 48.0% of the information obtained from doctors or nurses and 55.6% were not aware about the use of antibiotics in agriculture. *Conclusions:* Although taking antibiotic as prescription and completing a full treatment course did not show to be a major issue by this survey, however, there is still misunderstanding about the indication for antibiotic use. In addition, there is suboptimal awareness about the use of antibiotics in agriculture, which will be reflected in more misuse thus increase the rate of resistance. Antibiotic resistance awareness though demonstrating high level should be enhanced by more effort from media and by conducting campaigns. Results of this survey will be utilized to determine the direction of future efforts in term of targeted education of the public, focusing in the key knowledge gaps and correct common misunderstandings.

OBSTETRICS AND GYNECOLOGY

Maternal and Neonatal Outcomes in Omani Pregnant Women with Hypothyroidism

Fatma Al Wahaibi[1]* and Anita Zutshi[2]

[1]R4, Obstetrics & Gynecology Residency Training Program, Oman Medical Specialty Board, Muscat, Oman; [2]Senior Consultant, Royal Hospital, Muscat, Oman

*Corresponding author: ✉fatma.wahaibi@gmail.com

ABSTRACT

Objectives: To estimate the prevalence, obstetric/neonatal outcome of pregnancies with hypothyroidism and correlation between occurrence of complications or cord blood thyroid stimulating hormone (TSH) with concentrations of maternal serum TSH in Oman at a tertiary care hospital during the study period. *Methods:* A retrospective study included all singleton pregnancies with hypothyroidism on treatment with no preexisting co-morbidities who delivered at Royal Hospital delivery suit between January 2012 and December 2014. Antenatal, intrapartum and postpartum details were collected from electronic medical record and analyzed with SPSS. *Results:* Incidence of hypothyroidism with pregnancy during study period was 2.26%. In the study group 53% of women needed increased dose of levothyroxine. Primary hypothyroidism in study group was 67.9%. Rest 21.6% of women had pre-existing autoimmune hypothyroidism with positive anti thyroid peroxidase antibodies (TPOAb). There was higher incidence of miscarriages (5.3%) and premature delivery (5.2%) in study group vs nil in control group ($p = 0.002$). Congenital anomaly is 11% vs 4%. Hypothyroid women had higher risk of cesarean delivery 29.6 % vs 23% in control group. Atonic postpartum hemorrhage 9.3% vs 3.7% in control group ($p = 0.001$) and intrapartum hypertension. Neonatal SCBU admission (7.3% vs 5.7%) and incidence of low birth weight babies (8.3% vs 2%) was also higher in study group ($p = 0.404$ and 0.019, respectively). Cord blood TSH levels were normal in all neonates in both groups. *Conclusions:* Hypothyroidism in pregnancy carries higher risk of maternal and neonatal complications. More frequent antenatal visits with monitoring of TSH levels in each trimester are recommended to minimize adverse maternal and neonatal outcome.

Review of Ovarian Cancer in a Major Center in Oman in the Last Ten Years: Outcome, Presentation and Histopathological Subtypes

Huda Al-Ghaithi[1]* and Abdul Rahman Al Farsi[2]

[1]R6, Obstetrics and Gynecology Residency Training Program, Oman Medical Specialty Board, Muscat, Oman; [2]Senior Consultant of Obstetrics and Gynaecology, Royal Hospital, Department of Obstetrics and Gynecology

*Corresponding author: ✉hudaya2002@gmail.com

ABSTRACT

Objectives: Ovarian cancer is the sixth most common cancer in women and the second most common

malignancy of the female genital tract. The primary objective of this study was to define the histopathological subtypes of ovarian cancer in the Omani population; furthermore, show the common types of ovarian tumor and if they are relatively comparable to the international population. *Methods*: This retrospective, descriptive study involved Omani women with ovarian cancer that were diagnosed over the last 10 years and were managed at the Royal Hospital. Data was collected from Al-Shifa system medical records, looking at the patients' geographical background, age, site of the disease, treatment modality, histopathological subtype, follow-up, and tumor markers. All cases of ovarian cancer diagnosed and managed during the study period were reviewed. *Results*: A total of 337 females (294 Omani and 43 non-Omani) diagnosed with ovarian cancer between 2005 and 2015 were recruited from the Al-Shifa system. Out of the 337 patients, 294 satisfied the inclusion criteria and comprised the study population. Most of the studied population presented at stage 3 estimated at 67%. One of the important risk factor was found to be family history of ovarian cancer (14%). The common type of ovarian cancers was found to be epithelial ovarian cancer (40.1%), serous type (23.1%), undifferentiated or unclassified (6.5%), germ cell– dysgerminoma (6.5%), borderline (6.1%), and metastasis from other site were (5.8%). *Conclusions*: This study provides valuable data regarding management of ovarian cancers in the main center in Oman. Findings of this study may be useful for researchers and decision makers in the field of gynecology (gynecologic oncology) and healthcare administration in Oman as they can provide opportunities for generating hypothesis about ovarian cancer in Oman.

Prevalence of major congenital anomalies in a Tertiary Care Hospital (Sultan Qaboos University Hospital) in Oman

Muna Al Rawahi[1]*, Tamima Al Dughaishi[2], Deepthy Geetha[2], Alaa Al Balushi[2], and Hanan Al Mahrooqi[2]

[1]R[6], Obstetrics and Gynecology Residency Training Program, Oman Medical Specialty Board; [2]Department of Obstetrics and Gynecology, Sultan Qaboos University Hospital, Al-Khoud, Oman

*Corresponding author: ✉lovelysunshine4@hotmail.com

ABSTRACT

Objectives: Congenital anomalies or birth defects are defined as structural abnormalities diagnosed antenatally, at the time of birth or in the first few years of life. These often result in increased perinatal mortality, if not long-term disability in the diagnosed infant and a burden to the families, society, and the healthcare system. In January 2014, the World Health Organization (WHO) reported that birth defects were estimated to affect one in every 33 infants globally and account for approximately 3.2 million birth defect related disabilities every year. There is a variation in the frequency of congenital anomalies

in different populations. To determine the prevalence of major congenital anomalies at Sultan Qaboos University Hospital (SQUH) also to estimate types of congenital malformations, risk factors and association with chromosomal abnormalities, and to assess potential factors that are either causative or preventative. *Methods:* This single-center retrospective cross-sectional study was conducted in fetal clinic and obstetrics and gynecology department in SQUH. A total of 23 408 obstetrical ultrasound examinations were performed for 12 765 from the period of January 2010 to December 2015. All patients with antenatal diagnosis of congenital anomalies were included. *Results:* Total number of patients seen at fetal medicine clinic and obstetrics and gynecology department during the study period were 12 765. A total of 216 fetuses were diagnosed with major congenital anomalies, including 162 (75%) fetuses with isolated major anomalies and 54 (25%) fetuses with non-isolated major anomalies. The antenatal prevalence of congenital anomalies was 16.8 per 1 000 pregnancies. The mean maternal age was 30 years. The mean gestational age at diagnosis was 24 weeks (range 16−35). Fifty-nine cases (27%) had history of previous fetal anomalies. Genitourinary system were the most common abnormalities while thoracic anomalies were second in rank. The consanguinity rate was 41% (89 of 216 cases), first cousin account for 72% (64 of 89). *Conclusions:* Congenital anomalies are one of the most important causes of fetal deaths. The present study showed a high incidence of congenital malformations in the advanced maternal age group and among multi-gravida woman. The commonest associated risk factors was consanguineous marriage the frequency of which may be reduced by creating awareness regarding the avoidance of consanguineous marriages. The most commonly diagnosed anomalies involved the genitourinary system.

OPHTHALMOLOGY

Clinical Profile of Omani Keratoconus Patients: An Experience from a Tertiary Referral Centre in Muscat

Haitham Al Mahrouqi[1]*, Nasser Al-Shamli[2], Nirmal Raj Mohan[2] and Abdulatif Al Raisi[3]

[1]R[2], Ophthalmology Residency Training Program, Oman Medical Specialty Board, Muscat, Oman; [2]Ophthalmology Department, Armed Forces Hospital, Muscat, Oman; [3]Ophthalmology Department, Al-Nahdha Hospital, Muscat, Oman

*Corresponding author: ✉almahrouqi.h@gmail.com

ABSTRACT

Objectives: Keratoconus is a progressive disease of the cornea which often leads to significant visual disability at a very young age. It is currently the most common indication for full thickness corneal transplantation in many parts of the world. Keratoconus is a relatively prevalent disease in the Middle East. However, there is a paucity of statistical data on this disease entity in

the Omani population. This hospital based study aims to determine the demographics, clinical features and associated risk factors of Omani keratoconus patients presenting to Armed Forces Hospital (AFH) in Muscat. *Methods*: This is a retrospective descriptive study whereby the electronic medical records of all new Omani keratoconus patients presenting to AFH between January 2011 and December 2015 were reviewed. Demographic details, family history, presence of ocular allergy, refraction, best corrected visual acuity (in LogMAR), corneal topography, pachymetry, and treatment received were documented. Non-parametric tests were used to assess the difference in severity of keratoconus (measured as a function of Kmax) with the different demographic variables. Pearson correlation coefficient was used to evaluate the strength of the linear relationship between nominal variables. Institutional ethics committee approval was received prior to the commencement of the study. *Results:* There were 458 new keratoconus patients (257 males, 201 females) comprising a total of 893 eyes with a mean age of 20 years (range = 6–46 years). More than one third of the patients reported family history of keratoconus and 89% were diagnosed with ocular allergy. A significant proportion of eyes with no prior treatment showed advanced disease on presentation (Kmax > 53 = 41%, central corneal thickness < 450 μm = 39%, and best spectacle corrected visual acuity of < 0.5 = 35%). A lower age at diagnosis correlated with more severe keratoconus. Fortunately, rigid contact lenses improved vision to better than 0.1 for most patients. In the course of the disease, 20% of eyes underwent collagen cross-linking, 4% underwent intra-corneal ring segments implantation and 5% required corneal grafting. *Conclusions:* A significant proportion of Omani keratoconus patients seen in AFH present with advanced disease. Population based studies are an important next step. Meanwhile, early detection and timely interventions to limit the burden of the disease seem to be crucial.

Impact of Diabetic Macular Ischemia on the Treatment Outcome of Diabetic Macular Edema

Majid Al Shaaibi[1]* and Ahmed Al Hinai[2]

[1]*R3, Ophthalmology Residency Training Program, Oman Medical Specialty Board, Muscat, Oman; [2]Senior Consultant, Retinal Unit, Sultan Qaboos University Hospital, Muscat, Oman*

Corresponding author: ✉address: wayfarer964@hotmail.com

ABSTRACT

Objectives: Diabetic macular ischemia (DMI) is an important cause of visual loss in diabetic retinopathy patients. DMI has been rarely discussed in the literature due to difficulty in detection and lack of treatment options. This study aims to evaluate the prevalence of diabetic macular ischemia (DMI) in patients with diabetic retinopathy and to study the impact of DMI on the anatomical and visual outcome following treatment of diabetic macular edema (DME). *Methods*: In this retrospective case series study, electronic patient records of patients with diabetes who had undergone fundus fluorescein angiography (FFA) between May 2011 and March 2016 at Sultan Qaboos University Hospital were reviewed. Demographic details, stage of diabetic retinopathy, best corrected visual acuity (BCVA), central macular thickness (CMT), and the treatment received were recorded. Pretreatment FFA records were reviewed and eyes were categorized into four groups based on presence or absence of macular edema and macular ischemia. Eyes with macular edema were grouped into an ischemic group (with DMI) and non-ischemic group (without DMI). These two groups were compared with respect to their response to treatment in terms of change in BCVA (visual outcome) and CMT (anatomical outcome). Statistical analysis was performed using chi-square test and paired t-test. Institutional ethical approval was received prior to commencement of the study. *Results:* A total of 147 eyes from 82 patients satisfied the inclusion criteria. The prevalence of DMI in our study was 75/147 (51%) eyes with diabetic retinopathy. Proliferative diabetic retinopathy (PDR) was present in 44% of the eyes in ischemic group compared to 32% in non-ischemic group. There was a statistically significant difference in the visual outcome following treatment of DME in the ischemic group compared to non-ischemic group. Eyes with DMI showed visual loss in 47.7% of the eyes after treatment compared to only 22.0% in the eyes with no DMI (p= 0.022). The mean change in CMT was 28.8μm in the ischemic group and 27.4 μm in the non-ischemic group. The difference in change in CMT between the two groups was not statistically significant (p = 0.966). *Conclusions:* DMI is a common disorder in diabetic patients. There is a proportionate relationship between DMI and the stage of the diabetic retinopathy. Our study confirms that DMI negatively affects visual recovery in patients treated for diabetic macular edema. Assessment of DMI prior to DME treatment will help in providing patients with realistic expectations from treatment.

The Epidemiology of Non-Viral Microbial Keratitis in a Tertiary Care Centre in Muscat, Oman

Alyaqdhan Al Ghafri[1]* and Abdullatif Al Raisi[2]

[1]*R5, Ophthalmology Residency Training Program, Oman Medical Specialty Board ;[2]Ophthalmology Department, Al Nahdha Hospital, Muscat, Oman*

Corresponding author: ✉alyaalghafri@gmail.com

ABSTRACT

Objectives: Microbial keratitis is a treatable cause of visual impairment. This study was conducted to determine the epidemiology, risk factors, etiology, and outcome of microbial keratitis in a tertiary care

center in Muscat, Oman. *Methods:* In this case series, the electronic medical records of all patients diagnosed with keratitis or corneal ulcer between January 2013 and January 2016 in Al Nahdha Hospital were retrospectively reviewed. Keratitis patients who underwent culture and sensitivity studies and were admitted for treatment with fortified antibiotics were included. Descriptive statistics and chi-square test were used to analyze the data. *Results:* A total of 606 electronic medical records of patients with microbial keratitis were reviewed. Of these, 304 met the eligibility criteria. The mean age of affected patients was 52.5 years (standard deviation ± 23.6 years; range = 0.1−130 years). Females were more in number (56.3%) than males (43.7%). There were 198 (65.1%) microbial cultures that yielded positive results. Of those, 182 (91.9%) were bacterial, 13 (6.6%) were fungal, and three (1.5%) cases were due to a combined (bacterial and fungal) etiology. Gram-positive bacteria accounted for 102 (55.1%), and gram-negative for 77 (41.6%) patients. *Streptococcus pneumoniae* accounted for the majority of gram-positive bacteria (42.0%), while *pseudomonas aeruginosa* accounted for 50.0% of gram-negative bacteria. Gram-negative bacteria were isolated in 93.0% ($p < 0.001$) of the cases related to contact lens wear of which 82.0% were due to *pseudomonas aeruginosa*. Keratitis was more likely to be associated with trauma in patients below 18 years (48.3%, $p < 0.001$), with contact lens wear in young adults (64%, $p = 0.005$), and blepharitis (55.6%), sequelae of previous trachoma infection (26.3%), and eyelid abnormalities (18.4%) in adults over 40 years. Following recovery, corneal scarring was seen in 66.8% of patients. Sixteen patients (5.3%) required therapeutic corneal graft. Of these, half were due to fungal etiology. *Conclusions:* Microbial keratitis affects patients of all age groups, but is more common in older adults. The vast majority of culture-proven cases are due to bacterial infections. *Streptococcus pneumoniae* is the most common gram-positive bacteria while *pseudomonas aeruginosa* is the most common gram-negative bacteria. Keratitis in children and teenagers is likely to be associated with eye trauma, and with contact lens wear in young adults. Ocular surface disease is the most important risk factor in older adults. Majority of patients develop corneal scarring following keratitis. Fungal keratitis carries the worst outcome.

ORTHOPEDIC

Demographics of Schmorls' Nodes and its association with Bone Mineral Density (BMD) in a sample Middle Eastern Population

Mohamed Othman[1]*, K.V Menon[2] and Khalifa Al Wahaibi[2]

[1]R[1], Orthopedic Surgery Residency Training Program, Oman Medical Specialty Board Muscat, Oman; [2]Supervisors - Senior Consultants, Spine Team, Khoula Hospital, Ministry of Health, Muscat, Oman

*Corresponding author: ✉mohammed.othman111@yahoo.com

ABSTRACT

Objectives: The exact origin of Schmorls' nodes (SN) is largely hypothetical. It's relation with osteoporosis is also conjectural. This study aimed to establish the correlation between SN and osteoporosis in a sample Middle-Eastern population. *Methods*: This is a retrospective study of 1 348 patients who were reported for Dual-energy X-ray absorptiometry (DEXA) scanning. The study was conducted in a tertiary care facility in Oman. Of 1 348 cases, 545 patients had complete set of X-rays and magnetic resonance imaging (MRI) scans that helped determine the SN status. The anteroposterior, lateral X-rays, sagittal, coronal, and axial T2-weighted MRI were used to identify the presence and exact location of the nodes. Two orthopedic trainees performed the initial screening and it was confirmed by a senior orthopedic Surgeon. The correlation of each individual parameter with the presence of SN was statistically analyzed by independent sample t-test and one-way analysis of variance (ANOVA). *Results:* Among the screened population, 87% were female (due to the selection bias for undergoing DEXA scan). The prevalence of SN in this population sample appeared to be 41.1% and only 19.1% were of normal bone density. 80.9% were either osteopenic or frankly osteoporotic. Vast majority (87.1%) of SN occurred in the center of lumbar spine and mostly solitary. Statistical study of the data revealed that SN predominantly affects older men with osteopenia or osteoporosis, and is frequently seen in the lumbar spine. *Conclusions:* SN is most frequently seen in the lumbar spine of men (women are almost equally affected) with osteoporosis in the Middle-Eastern population. Solitary central lesions are the most common pattern.

Comparative Study of Conventional and Ultrasonically-assisted Bone Drilling to Measure Micro-traumatic Insult to the Bone using Electron Scanning Microscopy

Ahmed Ghaiti[1]*, Mohammed Al Kindi[2] and Khurshid Alam[3]

[1]R[4], Orthopedics Residency Training Program, Oman Medical Specialty Board, Muscat, Oman; [2]Electron Microscopy Unit, Department of Pathology, College of Medicine, Sultan Qaboos University, Muscat, Oman; [3]Department of Mechanical and Industrial Engineering, College of Engineering, Sultan Qaboos University, Muscat, Oman

*Corresponding author: ✉dr.alghaiti@gmail.com

ABSTRACT

Objectives: To determine the efficacy of novel drilling technique called ultrasonically-assisted drilling (UAD) by measuring the drilled hole surface roughness

and comparing it to conventional drilling system (CD). *Methods*: The study was conducted by drilling through fresh bovine cortical bones through UAD and conventional drilling system. Later drilled bone sample were processed for scanning under the scanning electron microscopy (SEM). *Results:* There was significant difference in the number and length of microcracks between UAD and CD ($p < 0.050$). *Conclusions:* Ability of UAD to produce more physiological hole with less traumatic insult to the bone during orthopedic surgeries can contribute to the postoperative recovery.

Distal Femur Cut Angle in Total Knee Arthroplasty in The Omani Population

Said Saif Nasser Al Hasani[1]* and and Sultan Al Maskari[2]

[1]R[3], Orthopedics Residency Training Program, Oman Medical Specialty Board, Muscat, Oman; [2]Orthopedic Surgery Department, Sultan Qaboos University Hospital, Muscat, Oman

*Corresponding author: ✉said44445@hotmail.com

ABSTRACT

Objectives: Restoration of normal lower limb alignment during total knee arthroplasty (TKA) has been considered as an important factor for a better and prolonged survival of a replaced joint. Distal femur cut is one of the important cuts in this surgery and has to be decided based on preoperative measurements of axis difference between mechanical and anatomical axis of femur or based on national average cut angle for the population. In this study, we aimed to find the optimal cutting angle for the Omani population. *Methods*: This was a retrospective analysis of radiological imagining of the full lower limb. The study was done in a patient whom underwent primary TKA in Sultan Qaboos University Hospital from January 2014 to December 2014. Measurements were taken and analyzed using data analysis on SPSS. *Results:* Forty-three knees were included in the study, 15 female patients and nine male patients. Axis difference (between mechanical and anatomical), which determine the distal femur cut, was five and six for females and males, respectively. *Conclusions:* The study showed that distal femur cutting angle in the Omani population was less compared to some international figures, which indicates that the Omani population have different measurements. Therefore, these measurements need to be considered during TKA for a better outcome and survival of the implants.

PEDIATRICS

Assessment of WINROP Algorithm as a Screening Tool for Preterm Infants in Oman to Detect Retinopathy Of Prematurity

Nada Al Rawahi[1]*, Abdulrahman Al Saadi[1], Sharifa Al Abri[1], Mohammed Al Yahmadi[2] and Khalid Al Riyami[3]

[1]R[4], Peadtircs Residency Training Program, Oman Medical Specialty Board, Muscat, Oman; [2]Pediatrics Department, Khoula Hospital, Muscat, Oman; [3]Pediatrics Department, Royal Hospital, Muscat, Oman

*Corresponding author: ✉kmnr237@hotmail.com

ABSTRACT

Objectives: To assess the reliability of the web-based WINROP tool, to predict the need of intervention for retinopathy of prematurity (ROP) in a group of preterm infants born in a tertiary center in Oman. *Methods*: This is a retrospective chart review using Al-Shifa system for neonates born at gestational age of < 32 weeks at Royal Hospital from January 2013 to December 2015. Basic data were collected including birth weight, gestational age, weekly weight measurements and the degree of ROP. Using WINROP tool, infants were classified into categories of no alarm (unlikely to develop ROP) and alarm (at risk of developing ROP). WINROP results were compared to the ophthalmologist assessment (golden standard test). *Results:* A total of 252 neonates were eligible. Out of the 252 patients 38 neonates were excluded and 213 were analyzed. Mean gestational age was 28.8 weeks (standard deviation (SD) 2.0 weeks, range = 23−31(+6 weeks)). Mean birth weight was 1 158 g (SD 289 g, range 540−2 200 g). The sensitivity of WINROP was 100% while specificity was 36.5%. Additionally, negative predictive value was 100% and positive predictive value was 7.9%. *Conclusions:* The WINROP system is an accessible, non-invasive tool that can be used to focus care on neonates that are a high risk of ROP, optimize the follow-up, and potentially reduce the overall number of stressful diagnostic eye examinations.

Evaluating the Risk Factors Associated with Accidental Injury among Pediatrics Patients Attending Emergency Department in Sultan Qaboos University Hospital

Muna Al Saadoon[1]*, Shamsa Al-Balushi[2] and Sarah Al-Suleimani[2]

[1]Pediatrics Department, Sultan Qaboos University Hospital, Muscat, Oman; [2]R[3], Pediatrics Residency Training Program, Oman Medical Specialty Board, Muscat, Oman

*Corresponding author: ✉munasa@squ.edu.om , shamsalkone@yahoo.com, s0959@hotmail.com

ABSTRACT

Objectives: Injuries are global problem that have major impact on the health of people. It is reported that 16% of the disabilities worldwide were related to injuries and many injury survivors have higher risk of developing psychological problems. Moreover, 10% of the world's deaths were due to injuries. According to an annual health report in Oman in 2015, out of 187 deaths due to external causes, road traffic accidents (RTA) accounted for 55.1% deaths, followed by falls leading to 17.4% deaths, and most of these injuries were among young age group. This study

aims to identify the types of injuries among children aged 0–18 years old managed in the emergency room (ER) in Sultan Qaboos University Hospital (SQUH) and explore the factors associated with accidental injuries among Omani children. *Methods*: This is a prospective cross-sectional study in which children aged 0–18 years old attending SQUH ER over a period of three months from November 2015 to January 2016 with accidental injuries were studied. Data was collected from patients' relatives by answering questionnaires through the telephone. The data was analyzed using SPSS program. *Results:* In this study, the percentage of children presented to the ER with injuries was 9.7%. The most common cause of injuries was fall 63.2%, and 75% of the injuries occurred at home. *Conclusions:* Injuries can be prevented or controlled via wide range of preventive approaches. Further studies are needed to explore additional risk factors for example those related to safety measures at home, school, and play areas. Hence, a national project is needed to raise awareness about the serious impact of accidental injuries on children.

PSYCHIATRY

Personality Traits and Specialty Choice among Oman Medical Specialty Board (OMSB) Residents

Mohammed Salim Hamdan Al Alawi[1]* and Hamed Al Sinawi[2]

[1]R[4], Psychiatry Residency Training Program, Oman Medical Specialty Board, Muscat, Oman; [2]Psychiatry Department, Sultan Qaboos University Hospital, Muscat, Oman

*Corresponding author: ✉alalawim@squ.edu.om

ABSTRACT

Objectives: To study the association between personality traits and specialty choice among residents at Oman Medical Specialty Board (OMSB). *Methods*: Residents from different specialties were invited to participate in this study by completing the Eysenck Personality Questionnaire-Revised (EPQ-R), Behavioral Inhibition System (BIS), and Behavioral Activation System (BAS) scale. *Results:* A total of 255 residents participated in the study (male = 40%, female = 60%). Surgical residents score was significantly higher on the psychoticism subscale ($p = 0.002$) and BAS scale compared to nonsurgical residents ($p = 0.050$). On the other hand, medical residents score was higher in BIS subscale suggesting tendency towards avoidance of anxiety provoking situation ($p = 0.023$).With regard to neuroticism trait, psychiatrists had the lowest score indicating more emotional stability. Residents from diagnostic specialties scored the highest in BAS-Fun Seeking subscale, with a difference reaching the level of statistical significance. *Conclusion:* The findings of the present study suggest an association between specialty choice and personality traits. Therefore, adapting a well-constructed, effective, and standardized selection approach is of great importance. A reasonable framework for conceptualizing specialty choice would be recognizing one's own personality traits along with exploring social and technical factors related to a particular specialty.

Guilt Feeling among Dementia Caregivers Attending a tertiary Care Clinic In Oman

Mandhar Al-Maqbali[1], Hamed Al-Sinawi[2] and Mohammed Al-Alawi[1]*

[1]R[5], Psychiatry Residency Training Program, Oman Medical Specialty Board, Muscat, Oman; [2]Senior Consultant, Old Age Psychiatry, Department of Behavioral Medicine, Sultan Qaboos University Hospital, Muscat, Oman

*Corresponding author: ✉omanlion84@yahoo.com

ABSTRACT

Objectives: Dementia is an acquired decline in global cognitive functions and the main cause of disability among the elderly. Caregivers of patients with dementia are at risk of depression, anxiety, and insomnia due to high burden of care. Guilt feeling is considered as an important factor in depression and distress that result from providing care. Furthermore, guilt is regarded as the main emotion that exacerbate burden of care. This study aims to assess the guilt feeling among caregivers of patients with dementia attending psychiatry clinic at Sultan Qaboos University Hospital. *Methods*: Forty-six patients and their caregivers were included in this cross-sectional study. Patients' demographic data, presence of comorbidities, and level of dependency were collected. Diagnosis of dementia was based on Diagnostic and Statistical Manual of Mental Disorders, fifth-edition (DSM-5) criteria for neurocognitive disorders. For caregivers, demographic data, relationship to the patient and presence of domestic helper were collected. Guilt feeling among caregivers was measured using Caregiver Guilt Questionnaire (CGQ). *Results:* Most of the caregivers (75%) were patients' adult children who have no domestic helper. The 52% of the caregivers reported high degree of guilt as a result of providing care to patients with dementia. Presence of a domestic helper is significantly associated with higher experience of guilt ($p < 0.050$). *Conclusion:* Guilt resulting from providing care to patients with dementia is common among caregivers. In line with other studies, those primary caregivers are at risk of depression and anxiety disorders.

Mental Health Stigma Among Oman Medical Speciality Board (OMSB) Residents

Saleema Al- Musharrafi[1]* and Samir Al-Adawi[2]

[1]R[4], Psychiatry Residency Training Program, Oman Medical Specialty Board, Muscat, Oman; [2]Department of Behavioral Sciences, College of Medicine and Health Sciences, Sultan Qaboos University, Oman

*Corresponding author: ✉drsaleema@hotmail.com

ABSTRACT

Objectives: Arab/Islamic culture such as those in Oman has been prescribed to be part of "collective culture" where family is central to one's identity. In such society, shame is used to an agent of socialization. As conceptions of insanity were often dictated by the philosophy of the time, there is dearth of research to substantiate how shame or guilt plays part in perception of mental illness in traditional society. It is not clear how mental illness is perceived among young doctors in Oman in the light of recent modernization and acculturation. This study aim to explore such socio-cultural teaching impact on attitudes towards mental health problems among Omani physicians. *Methods*: The consenting residents at all levels of residency were asked to fill self-reported questionnaire Attitudes towards Mental Health Problems (ATMHP). This has been designed to measure the external shame (beliefs that others will look down on themselves if one have mental health problems); internal shame (related to negative self-evaluations); and reflected shame (believing that one can bring shame to their family/community). Socio-demographic information was also sought, including age, gender, issue pertinent to urban-rural dichotomy, previous contact with a person with mental illness, and whether they have previously sought consultation for mental distress. *Results:* One hundred and seventy residents responded with the fully filled questionnaire. The response rate was > 80%. The majority of participants were female. The cohort showed elevated scores in indices of external shame and reflected shame. However having a history of mental distress or having contact with a person with mental illness appear to have moderate indices external shame and reflected shame. *Conclusions:* This study suggests that medical education has little eroded societal teaching among physicians under training in Oman. Thus, their attitude toward mental disorder appears to be expressed in term of external shame and reflected shame, which in turn, encapsulate cultural patterning of shame and the centrality of family identity in Oman. Such socio-cultural teaching could lay groundwork for further research to mitigate mental illness in Oman.

RADIOLOGY

Assessment Between Non-alcoholic Fatty Liver Disease and Coronary Artery Athereosclerosis

Ahmed Al Abri[1]*, Humoud AL Dhuhli[2] and Rashid AL Umairi[2]

[1]R4, Radiology Residency Training Program, Oman Medical Specialty Board, Muscat, Oman; [2]Radiology Department, Sultan Qaboos University Hospital, Muscat, Oman

*Corresponding author: ✉Med_04@live.com

ABSTRACT

Objectives: To demonstrate whether there is a relationship between the presence of non-alcoholic fatty liver disease (NAFLD) and the presence and extent of coronary artery disease (CAD). *Methods*: Retrospectively, two hundred twenty (220) consecutive patients who underwent coronary computed tomography angiography (CTA) between April 2013 and December 2015 to rule out CAD were enrolled in this study. The patients were divided into two groups according to the presence of NAFLD. Fatty liver was defined by liver-spleen attenuation values of ≤ 1 on computed tomography in patient who had neither evidence of chronic viral hepatitis nor a significant history of alcohol consumption. Coronary arteries were visually evaluated for the presence and degree of stenosis 64-multiple detector computed tomography (64-MDCT) angiography. The relationship between the two groups and CAD was analyzed using SSPS IBM software. *Results:* NAFLD was found in 50 of the enrolled 220 subjects (22.7%) and absent in 170 subjects (77.3%). Ninety eight patients had CAD (44.5%) and 122 (55.5%) had no CAD. In NAFLD group, 27 subjects (54%) had CAD while 23 patients (46%) did not. Among non-NAFLD, 71 subjects (41.8%) had CAD while 99 patients (58.2%) did not. The frequency of CAD between patients with NAFLD and patients without NAFLAD was not statistically significant ($p = 0.146$). *Conclusion:* There was no significant difference for the prevalence of CAD between patients with NAFLD and patients without NAFLAD.

Volumetric Measurement of Ureteric Stones: Does it Predict Surgical Intervention?

Ahmed Al Dhahli[1]* and Humoud Al Dhuhli[2]

[1]R5, Radiology Residency Training Program, Oman Medical Specialty Board, Muscat, Oman; [2]Radiology Department, Sultan Qaboos University Hospital, Muscat, Oman

*Corresponding author: ✉alzuhli@gmail.com

ABSTRACT

Objectives: To evaluate and compare the outcome of ureteric stones based on volume and diameter among patients with ureteric stones who underwent computed tomography (CT). *Methods*: A retrospective study of 152 patients (age range = 18−75 years, mean = 35.8 years) diagnosed of having ureteric stone disease based on unenhanced multi-detector row CT between February 2013 to March 2014. CT was performed with 64 detector rows, 1.25 mm detectors, slice thickness of 1.5 mm, 3 mm for axial, 3 mm for coronal, auto-mA (maximal-250 mA), and tube voltage of 100 kVp. Scans were evaluated by staff radiologists for size, number, and location of urolithiases. A special automated software device provided and connected to the CT scanner was used for volumetric measurements of ureteric stones. Medical and surgical management data was retrieved from hospital information system. The significant difference between the mean values of diameter and volume in the corresponding groups was tested using Student *t*-test. Cut off values were obtained

using receiver operating characteristic curve (ROC curve) analysis. Multivariate analysis was performed using logistic regression model at $p < 0.050$ was considered statistically significant. **Results:** Invasive intervention was required in 45 (29.6%) patients. The mean diameter and volume of stones were 5.6 mm and 159.3 mm^3, respectively. Surgical intervention was required in 1 (1.3%) of 77, 17 (37.78%) of 45, and 27 (90.0%) of 30 patients in < 5 mm group, 5 mm group, and 7 mm group and > 7 mm group, respectively. Surgical intervention was required in 6 (5.83%) of 103 patients with stone volume < 100 mm^3, 23 (71.88%) of 32 patients with stone volume between 100 mm^3–300 mm^3, and 16 (94.12%) of 17 patients with stone volume of > 300 mm^3. Diameter and volume of stones showed significant association with outcome ($p < 0.001$) and both values were equally effective in predicting the outcome. **Conclusions:** Volumetric and dimensional measurements of ureteric stones showed significant prediction for intervention with no significant advantage of volume over diameter in outcome prediction.

The Role of Thyroid Scintigraphy in Infants with Congenital Hypothyroidism

Asiya Sulaiman Al Busaidi[1]* and Khalsa Al Nabhani[2]

[1]R4, Radiology Residency Training Program, Oman Medical Specialty Board, Muscat, Oman; [2]Faculty Trainor, Radiology Department, Royal Hospital, Muscat, Oman

*Corresponding author: ✉asya.b@hotmail.com

ABSTRACT

Objectives: The early diagnosis and treatment of congenital hypothyroidism is critical to avoid detrimental outcomes such as mental retardation. Thyroid stimulating hormone (TSH) level is the usual diagnostic screening test; however, thyroid scintigraphy helps identify etiologies of the disease thereby determining different management plans. This study aimed to evaluate thyroid scintigraphy findings in hypothyroid infants and to assess the outcomes of those who underwent a scan in terms of final diagnosis. ***Methods***: Retrospectively, we reviewed 101 congenital hypothyroid infants, initially diagnosed biochemically, and then underwent thyroid scintigraphy between 2010–2015 at a tertiary hospital in Oman. Patients' data were collected from the hospital database and then analyzed using SPSS. ***Results:*** The performed scans revealed five different findings which includes dyshormonogenesis, ectopia, agenesis, reduced uptake, and normal thyroid glands in 25% of the patients. Among those with normal thyroid glands, 57.1% were discontinued on the prescribed treatment. There was a statistical significance ($p < 0.001$) between scan findings and the need to change the treatment plan following the scan. ***Conclusions:*** Thyroid scintigraphy is useful in differentiating the causes of congenital hypothyroidism thus initiating proper management plans. Therefore, we highly advise to supplement thyroid scintigraphy to the usual screening tests.