



HPC ABSTRACTS BOOKLET






The 5th Annual Health Professions Conference January 28-30, 2020

It is our unreserved pleasure to welcome you to the 5th Annual Health Professions Conference established by Deanship of students' affairs at King Saud bin Abdulaziz University for Health Sciences, Riyadh.


The Conference theme is
The NATIONAL TRANSFORMATION PROGRAM 2020, This program is committed to achieving a number of goals by the end of 2020 covering various aspects of health care challenges.



We aspire to achieve a great quality in the conference of health specialties through:

 **1** Enhancing the importance of medical research and its role in building knowledge in many different health fields and contributing to increasing the number of researches by raising the challenges facing the health sector to meet the objectives of Vision 2030.

 **2** To increase the quality of lectures and workshops held at the conference and diversify the methods of learning and presentation

 **3** The conference's exhibition will be held in a concept that simulates the aims and contributions by national transformation program 2020 and presents the achievements of the program and the most important existing strategies to develop the health sector in the future



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Oral Presentations Session 1



Response Time Of The Emergency Medical Services (EMS) In King Abdul-aziz Medical City-Riyadh (KAMCE-RIYADH)

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Background: The Emergency medical services (EMS) system is in a constant evolution to provide the best care for the patients and to improve the performance. The response time is an important aspect in the EMS in terms of public services quality and performance, and usually it is considered as a measurement for the patients' outcomes and satisfaction. There are several studies in different countries about the response time. However, there is a lack of information about the response time in Saudi Arabia. Internationally EMS systems have a standard response time ranging from 7-10 minutes. The purpose of this study was to find the average response time of EMS crews in King Abdulaziz Medical City in Riyadh (KAMC-Riyadh), as there is a lack of information about the response time in our institute

Methods: This retrospective study was conducted in the KAMC-EMS Riyadh department. From January 2017 to October 2018. We included all EMS department calls with exclusion of calls that are less than 3 minutes (canceled calls), refusal calls, the inter-hospital transfers, and pre -arranged calls (appointment transfers). A total of 868 calls were included and divided into 3 categories depending on the area coverage. A consecutive sampling method was used to collect the data.

Results: The average time was calculated individually for each category: for the first category (general calls) it was 13.7 minutes for a total of 750 calls. The second category (Calls from Derab) average response time was calculated to be 28.4 minutes for a total of 22 calls. The third category (medevac) had an average time of 29.9 minutes with a total of 96 calls.

Conclusion: In this retrospective study, the response time in the KAMC-EMS Riyadh department was found to be around 14 minutes which in comparison with international standards showed almost a 7 minutes difference. We suggest performing future studies including other EMS agencies' response time to have a better idea about EMS performance in the kingdom.



Discrete Left Ventricle Outflow Tract Obstruction in Children: Risk Factors of Recurrence. A multi-center study

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Background: Left ventricular outflow tract obstruction (LVOTO) accounts for 3-10% of congenital heart diseases. 8-10% of LVOTO in children is due to subaortic stenosis, which can be discrete muscular or fibromuscular membrane. Discrete subaortic stenosis (DSS) is usually treated surgically with membrane resection with or without septal myectomy. 10% to 35% of patients may have recurrence and need for re-operation. This study aims to identify the risk factors of recurrence of discrete subaortic stenosis (DSS) after primary resection in two major cardiac centers in Saudi Arabia.

Methods: A retrospective cohort multi-center study of 234 children who were diagnosed with DSS and underwent surgical resection between 1999 to 2018 in NGHHA and KFSHRC, Riyadh.

Results: Out of 234 patients, the majority were Saudi (N=221, 97.4%) and 138 were male (59%). The median age at diagnosis was 36 months, (ranging from 1 month to 192 months). The median age at 1st operation was 60 months (3-133 months, $p=0.031$). The recurrence rate after primary resection was 44.87% (N=105). In a multivariate analysis, the predictors of recurrence of DSS after primary resection are younger age at the 1st operation (<96 months) (OR=2.7; 95% CI 1.1 to 6.3) and high post-operative peak gradient >6 mmHg (OR=9.2; 95% CI 2.7 to 32.1).

Conclusion: The recurrence rate of DSS after the primary resection is relatively high in our study. Younger age at the 1st operation and high post-operative LVOT peak gradient determined by echocardiography predict the recurrence of DSS.



The relation between sleep quality, stress and academic performance among medical students

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Background: Sleep is crucially essential for body, mind, memory, and learning. However, the relation between sleep quality, stress, and academic performance are insufficiently addressed in the literature. This study aims to assess sleep quality and psychological stress among medical students and to investigate the relation between sleep quality, stress, and academic performance.

Methods: This cross-sectional study targeted all medical students in their pre-clinical phase in a Saudi medical college in 2019. All students were asked to fill an electronic self-administered questionnaire that contained Pittsburgh Sleep Quality Index (PSQI), Kessler Psychological Distress Scale (K10) and students' current overall Grade Point Average (GPA) as well as other demographic and lifestyle questions. The associations between categorical variables were analyzed using Pearson Chi-square test \pm Continuity Correction. The significance level was set at $P < 0.05$.

Results: the mean PSQI score was 8.13 ± 3.46 , 77% of participants reported poor sleep quality. 63.5% had some level of psychological stress (Mean K10 score: 23.72 ± 8.55). Poor sleep quality was significantly associated with elevated mental stress levels ($P < 0.001$) and taking a daytime nap ($P = 0.035$). Moreover, these two variables were significant predictors of poor sleep quality in a stepwise logistic regression model. However, neither sleep quality nor stress level has shown any significant association with academic performance.

Conclusion: poor sleep quality and elevated levels of stress were significantly associated and alarmingly prevalent among medical students. However, they did not show any statistically significant association with academic performance.



Pattern, Clinical Characteristics and Outcomes of Cardioembolic Stroke in Large Tertiary Care Hospital in Riyadh, Saudi Arabia

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Background: Cardioembolic stroke (CS) carries significant mortality and morbidity. Nearly 14-30% of all ischemic strokes are CS. Due to lack of literature review on CS among Saudis, we aimed to estimate the proportion and identify the major risk factors and outcomes of CS among Saudis.

Methods: In this retrospective cohort study, we reviewed all records of patients admitted to acute stroke unit in National Guard Hospital, Riyadh, Saudi Arabia from February 2016 to August 2018. Only patients with ischemic stroke and transient ischemic attack (TIA) were included. We used TOAST classification for accurate identification of ischemic stroke causes.

Results: A total of 954 patients with ischemic stroke and TIA were included. Of these, 34% were female, 72% had hypertension, 64% diabetic and 23.6% had previous ischemic stroke or TIA. The mean age of the sample was 61 (SD \pm 12 years). Twenty percent of the sample were found to be CS. Regarding risk factors in CS patients, hypertension (81.3%), Ischemic heart disease (29.7%) and previous ischemic stroke/TIA (32.8%) were statistically significant compared with other types of ischemic stroke. CS was more common among females and older age patients. CS patients had higher in-hospital complications rates (44%), higher length of hospital stay 9(4-22) and poor functional outcome at discharge (46%) ($p < 0.05$). After controlling for all confounders, the multivariate logistic regression model revealed that independent factors for CS are female gender, coronary heart disease moderate and severe stroke (NIHSS).

Conclusion: This study found that out of five ischemic stroke patients, one is CS. About half of CS were dependent or dead at discharge. CS are associated with higher rates of in-hospital complications and longer hospital stay. CS patients need more attention in terms of risk factors, complications, and outcomes.



The physicians and medical students have suboptimal knowledge about Tourette syndrome in Riyadh, Saudi Arabia

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Background: Tourette's syndrome (TS), a chronic, often disabling neuropsychiatric disorder characterized by motor and vocal tics is frequently misdiagnosed or patients are delayed in diagnosis. There is severe deficiency of research about Tourette's syndrome (TS) in the Middle East region. The objectives of the study are to evaluate the knowledge and attitude of medical students and primary care physicians (PCPs) about TS and tic disorders; to evaluate if the medical students get adequate education about TS; to evaluate whether PCPs have adequate information about recognition, diagnosis and treatment of TS.

Methods: An IRB approved, cross-sectional study. Sample size was 316 medical students, and 59 PCPs. Convenient, cluster sampling was used. Medical students of King Saud bin Abdulaziz University for Health Sciences and PCPs from primary health centers of Riyadh were interviewed using validated, self-administered questionnaire. Sum of all knowledge questions was calculated for each participant. Data was analyzed using SPSS software.

Results: Survey was completed by 375 students and physicians, of whom 253 (67.5%) were men. The mean general knowledge score was 61.5 (± 12.04) out of 100. Majority of responders (66.1%) knew the diagnostic criteria for TS; only 46.1% knew about antipsychotics as effective treatment. Only 25.1% had ever heard of habit reversal for the treatment; 70% wanted to learn more. Only 10% of physicians had ever treated a patient with TS. There was no difference in knowledge of men and women ($p=0.776$). Physicians that had postgraduate certification had higher knowledge score than physicians who did not ($p<0.05$). Family physicians demonstrated higher level of knowledge compared to other physicians ($p<0.05$). There was no difference between knowledge of students of different years ($p=0.859$) or between students and physicians ($p=0.569$).

Conclusion: Both students and physicians have suboptimal understanding of Tourette's syndrome. Postgraduate certification and career role as family physicians was associated with better knowledge.



Reporting of randomized controlled trials in Gulf countries: a quality assessment

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Background: Medical practice is highly dependent on evidence produced through research, particularly with randomized controlled trials (RCTs). The validity of evidence from an RCT depends on its quality. Therefore, a quality mapping of RCTs can identify areas for improvement. This study aimed to assess and evaluate the quality of randomized controlled trials published in the Gulf countries (Iraq, Bahrain, Kuwait, Qatar, Oman, Saudi Arabia and the United Arab Emirates (UAE))

Methods: MEDLINE, Cochrane, and EMBASE were used to extract RCTs made in the Gulf region. To analyze the quality of the RCTs, Risk of bias tool 2.0 and Jadad scale were used. Analysis: Simple descriptive statistics were used to describe the characteristics of RCTs and to calculate their frequency by member countries. RCTs were categorized into high, intermediate, and low risk of bias according to Rob 2.0 and Jadad. The analysis was done in SPSS.

Results: out of 145 trials, (53.10%) were conducted in Saudi Arabia , (1.38%) were found in Bahrain , (20.00%) were found in Iraq , (10.34%) were conducted in Kuwait , (2.76%) were published in Oman, (4.83%) were conducted in Qatar and (7.59%) RCTs were found in UAE. According to Rob 2.0: Bahrain had (100%) high-risk trials, Iraq had (93.10%), (73.33%) in Kuwait, (68.83%) of Saudi papers were high risk, UAE had (54.55%), Oman had (50%) and Qatar had 42.86% of their articles. On the other hand, the percentage of high risk articles according to Jadad were: 50% of the Bahraini articles, 58.62% of the Iraqi articles, 26.36% of the Saudi articles, 46.67% of the Kuwaiti articles, 25% of the Omani articles, 28.57% of the Qatari articles, and 41.38% of the Emirati articles.

Conclusion: A significant portion of RCTs from the Gulf countries had high-risk of bias. Improvement in RCTs conduction and reporting is fundamental.



Risk factors associated with mortality in mechanically ventilated patients in burn unit at King Abdulaziz medical city in Riyadh between 2016-2019

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Background: Burn injuries constitute a significant cause of morbidity and mortality. For patients with extensive burns injuries, mechanical ventilation (MV) is considered one of the critical management modalities for those patients. However, scarce data are available reporting the outcome of burn patients receiving MV. This study aimed to determine the outcome in term of mortality and its associated risk factors among burn patients who required MV.

Methods: A retrospective review of all consecutive burn patients who been admitted to the burn unit and required MV at King Abdulaziz medical city and King Abdullah Specialist Children Hospital in Riyadh during the period from 2016 to 2019. For each patient, demographic, clinical, and outcome variables were collected. The length of stay was calculated from the date of initiation of MV after the admission into the earliest discharge date or death date. Also, the overall mortality rate during the period of the study was calculated.

Results: Total of 356 patients have been admitted to the burn unit during the study period. The median age of those patients was 18 years (IQR 4-35 years), and 67% were male patients. Flame burn was the most common type of burn followed by scald burns; 48% and 33% respectively. Out of 356 burn patients, 80 (20%) patients were placed on an MV in which the median length of stay was eight days. The APACHE-II severity score for patients who required MV was 16 (SD 6). The mortality rate was 20%. Patients who developed sepsis had high mortality rate after initiation of MV compared to those did not develop sepsis, 81 vs 17, p-value <0.001.

Conclusion: This study yielded data on the hospital outcomes of burn patients who required MV. Resources should be well planned to provide ultimate management plan for those patients to reduce the mortality rate.



The Effect of Bariatric Surgery on Metabolic Syndrome: the Experience of MNGHA

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Background: Metabolic Syndrome (MetS) is the coexistence of central obesity with insulin resistance, dyslipidemia, and hypertension in a patient.¹ It has been proven as a risk factor of cardiovascular diseases, erectile dysfunction, kidney stones, psoriasis, and, thus, increased mortality and decreased quality of life.²⁻⁶ A meta-analysis of 59 studies estimated its prevalence in middle east to be 25%, and ranging between 16% to 41% in Saudi Arabia.² A recent national study in 2018 of 12,000 subjects estimated a prevalence of 31%.⁷ Curative approach worldwide is by bariatric surgery (BS). This has been shown in several studies, two of which are in France and China. Both showed approximate resolution rates, 76% and 79% respectively.^{8,9} Locally, studies have evaluated effect of BS on different metabolic variables.^{10,11} However, this curative effect of BS on MetS resolution has not been well studied on Saudi population. Hence, comes our aim to assess it.

Methods: A retrospective cohort study involving all patients who met International Diabetes Federation (IDF) criteria of MetS and underwent BS in National Guard hospitals of Riyadh, Jeddah, and Al-Ahsa between January 2016 and December 2018. A comparison of each patient's status was done pre-surgery and at least 12 months post-surgery.

Results: 393 patients were included. 69.47% (n= 273) met IDF criteria presurgery, thus were considered as MetS patients. Postsurgery, 63.74% (n= 174) of MetS patients have resolved it by being unfit to IDF criteria. Younger age, lower levels of blood pressure, fasting plasma glucose, and HbA1c presurgery were significant predictors of MetS resolution. Pre-surgery higher fat mass in MetS patients using CUN-BAE formula was noticed in comparison to non-MetS patients (p= 0.0007).

Conclusion: BS showed a significant effect on MetS causing its remission in Saudi population. A question about MetS relapse should be kept in mind and studied in future work.



Oral Presentations Session 2



Development and evaluation of Fluconazole Nanoparticles for ocular delivery

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Background: Fluconazole (FLZ) is a solid antifungal drug that belongs to the triazoles. In several studies filamentous fungi (*Aspergillus* and *Fusarium* spp.) exhibited marked resistance to FLZ as ocular formulation. Short contact time with ocular mucosa was the major limitation is that systems however, it can be prolonged by modified formulations. A nanoparticle gel formulation can provide residence time on the eye surface which in turn can help overcome rapid precorneal drainage from the eye. The main aim of this study is to increase the ophthalmic antifungal efficacy of FLZ by enhancing its ocular permeation, solubility, and dissolution rate via nanonization. This will be achieved by antisolvent precipitation nanonization technique. The effect of different types and concentration of stabilizers on the resultant nanosuspension will be investigated. Moreover, the in vitro release of FLZ nanonized particles, in addition to its antifungal activity will be studied.

Methods: Preparation of nanosuspensions by antisolvent evaporation method Specific concentration of the drug and stabilizers, speed of stirring, were optimized to produce FLZ nanosuspensions it was then frozen at -30°C , and finally dried by using freeze-dryer at 40°C . Formulation of FLZ nanoparticles into ophthalmic gel bases The gel bases were prepared using carbopol 934 (1% w/w) and sodium alginate (3% w/w). Ocular pharmacokinetic study of carbopol gel containing FLZ nanoparticles Carbopol gel base containing FLZ nanoparticle formula (F3) was selected to evaluated in comparison with untreated FLZ nanoparticle carbopol gel (F0).

Results: The particle size of all nanoparticle formulations ranged from $(101.5 \pm 0.62 \text{ nm} - 717.2 \pm 0.60 \text{ nm})$ compared to untreated drug F0 $18.34 \mu\text{m}$. The result of in-vitro and ex-vivo ocular diffusion of nanoparticle gel formulation showed an improvement compared to the untreated drug.

Conclusion: The study concluded that formulation of ocular gel formulations containing FLZ nanoparticles resulted in enhancing the drug corneal permeation, in addition to improve the ocular pharmacokinetic parameters.



Peritoneal dialysis-associated peritonitis: clinical characteristics and predictors of outcomes

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Background: Peritoneal dialysis (PD) is a home-based renal replacement therapy for patients with kidney failure. PD provides more flexibility and more independent lifestyle than hemodialysis but may lead to infection, which could eventually lead to dialysis failure. The purpose of this study was to identify the clinical and microbiological factors affecting outcome of PD-associated peritonitis.

Methods: The study cohort consisted of all accessible pediatric patients who were on PD between 2009 and 2018 at King Abdullah Specialized Children's Hospital. Demographic data, such as age and gender, were retrospectively collected from patients' medical records. Categorical variables, including causative microorganisms and infection outcomes, were also collated.

Results: A total of 98 episodes of PD-associated peritonitis occurring in 40 patients were evaluated. The median age of the patients was 3.2 years (IQR 1.8-8.0); 22 (55%) were female. Mean time spent on PD was 41.33 ± 30.10 months. Rate of infectious peritonitis was one episode every 16.86 months. There were 47 episodes (47.97%) of Gram-positive peritonitis, 22 (22.44%) of Gram-negative peritonitis, 3 (3.06%) of polymicrobial peritonitis, 1 (1.02%) of fungal peritonitis, 2 (2.04%) of Mycobacteria peritonitis, and 23 (23.46%) of culture-negative peritonitis. There were 32 (32.65%) non-complicated peritonitis episodes and 66 (67.34%) complicated peritonitis episodes. The latter included 15 (15.30%) relapses, 41 (41.83%) repeated, and 10 (10.20%) catheter removals. In multivariate analysis, history of peritonitis (OD 21.6, 95% CI 5.4-85.3), presence of cardiovascular disease (OD 9.6, 95% CI 1.7-52.8), and fever (OD 12.2, 95% CI 1.7-85.5) were independent predictors of a complicated peritonitis episode.

Conclusion: History of peritonitis, presence of cardiovascular disease, and fever are potential predictors of complicated PD-associated peritonitis and may distinguish high-risk patients. Furthermore, parental education, use of prophylactic antimicrobials, and proper handling of PD equipment may minimize infection risk and help maximize patients' time with PD.



Effect of Airway Pressure Release Ventilation on gas exchange and mortality among adult patients with Acute Respiratory Distress Syndrome: Systemic Review and meta-analysis of Randomize controls trials

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Background: Acute respiratory distress syndrome (ARDS) is a severe condition that necessitates immediate medical intervention. Airway Pressure Release Ventilation mode (APRV) has been increasingly accepted means of supporting ARDS patients. However, the recent data from randomising clinical trials (RCT) regarding the effectiveness of using APRV among patients with ARDS still conflicting. The purpose of this study, therefore, was to determine whether APRV mode is more effective in improving oxygenation and reducing hospital mortality compared to conventional ventilation(CV) among ARDS adult patients.

Methods: We conducted this study following PRISMA guideline. We searched for RCTs in PubMed, Embase, Web of Science, and the Cochrane library until April 2019. We considered for inclusion all studies that compared APRV and other CV modes among adult ARDS patients. Our primary outcomes were oxygenation status (defined as PaO₂/FiO₂ ratio) and hospital mortality. Risk of bias was assessed independently using appropriate tools.

Results: In the initial search, we identified 118 potentially eligible studies in which 6 RCTs studies met our inclusion criteria with total of 375 patients. In all studies the effect of using APRV on oxygenation and mortality was assessed. PaO₂/FiO₂ ratio was similar between patients treated with ARPV and CV, mean difference= 0.62 mmHg,(95%CI 0.05-1.3,I²=86%,P=0.07). Mortality was lower among patients who received ARPV than patients who treated with CV(risk difference -0.05 days(95%CI -.13-0.03 days, p=0.02).

Conclusion: In this study, using APRV mode was associated with reducing mortality among ARDS patients, without any improvement in oxygenation status. However, there is still a need for well-planned RCT to address the issue of improving oxygenation and safety of using APRV in clinical practice.



Effect of Fasting the Whole Month of Ramadan on Renal Function Among Muslim Patients with Kidney Transplant: A Meta-Analysis

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Background: Muslim renal transplant patients often ask whether fasting during Ramadan would be harmful to their kidneys. Number of studies have investigated about this question. However, those were mostly single-center studies involving small numbers of patients. Furthermore, they occurred at different times of the year with different duration between sunrise and sunset and at different daytime temperatures. Therefore, we performed a meta-analysis on relevant studies to answer this question by examined 8 studies.

Methods: We searched 4 databases (PubMed, Embase, the Cochrane Library, and Medline) using comprehensive search terms with predefined eligibility criteria.

Results: Eight studies (549 patients) were identified as eligible; these studies measured renal function before and after Ramadan with patients acting as their own controls in 5 studies. Our pooled analyses showed no significant changes after fasting with regard to estimated glomerular filtration rate (70.1 ± 9.1 vs 68.5 ± 7.5 mL/min, respectively; $P = .6$) or in serum creatinine levels (105.3 ± 8.8 and 106.1 ± 6.0 μ mol/L, respectively; $P = .47$). In 4 self-controlled studies (148 patients) that had analyzed changes in systolic and diastolic blood pressure before versus after fasting, no significant differences were shown. However, in 3 studies that assessed changes in glomerular filtration rate in fasting ($n = 358$) versus non-fasting patients ($n = 355$), there was a significant difference in change in glomerular filtration rate following Ramadan fasting (-0.13 ± 1.2 mL/min in those who fasted versus 4.2 ± 4.6 mL/min in those who did not fast; $P = .039$); however, these results were associated with significant publication bias (systematic heterogeneity).

Conclusion: Fasting during Ramadan did not result in significant changes in kidney function or blood pressure in post-transplant patients with good baseline kidney function when patients acted as their own controls.



Post Dialysis recovery time, its Determinants and its Effect on the Quality of Life among patients on chronic hemodialysis in King Abdulaziz Medical City

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Background: Self-reported post dialysis recovery time has been shown have prognostic significance in hemodialysis patients. This study looks at recovery time and related causes and consequences

Methods: This is a cross sectional study, it was conducted from July to October 2019 from KAMC, Riyadh. The following variables were documented: a) demographic data, b) Charlson comorbidity, c) self-reported recovery time, d) quality of life (using KDOQOL-36 instrument) e) physical activity. The relationship between these variables on recovery time was calculated

Results: Two hundred and fifty four patients were enrolled in the study. Male represented 61%, and the mean age was 58.2. The mean BMI of participants was 28.1. Just under half of the patients were unemployed (47.2%) and 56.7% were diabetic. Recovery time among our dialysis patients was found to be 5 ± 6.3 hr (median 3 hours). Diabetic patients had longer recovery time ($p=0.006$). Patients who exercised regularly recover faster ($p=0.07$). Afternoon shift's patients had faster recovery time compared to patients attended other shifts ($p=0.0001$). We found that recovery time was significantly less with higher scores of the Physical Component Scores (PCS) ($p=0.004$) of quality of life measures (using KDOQOL-36 instrument). However, interestingly, recovery time was not impacted by Mental Component Scores (MCS) ($p=0.4$). Recovery time was longer with higher BMI ($p=0.06$) and significantly longer with lower weight gain ($p=0.007$) but was not affected by age, dialysis hours/week, dialysis vintage, comorbidity index, intradialytic hypotension or hemoglobin level. However it was longer in single compared to married individuals ($p=0.06$) and significantly longer in the unemployed compared to the employed patients ($p=0.03$)

Conclusion: More effort should be focused on increasing physical activity and controlling diabetes among CKD patients to reduce the recovery time after dialysis sessions



Bullying and the effectiveness of health education program among female middle school students: An application of social cognitive theory

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Background: Bullying or “victimization” has become a pervasive phenomenon that exists in places with low supervision. Bullying is defined as the misuse of power, for an individual to involve in the bullying cycle he/she has to have a certain attitude regarding bullying. Albert Bandura, a pioneer in cognitive psychology proposed that Social Cognitive Theory can be used to unravel complicated behavior such as bullying. In Saudi Arabia bullying is considered as a leading problem with different health concerns especially in school settings. Studies have shown that 31% of middle school students are facing bullying at least twice per year. The study aimed to determine bullying practice and assess the effectiveness of a health education program in changing the attitude towards bullying among middle school students using the Social Cognitive Theory.

Methods: An interventional one group pretest/posttest design study was conducted among 304 female adolescence in privet and public middle school at Riyadh. The study was carried through three phases, at the beginning a self-administrated questionnaire was used, then an audio/visual health education program was implemented in each school, after that a post questionnaire was distributed.

Results: This study revealed that 97.8 % of female middle school students in Riyadh weren't bullies and 70.7% had neutral attitude toward bullying. Furthermore, attitude toward bullying and social environment were associated with bullying practice. Finally, the effectiveness of the health education program was significant.

Conclusion: The educational program showed its effectiveness in changing a bullying attitude from neutral to negative attitudes. Therefore, there is an essential need to promote anti-bullying attitude by building a curriculum, implementing anti-bullying classes programs in school settings and around the community. Carrying out further qualitative theory-based study to explore the factors under pro-bullying attitude in Saudi Arabia.



Treatment Adherence Among Patients with Five Dermatological Diseases and Four Treatment Types - A Cross-Sectional Study

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Background: Treatment non-adherence leads to negative therapeutic outcomes and financial burdens on the healthcare system. This study aims to compare the mean adherence scores among patients with five dermatological diseases and four treatment types and to identify the associated patient-related factors

Methods: This is a cross-sectional study conducted from January 2019 to August 2019. The questionnaire was distributed among patients attending the outpatient dermatology clinic at King Khalid University Hospital, Riyadh, Saudi Arabia. It included 2330 patients who were over 16 years old and diagnosed with any of the five dermatological diseases (psoriasis, chronic dermatitis, acne vulgaris, hair disorders, and vitiligo). The 12-item Medication Adherence Scale was used to quantify the mean adherence score.

Results: Patients with psoriasis or chronic dermatitis were less adherent to treatments than patients with acne vulgaris, hair growth disorder, or vitiligo. Oral treatment and phototherapy had higher mean adherence scores than injection or topical treatment. High adherence was found in female, single patients; those who did not feel stigmatized from using treatment; those who did not have bad experience with the treatment; those who did not suffer from forgetfulness; those who connected receiving treatment with a habit; those who did not lack treatment responsiveness; those who had an excellent relationship with a dermatologist; and patients with a lesion in an exposed area. Stepwise multiple linear regression was also used to identify the independent variables related to adherence score.

Conclusion: Psoriasis and chronic dermatitis patients had the lowest mean adherence scores. Patient who were on oral medication had the highest adherence score, while those on topical medication had the lowest score. The thoughtful consideration of factors associated with high adherence is important for optimal therapeutic outcomes.



Pediatric triage variations among nurses, pediatric and emergency residents using the Canadian triage and acuity scale (CTAS)

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Background: Emergency care continues to be a challenge since patients' arrival is unscheduled and simultaneous which may fill the Emergency Department with non-urgent patients. Triage is an integral part of every busy ED. Canadian Triage and Acuity Scale (CTAS) is considered to be the most accurate and reliable tool for patient assessment worldwide. This study aims to identify the chosen triage level and compare the variation between registered nurses, pediatric and adult emergency residents by using CTAS cases.

Methods: This study was conducted at King Abdulaziz Medical City, Saudi Arabia. A prospective self-administered questionnaire that contains 15 case scenarios with different triage level. All cases were adopted from Canadian triage course after getting permission. Each case provides the patient's, symptoms, clinical signs and mode of arrival to the ED. The participants were instructed to assign a triage level for using the following scale: 1=resuscitation, 2=emergent, 3=urgent, 4=less urgent and 5=non-urgent. Non-random sampling technique was used for this study.

Results: A total of 130 participants completed the study questionnaire. A number of 73 (56.15%) are nurses and 57 (43.84%) were residents (21 pediatric residence and 36 Emergency residence). Each participant was given a score based on the correct answer for the case scenario. A mean score was compared among the nurses, pediatric resident and emergency resident using one-way ANOVA. There were statistically significant differences between group means $F=8.770$, $P\text{-value} < 0.001$. Tukey post hoc test was performed to confirm the difference between groups with a significant difference between nurses and pediatrics residents ($P\text{-value} < 0.001$). Moreover, there was no significant difference found between nurses and ER residents.

Conclusion: The triaging system was found to be a very important tool to prioritize patients based on their complaints. The result showed that nurses had the highest experience in implementing patients on the right triage level. On the other hand, ER and pediatric residents need to develop more knowledge about CTAS and get exposed more to the triaging system during their training.



Poster Presentations Session 1



Employees' Awareness of Occupational Health and Safety in Riyadh

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Background: Occupational hazards are one of the most important community-related issues affecting employees in many different occupational fields around the world. In fact, majority of developed countries imposed policies on institutes to provide their employees with occupational health and safety precautions. Maintaining employees' health has an established positive impact on the economic status of the country. Therefore this study was conducted in Riyadh to fill a research gap, as the number of studies in this field in Saudi Arabia are limited. Purpose: This study aims to determine the occupational health and safety awareness of employees, and to measure the occupational risk variation among different occupations in Riyadh and to collect evidence based recommendations for national guidelines to promote occupational health and safety.

Methods: A validated structured questionnaire was administered on a cross-section of 340 randomly selected employees aged 18 - 60 years during random visits to 12 locations for different occupations in Riyadh. Information was sought on their socio-demographic characteristics, first aid training, and awareness of major occupational hazards in their workplace. Major occupational hazards included were: respiratory disorders, musculoskeletal disorders, and stress. Data was cleaned and analysed using EXCEL version 1904. The level of significance was set at $P < .05$.

Results: A total of 340 were surveyed from twelve occupational backgrounds. Among all the involved workplaces only 50.2% of them offered First Aid training for the employees. The prevalence of musculoskeletal disorders was 22.9% for weakness followed by 22.5% for pain. The self reported stress among the population was 19.3%, with police officers demonstrating the highest percentage of employee stress.

Conclusion: The level of awareness of occupational hazards and first aid training was sub-optimal, therefore, increased efforts in safety and health education of all workers is needed to optimize productivity.



Knowledge and Attitude risk of Cervical Cancer and Screening Method among Females in Najran Region in Southern Area of Saudi Arabia

Salem Ali Alatef Sultan, Majed Saeed Alshahrani

Background: The aim of this study was to determine the level of awareness regarding risk factor of cervical cancer and screening method, their sources of information, and their general attitudes toward Pap smear and vaccination.

Methods: A cross-sectional interviewer administered an electronic questionnaire among female in Najran city during period from April 2019 G to July 2019 G. The data was analyzed by program Statistical Package for Social Sciences 25 (SPSS 25).

Results: The total of 3387 was participated in this study with response 100%. Less than 10 % of them had good knowledge and 70% had poor knowledge about risk factor of cervical cancer. The barrier of married women to do the Pap smear was they don't know about it 968 (56.7%) and they think it's not necessary to do it 338 (19.85%). The age of women, occupation, family history of cancer and monthly income showed highly predictors for knowledge ($p < 0.001$). In addition, the education level had predictor for knowledge of women ($p = 0.003$).

Conclusion: There was lack of knowledge about risk factor of cervical cancer and benefit from early detection of it. The health care provider have to create policy or program of cervical cancer screening and vaccination through all the primary health care centers.



The Confidence Level of Medical Staff in Managing Patients with a Tracheostomy in National Guard Health Affairs Hospital, Riyadh , Saudi Arabia

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Background: Many studies showed that some nurses have anxiety while providing care with tracheostomy patients, and this anxiety reduces the confidence and skills needed for providing the best care for patients

Methods: A cross-sectional study carried out among 188 medical staff including (Nurses and Respiratory Therapists) in Riyadh, during (August , September 2019). A questionnaire was used to assess the confidence level in managing patients with tracheostomy.

Results: A total of 188 participants with 94 RTs and 94 Nurses were included in the study. Majority (56.4%) had more than 5 years of work experience. A greater part (64%) of the participants were working in wards. Ninety five percent opined that they feel confident in managing the tracheostomy patients (RTs= 94.7%, Nurses= 94.7%). The confidence level of participants in managing tracheostomy patients with a ventilator was observed to be 78% (RTs= 96%, Nurses= 60%, p value=0.001). The median (Interquartile Range, IQR) knowledge score was higher in nurses 6 (2) as compared to RTs 5 (1.5) and was statistically insignificant with p value as 0.087.

Conclusion: The study concluded that the RTs were more confident in managing patients with both tracheostomy and ventilator than those with nurses.



Efficacy of Empiric Antibiotic treatment and its impact on mortality in cirrhotic patient

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Background: A major cause of morbidity and mortality among patients with cirrhosis is the development of bacterial infections. The use of empiric prophylactic antibiotics has led to improved outcomes in respect of prevent infection related to cirrhosis complication at late stages. However, many studies have not shown an increase in survival rate.

Methods: The aim of this retrospective cohort study is to assess the efficacy of empiric antibiotic treatment and its impact on mortality rate. Five end points were assessed: infection, liver function, comorbidities, length of stay, and death. The data was retrieve from Best Care system in King Abdul-Aziz Medical City between 2010 and 2018 in adult patients 18 years old or above and all cancer, immunocompromised, and renal patient were excluded. The estimated cirrhosis patients in King Abdul-Aziz Medical City in Riyadh is 2500 patients and the sample size is 334 selected randomly by file number. The assessment criteria of infection is to assess WBC level and temperature. And the liver function by assessing ALT, AST, and total Bilirubin level. The dates of admission and discharge were collected to determine the length of stay. Also, the death reports collected to determine the mortality rate.

Results: The result shows empiric antibiotic prophylaxis significantly increases mortality rate ($P < 0.012$). And it has no significant effect on liver function (ALT $P = 0.297$, AST $P = 0.587$, Tbili $P = 0.871$). Using EAT insignificantly increase length of stay ($P = 0.635$). There is insignificant effect of comorbidities ($P = 0.141$).

Conclusion: As conclusion using empiric antibiotic in cirrhosis patient increase mortality rate and length of stay. And it has no effect on liver function.



The Relationship of Body Mass Index on the Duration of Mechanical Ventilation Staying in Road Traffic Accident Patients

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Background: Obesity considers a rising health problem around the world. Currently, the influence of obesity on acute illness has been explored in the literature. However, the effect of the obesity on the duration of mechanical ventilation among patients who admitted to the intensive care unit (ICU) remains unclear. The current study; therefore, examined effect of the obesity on the duration of mechanical ventilation among injured patients who admitted to the ICU and were involved in road traffic accidents.

Methods: An analytic cross-sectional study was conducted using data from electronic medical records at King Abdulaziz Medical City in Riyadh, Saudi Arabia between 2016-2018. Adult ICU patients receiving mechanical ventilation who were involved in road traffic accidents were included in this study. The association between BMI categories (normal BMI (18.5-24.9 kg/m²), overweight (25-29.9 kg/m²), obese (≥ 30 kg/m²), and underweight (< 18.5 kg/m²) and the duration of mechanical ventilation (in days) were examined using ANOVA test.

Results: Total of 128 patients were included in this study. Majority of the study population were male (94%) with mean age of 29 ± 12 years. The average duration of mechanical ventilation among the study population was 8 days ($SD \pm 6$). 46.9% of the patients had normal BMI, 27.3% were overweight, 13.3% were obese, and 12.5% were underweight. The mean duration of mechanical ventilation were longer among underweight patients (10 ± 7 days) compared to overweight patients (mean duration was 8 ± 6 days). There were no statistical significant difference in the mean duration of mechanical ventilation between BMI categories by one way ANOVA ($F=1.49.7$, P value=0.22).

Conclusion: The current study provides insight for possible influence of BMI level on the duration of mechanical ventilation in acute illness. This can add new evidence to support the obesity paradox that refers to lower mortality rate among obese patients with many diseases.



Study of the Relationship between Nutrition Knowledge and Dietary Habits among Male and Female College Students

Asma Alromizan

Background: Nutrition knowledge is one of the factors that affects dietary habits. Improving the dietary habits of individuals is important to decrease many ailments related to poor nutritional choices. Although there has been much research done on this subject, university student populations have not been studied as much as children and adults. Therefore, the aim of this study was to assess the relationship between nutrition knowledge and dietary habits of Life University students based on gender.

Methods: The students were asked to complete two questionnaires. The first questionnaire was a paper-format revised version of the previously validated general nutrition knowledge questionnaire (GNKQ-R) (Kliemann, Wardle, Johnson, & Croker, 2016). The second survey was a validated food habits checklist (Johnson, Wardle, & Griffith, 2002) which assessed the dietary habits including the purchase, preparation, consumption of specific foods, and snacking habits.

Results: A significant but weak positive association ($r = .286$, $p = 0.044$) was observed between nutrition knowledge and diet habits generally. Women had more nutrition knowledge of food choices ($P = 0.043$) and diet-related diseases ($P = 0.017$) than men. In addition, there was a statistical trend for women to have healthier food habits than men ($P = 0.064$).

Conclusion: A weak significant correlation between nutrition knowledge and dietary habits that was found in this study shows the need to investigate other factors that could influence the dietary habits in university settings such as cost, taste, and convenience.



The Relationship between Health-Related Quality of Life and Burden among Family Caregivers of the Elderly Patients Undergoing hemodialysis In Saudi Arabia

Manar Nasser Alotaibi, Dr.Faiza Abouelsoud, nwader aziz alotaibi, enas majed bin suhaim

Background: The phenomenon of ageing is evidently associated with the global increase incidence of the End Stage Renal Disease among elderly population. When the family caregivers carried all responsibilities to take care of their care recipients for a long period of time with load and they didn't have time for caring of themselves that lead them more exposed to a lot of challenges and feeling of burden. This study is aimed to examine the relationship between health-related quality of life and levels of burden among family caregivers of elderly patient on hemodialysis, in Saudi Arabia.

Methods: A cross-sectional, descriptive and correlational designs were used between January, 2019 - March, 2019. The caregivers were fully informed about the purpose of the study and their consent was obtained with assured confidentiality. A structured interviewing questionnaire was used to recruit 50 caregivers randomly. Pearson correlation coefficient was employed to address the correlation between socio-demographic data, health-related quality of life and levels of burden; while linear regression was used to predict the variables which have influence on levels of burden

Results: The results revealed that caregivers'age (> 40 year), single, low education level, and the duration of care-giving to their patients more 5 years were significantly associated with the experience of severe burden of care. Moreover, there was a positive association between lower health-related quality of life domains and the experience of severe burden of care. The caregivers' vitality, bodily pain, physical health problems, and duration of care-giving were the highest positive predictors, while caregivers' age, marital status, emotional health problems were the lowest predictors that influence on the levels of burden.

Conclusion: Comprehensive assessment of the caregivers is essential aspect in nursing care of the elderly patients on hemodialysis to detect the predictors of burden that lead the nurses to intervene effectively with multi-disciplinary team to support caregivers to avoid further burnout.



Multiple Sclerosis Patients in Saudi Arabia: Prevalence of Depression and its Extent of Severity

Hamad Abdulaziz Alhussain, Abdulaziz Aldayel, Faris Alowain, Abdulaziz Alanazi

Background: Multiple sclerosis (MS) is a serious chronic autoimmune disorder of the central nervous system of unknown etiology. MS-related depression is a common mood disorder recognized within the medical community. However, their association is ambiguous, underdiagnosed, undertreated and widely less reported. The present study aimed to estimate the point prevalence and severity of depression among multiple sclerosis patients in Saudi Arabia.

Methods: We conducted an observational cross-sectional study among multiple sclerosis patients in Riyadh region, Saudi Arabia. Patients filled demographic data and Patient Health Questionnaire-9 (PHQ-9) to determine depression. Those who did not meet the age, disease duration, and regular follow up eligibility criteria were excluded from the study.

Results: We enrolled 238 MS patients in the study, male patients represented 39.1% (n=93) while females accounted for 60.9% (n=145) (male:female ratio 0.64). The mean age of the study population was 32.07 ± 7.93 years. The mean duration of the disease was 7.06 ± 4.7 years. We determined that 89.9% (n=214) of the patients showed mild to severe depression symptoms (55.46% of the females, and 34.4% of the males; $p=0.474$). We further found that 37.39% (n=89) and 65.13% (n=155) of the depressed patients were unemployed ($p=0.039$) and were non smokers ($p=0.097$) respectively. Furthermore, depression severity is significantly associated with education ($p=0.005$).

Conclusion: High levels of depression symptoms were found among MS patients in Saudi Arabia. The relationship between MS and psychiatric conditions exists despite the uncertainty of its pathogenesis. Further longitudinal studies should be carried out to obtain more valid outcomes. Neurologists treating MS patients can play a role in studies related to the condition by investigating depressive symptoms actively and providing the data.



Trends in Management of Proximal Ureteric Stones as Emergent Case

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Background: Urinary tract stones (Urolithiasis) are the third most common disorder affecting the urinary system following urinary tract infection and prostate illnesses. In addition, Male are, predominantly, more to be affected than females with ratio of 3:1 globally. While in Saudi Arabia, the male to female ration is 5:1. Our aim is to recognize the different management patterns of emergent cases of proximal ureteric stones.

Methods: This is a retrospective cohort study focuses on recognizing the trends of proximal ureteric stone emergency management in patients aged 15 and above at King Abdelaziz Medical City (KAMC) in Riyadh, Saudi Arabia. Patients' age, gender, stone size and location, modality of diagnosis and way of treatment had been collected and analyzed. All patients' who received management for proximal ureteric stones between the period of 1st of January 2002 till 1st of January 2019 had been included in the study.

Results: A total of 405 patients were included in the study where 71.9% (n=291) of them were Males. Furthermore, the most common affected age group was between 46-55 years old (n=90, 22.2%) while the least affected age group was between 15-25 years old (n=29, 7.2%). The left ureter was found to be slightly more affected by 54.8% (n=222). Majority of the stones were ranging between 5-10 millimeters in size (n=238, 58.8%). Computed Tomography (CT) was the commonest modality of diagnosis 92.8% (n=376). Regarding acute management, double-J stent was most commonly used 66.2% (n=268, 66.2%) followed by ureteroscopy.

Conclusion: The preliminary analysis of the data found that doctors rely more on CT for the diagnosis of proximal ureteric stones regardless of the presentation and time period. In addition, two thirds of patients had been managed acutely by double-J stent. However, to reach a full conclusion of the trends of management further analysis is needed.



Stridor evaluation in Saudi pediatric population, 4 years cohort tertiary referral center experience

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Background: Stridor is a serious and common condition that needs prompt investigation in pediatric population. Evaluation of a patient with stridor requires a thorough history and physical examination. In addition, flexible fiberoptic laryngoscopy provides an important tool for visualization of the upper airway.

Methods: A retrospective cohort study with a total of 217 patients has conducted. All pediatric patients ranging in age from 1 month to 14 years from who underwent fiberoptic laryngoscopy for stridor evaluation from Jan,2016 to Jan,2019 has been included. The data was analyzed using(SPSS) with a 95% confidence interval, and a p-value < 0.05.

Results: The median age was 8 months. Of all, laryngomalacia was the most commonly encountered diagnosis 149 (69%) followed by laryngopharyngeal reflux 42 (19%). While subglottic stenosis 19 (49%) was most common finding in patients who underwent (DLB) for further evaluation. Also, the study showed significant correlation between age group and fiberoptic laryngoscopy findings.

Conclusion: Overall, laryngomalacia was the most commonly encountered diagnosis 149 (69%) followed by laryngopharyngeal reflux 42 (19%) in pediatric patients presented with stridor. While subglottic stenosis 19 (49%) was most common finding in patients who underwent (DLB) for further evaluation. In conclusion, fiberoptic laryngoscopy is an effective method and important tool for evaluating patients presenting with stridor.



Association Between Attending Classes In Managing Diabetes And Devolving Diabetes Related Complication “Diabetic Retinopathy” Among U.S. Adults

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Background: In US; Diabetes mellitus (DM) is 7th leading cause of death. It is expected to reach 48.3 million by 2050. One of its complication is Diabetic retinopathy (DR) which is the leading cause of blindness and visual impairments In U.S. Objective: To compare the risk of developing DR between those who attended class for managing diabetes and those who did not attend among American diabetic adults in 2015.

Methods: A cross sectional retrospective design, data obtained by “BRFSS”. It was collected through telephone survey operated by” CDC”. Inclusion criteria: 1) Data of 2015, 2) Age 18 old or above, 3) Diagnosed with diabetes mellitus. Exclusion criteria: 1) Diagnosis of gestational diabetes, 2) Missing information.

Results: Data of (N=28,607) was extracted from the BRFSS. The general characteristics were as follows: about majority of sample (55%) were female also most of sample were 65 years or older (55%). More than two thirds (70%) were white and (49%) of them were obese. The Multivariate Logistic regression models show those who attended diabetes classes have 36% increased odds of developing DR compared to those who didn't attend (95% CI=1.21-1.51) after adjusted for other confounders it become not statistically significant (aOR=1.17 ;95%CI=0.99-1.38). and as annual income increase, the risk of developing DR decrease (aOR:0.41; 95% CI 0.32-0.54). Also, there is statistically significant association between having (kidney disease or cardiovascular diseases) and developing DR (aOR=2.02 ;95%CI=1.64-2.47), (aOR=1.40 ;95%CI=1.16-1.69) respectively. Furthermore, the risk of developing DR increase when using insulin treatment (aOR=2.68 ;95%CI=2.27-3.16).

Conclusion: No significant association between attending diabetes education classes and the risk of developing diabetic retinopathy. However, we found there is a significant association between having DR and other diabetic complications like kidney diseases and cardiovascular diseases.



Novel therapeutic approach to treat heart failure using non-integrating lentivirus (NIL) driving 4F expression

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Background: Heart failure is one of the leading causes of mortality. Treatment is limited to invasive techniques like left ventricular assist device (LVAD) or symptomatic drugs. Cardiomyocytes are post-mitotic cells and cannot divide and regenerate after injury. Recent research showed ectopic expression of four cell-cycle factors - CDK1, CDK4, CCNB, and CCND (known as 4F) stimulates cardiomyocyte proliferation. This research focuses on a new therapeutic approach to drive 4F expression in cardiomyocytes that is cardiac-specific and transiently expressed by using non-integrating lentivirus (NIL).

Methods: Ten rats per group subjected to ischemic reperfusion and attached with a 5-ethynyl-2'-deoxyuridine (EdU) pump for 1 week, then injected with - integrating lentivirus green fluorescent protein (IL GFP) (control), NIL 4F (experimental group), and sacrificed 4 weeks later. Masson's Trichrome Staining and Fibrosis Analysis Rat heart slices stained using trichrome staining, imaged using Keyence Fluorescence Microscope BZ-X800 and analyzed using Fiji imaging software. Intact myocardium stained red and fibrotic area blue. Immunostaining Troponin-t anti-mouse (primary antibody) labeled cardiomyocytes and visualized using GFP anti-mouse (secondary antibody). 4',6-diamidino-2-phenylindole (DAPI) stained all nuclei blue. 5-ethynyl-2'-deoxyuridine (EdU- marker for cell proliferation) labeled newly synthesized DNA red and visualized using Click-iTTMEDU Alexa Fluor™647 Imaging Kit. Slides imaged and analyzed using BioTek cytation 1.

Results: Significantly decreased infarct size was seen in NIL 4F compared to IL GFP indicated by average fibrosis after treatment being 10.2% and 13.6% respectively ($p=0.0045$). Cardiomyocyte proliferation showed 2.5-fold greater expression of EdU on troponin for NIL 4F than IL GFP ($p=0.009$).

Conclusion: NIL driving 4F manifested cardiac repair through cardiomyocyte proliferation. Its transient expression and cardiac specificity reduces oncogenic potential and can be a future target of gene therapy for heart failure.



Awareness of Type One Diabetes presenting symptoms among caregivers of unaffected children in Saudi Arabia

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Background: Type one diabetes is increasing in Saudi Arabia, with reported high rate of life threatening diabetes ketoacidosis at first presentation. Low level of awareness of DM1 presenting signs and symptoms in children has been linked to delayed presentation and is the base of awareness campaigns internationally. Our aim is to assess the awareness of Saudi caregivers with DM1 in children presentation, along with their knowledge of best course of action to take once Diabetes is suspected in a child.

Methods: A cross-sectional study was carried out using a pre-designed questionnaire. Parents of unaffected children visiting outpatient clinics at our tertiary children hospital in Riyadh were randomly selected and interviewed. SPSS was used to analyze the data. Chi-square was used to investigate the association between variables and the level of awareness. Significance was declared at $P\text{-value} < 0.05$.

Results: A total of 377 participants were interviewed, (56%) were females. The mean age was (38.8). (65%) of our sample have a relative with diabetes (86% type 2). (60%) had high educational level. When presented with the common presenting symptoms of diabetes in children (Thirst, increase toilet visit, weight loss and tiredness) (62%) recognized diabetes as the possible cause. A relative with diabetes, previously received awareness about diabetes (regardless of the method) or a health care provider in the family were factors that correlated significantly with diabetes recognition ($P\text{-value} < 0.001$). However, none of these factors, statistically, influenced their next course of action with only (42%) of our cohort stated that they would seek urgent medical assessment once diabetes is suspected.

Conclusion: Our study suggest that Saudi caregivers have high recognition rate for diabetes presentation in children but they lack the knowledge about the safest next course of action. We propose that emphasizing the importance of seeking an urgent medical help, once diabetes is suspected in a child, should be part of future public awareness campaigns in Saudi Arabia.



Association of IL-37 gene polymorphisms with Graves' disease (GD) in Saudi subjects

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Background: Graves' disease (GD), is an autoimmune disease of aberrant antibody production and is the most common cause of thyrotoxicosis. Interleukin-37 (IL-37) has been recently proven to be a natural suppressor of innate immunity and acquired immunity. This study aims to determine the possible association of IL-37 cytokine polymorphisms and levels among Graves' disease (GD) patients

Methods: This case-control study was conducted over three years (2016 - 2019) at the Endocrinology Department of King Abdulaziz Medical City (KAMC), Riyadh, KSA. Five single-nucleotide polymorphisms (SNPs) in the IL-37 gene were assessed. Serum concentrations of IL-37 were evaluated using ELISA, and genetic variants genotyped by multiplex PCR and ligase detection reaction in a study population comprising of 60 GD patients and 60 controls. The genotypes and alleles frequencies of the five SNPs were analyzed and compared between patients with GD and the control group

Results: The homozygotes T/T, G/G, C/C and G/G genotypes distribution of four SNPs of IL-37 (rs3811046, rs3811047, rs2723176, and rs2723186 respectively), were statistically significantly associated with GD compared with healthy control group ($P < 0.05$). However, the homozygotes A/A genotype of the IL-37 (rs2723187) were statistically significantly negatively associated with GD compared with healthy control group ($P = 0.043$). Serum levels of IL-37 were significantly higher in GD patients compared to the control group [median of IL-37 in GD patients: 22.1 ng/ml versus the levels in control group: 8.1 ng/ml; $P < 0.001$]. The relationship between IL-37 genotypes frequency and circulating levels of IL-37 was analysed. The T/T, G/G, C/C and G/G genotypes of four SNPs (rs3811046, rs3811047, rs2723176 and rs2723186 respectively) were statistically significantly associated with higher circulating levels of IL-37 cytokine compared to the heterozygotes of each SNP ($P < 0.0\%$)

Conclusion: In conclusion, the present data suggests that four SNPs of IL-37 (rs3811046, rs3811047, rs2723176, and rs2723186) are involved in the development of GD



The prevalence of acne vulgaris, its contributing factors, and treatment satisfaction among the Saudi general population in Riyadh, Saudi Arabia

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Background: Acne vulgaris is one of the most common inflammatory disorders worldwide that mainly affects young people. It usually starts as non-inflammatory comedones progressing to inflammatory papules and pustules and eventually scarring and hyperpigmentation. Purpose. To determine the prevalence of acne vulgaris among the general population of Riyadh, Saudi Arabia.

Methods: This was a cross-sectional study that was carried out in Riyadh, Saudi Arabia in the period from March to July 2019. The questionnaire was filled by a random sample of 346 Saudi subjects aged 15 to 30. The survey questions were related to acne prevalence, acne associated factors, treatment practices and complications of acne.

Results: The mean age of the participants was 22.4 ± 4.4 . Moreover, 78% of the sample reported having acne. Females had more acne (86.1%) compared to males (69.9%) ($P < 0.001$). Only 31.5% of the individuals who had acne consulted a dermatologist regarding their condition in the past 12 months. The most frequent prescribed medication was isotretinoin (19.2%). In patients who used isotretinoin, 71.4% were happy with the results after using it, compared to only 38.2% who used topical antibiotics ($P = 0.012$). Males showed less shyness (43.8%) compared to females (63.1%) ($P = 0.002$), and they also showed less depression (21.5%) compared to 46.3% of the females ($P < 0.001$).

Conclusion: Acne vulgaris has high prevalence in the kingdom of Saudi Arabia. Yet, only one third are getting treated by health care providers. Efforts should be made to increase awareness about acne vulgaris and its treatment, and also to provide proper management plans using a stepwise approach for those who are undertreated.



Quality of Antibiotic Allergy Assessment in a Pediatric Tertiary Care Hospital

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Background: Drug allergy appears most commonly with antimicrobial medications. Patients allergic to antibiotics are at higher risk of receiving treatment with broader spectrum antibiotics and more expensive agents. Generally, true allergies are uncommon. Complete documentation of allergic reactions is necessary to avoid complications. To the best of our knowledge, there are no local studies to assess the quality of documentation of drug allergies in pediatric patients. Aim: To evaluate the practice of assessment of drug allergies and the documentation in the electronic medical records of patients, and the impact of this documentation on patient care.

Methods: Retrospective chart review of electronic medical records in King Abdullah Specialized Children Hospital, Riyadh. It included all Adverse Drug Reaction reports from June 2016 until June 2019 for pediatric patients 1-14 years with reported allergy to antibiotics. Evaluation of the documentation was classified to Good, Fair and Poor

Results: Total of 105 reports were reviewed. 21 of the reports had no documentation on the reaction at all, and 84 had documentation in the system. In those who had documentation, 35 showed poor documentation, 15 showed fair documentation, and good documentation was observed in 33 of them. Our findings show that clinical pharmacist did not agree with 24% of the cases flagged as allergic, while in 27% of the cases that were not flagged, pharmacist suggested to flag. 78% of patients had no immunology referral notes, and only 22% had referral notes.

Conclusion: Majority have poor allergy documentation, and there was discrepancy between recommendation of clinical pharmacist and physician's action of the allergy status. We concluded that proper documentation of drug allergy results in better care and reduced healthcare cost. Improving communications between all healthcare providers with regards to patients' allergy status and follow up for further assessment of the reaction will improve patient's care



Health related quality of life of patients with rheumatoid arthritis in Saudi Arabia

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Background: The rheumatoid arthritis is worldwide inflammatory disorder that affects patients' work and social life. There are many dangerous factors may develop the risk of RA. The evaluation of "health-related quality-of-life (HRQOL)" in rheumatoid arthritis (RA) is turning into more and more commonplace in each scientific exercise and research

Methods: 300 patients with RA from Rheumatology Clinics in King Abdelaziz Medical City (KAMC) of National Guard Health Affairs (NGHA) in Riyadh were included. WHOQOL-BRFF tool was used this tool including 4 main domains Physical health, Psychological health, Social relationship and environment.

Results: The study results indicated that Overall QOL mean + SD (out Of 120) was 81.36+ 28.8, No statistical significance relationship between total mean score of mean quality of life (QOL) and Gender, Most of the patients were females. There was a significant statistical relationship between age and physical health, psychological health, and environment with P value (0.000, 0.008, and 0.010 respectively)

Conclusion: The study concluded that the age is greatly affected the quality of life among participants with overall accepted score for health related quality of life among participants.



The Incidence of Central Nervous System Infection Post Ventriculoperitoneal Shunt Insertion Among KASCH-RYD Pediatric Patients Over 20 Years period

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Background: Surgical insertion of a ventriculoperitoneal (VP) shunt is the standard treatment of hydrocephalus. However, shunt infection is a major complication, and might lead to other types of infections.

Methods: A retrospective case series study; was performed on 700 randomly selected pediatric patients to identify the incidence of infection post VP shunt surgery from 1997- 2017 in King Abdullah Specialized Children Hospital (KASCH), Riyadh, Saudi Arabia. Patients aged 0 - 14 years old who had their VP shunt surgery at KASCH were included. Patient who underwent any other neurological procedure one year prior to the VP shunt, patient with any missing data, and patient with immunodeficiencies were excluded. P-value of less than 0.05 was considered statistically significant, with a 95% confidence interval.

Results: Out of 172 included patients, 55.8% were females, with the majority (66.3%) were full term gestation patients. Preoperative prophylactic antibiotics were prescribed in 79.1% of the cases. Infection accounted for 9.3% with a mean symptoms onset time of 1.3 (± 2.5) months post-operatively. Other post-operative complications found were; malfunction (21.5%), obtrusions (4.1%) and hemorrhage (0.6%). Pre-term gestational age reported a significant increase in infection incidence compared to other post- surgical outcomes with a percentages of 10.3%. Age and weight at surgery, and weight at birth were significantly associated with an increase in post-operative complications with p-values of 0.035, 0.043 and 0.022 respectively. Low birth weight was significantly associated with mortality with a p-value of 0.019.

Conclusion: The incidence of infections post VP shunt in this study was 9.3% with a mean symptoms onset time of 1.3(± 2.5) months post-operatively. Gestational age, age and weight at surgery were identified as the major risk factors for post operative complications. Further studies to identify what makes pediatric patients more susceptible for infections post VP shunt surgery are needed.



Awareness and Attitude of Undergraduate Nursing Students at King Saud bin Abdul-Aziz University for Health Science Regarding Palliative Care

Haya Alanizy, Reema Alharby

Background: Palliative care (PC) aims to improve the quality of life for the patients and families who are facing the difficulties associated with life-threatening and incurable illnesses. Many of undergraduate nursing students have difficulty dealing with patients, who are diagnosed with terminal illnesses which cannot be cured. This research aimed to assess awareness and attitudes of undergraduate nursing student in King Saud bin Abdul-Aziz University for Health Sciences regarding palliative care.

Methods: descriptive, cross-sectional design were used. A convenient sample 273 of undergraduate nursing students at King Saud bin Abdul-Aziz University for Health Sciences after giving informed consent. Data were collected using a questionnaire contains three parts. Part I; demographic data, Part II; a questionnaire which focuses on the awareness of PC imposed from Sociological Research Institute. The third part is the FACTOD instrument consists of 30 Likert-type items, which were scored on 5-point scale: 1 (Strongly disagree), 2 (Disagree), 3 (Uncertain), 4 (Agree), 5 (Strongly agree). Fifteen of the items were worded positively and fifteen were worded negatively. Thus, the total possible score range from 0-150, with higher scores representing more positive attitudes toward providing care for dying patients. Validity and reliability of the tool were ensured.

Results: from nursing students 27.1 % just know PC by its name. Although 81% agreed for "giving nursing care to the dying person is a worthwhile learning experience" only 31% agreed on "I would not want to assign to care for a dying person." and 5.5% agreed on "nursing care should extend to the family of the dying person."

Conclusion: Undergraduate nursing students have inadequate awareness and negative attitude toward PC which may affect its use by incurable patients and their families. It could be useful to consider palliative care as part of accreditation standards for nursing program.



Pre and Postoperative Functional Outcome Scores and Pain Level Adductor Canal Catheter Block in Total Knee Arthroplasty. A single Center Study in Riyadh Saudi Arabia

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Background: Total knee arthroplasty (TKA) is one of the most commonly performed procedures. Pain control is an important factor for patient's quality of life postoperatively. The aim of this study is to report pain control results and functional outcome scores associated with Adductor Canal Blockade (ACB) usage post TKA.

Methods: A prospective case series study of patients who underwent TKA for degenerative osteoarthritis with ACB postoperatively from 2018 to 2019 in a single center in Riyadh, Saudi Arabia. Assessment of functional outcome scores and pain level were measured preoperatively and postoperatively using Knee injury and Osteoarthritis Outcome Score (KOOS) and Visual Analog Scale (VAS).

Results: a total of 112 patients (124 knees) were assembled. The average KOOS score preoperatively for all 5 domains shows marked improvement at 3 months compared to preoperative values. Pain score post operatively was measured at 12, 24, and 48 hours with an average of 0.7, 1.2., and 0.6 out of 10 on the VAS scale, respectively. The incidence of common associated side effects with pain medication use were included as an add on in the post-operative questionnaire and data and showed nausea to be the most common side effect (23%) followed by constipation (18%) and dizziness (14%)

Conclusion: In conclusion, by comparing preoperative and postoperative pain levels and functional outcome scores, our study showed a significant pain control and improved functional outcome scores following TKA using ACB.



Poster Presentations Session 2



Sites, comorbidities, clinical characteristics, and recurrence of Venous Thromboembolism in King Abdulaziz Medical City (KAMC), Riyadh City

Abdulrahman Alfawzan, Mohsen Alzahrani, Ahmad Alswaidan, Saeed Alshahrani, Mohammed Alabduljabar, Ala Alkharaan

Background: Venous thromboembolism (VTE) is the inappropriate activation of clotting occurring in veins. VTE caused primarily by blood flow disturbance, hyper-coagulability, or endothelial injury. VTE can be divided to provoked and unprovoked VTE. Provoked VTE is associated with well-known risk factors like recent injury, pregnancy, prolonged immobilization and cancer at diagnosis. On other hand, unprovoked VTE is idiopathic because the patients do not have anyone of established risk factors of VTE at diagnosis. Therefore, this study will be conducted to describe the sites, comorbidities, clinical characteristics, associated with VTE, and VTE recurrence within five years of first venous thrombosis.

Methods: It was a retrospective cross-sectional study in King Abdulaziz Medical City (KAMC), Riyadh. It included 351 patients by using a consecutive sampling technique. We included all Saudi adults diagnosed with first venous thromboembolism (VTE) in the period of 2006 to 2013 at KAMC. We excluded VTE patients diagnosed with first VTE after 2013, infants, non-Saudis, and patients with incomplete medical charts. The data which was collected from electronic charts was analyzed by using SAS 9.4.

Results: Among 351 participants, 52% were females and two third (62.39%) were exceeded normal BMI. The provoked VTE (53.56%) was slightly more than the unprovoked VTE (46.44%), but the unprovoked VTE was more in population who had recurrent VTE by 19.09%. The commonest site of DVT was left lower limb (38.46%), right lower limb (20.51%), and bilateral lower limbs (12.25%). Only the pulmonary embolism (<0.01) and unprovoked VTE (0.01) were associated with higher risk of recurrence. However, the unprovoked DVT ($P=0.0305$) was the only one associated with higher risk of recurrence after multivariate analysis.

Conclusion: After multivariate analysis. Unprovoked VTE was the only risk factor associated with recurrent VTE. Also, left lower limb is the most common site of VTE followed by right lower limb and bilateral lower limbs.



A Systematic Review and Meta-analysis of Cell-based Interventions in Experimental Diabetic Kidney Disease

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Background: Diabetic kidney disease (DKD) remains one of the most common causes of kidney failure, and, yet, with no adequate cure. Over the past decade, several investigations have tested the regenerative potential of cell-based therapies in DKD animal models.

Methods: Electronic library databases were queried (January 1998-May 2019) and articles screened to identify investigations testing cell-based therapy effects in animal models of DKD. Weighted mean differences (WMD) (or standardized MD [SMD]) and 95% confidence intervals (CI) were calculated for kidney outcome measures (plasma creatinine, proteinuria, fibrosis, and inflammation).

Results: Of 699 articles, 40 met inclusion criteria. The majority (81%) used type 1 diabetes model (streptozotocin) and animals included rats (59%), mice (40%) and tree shrews (1%). MSC were the most commonly (61%) used cells followed by non-MSCs (15%). Meta-analysis results revealed that in comparison with untreated diabetic controls, cell-based therapy was associated with reductions in both creatinine [-0.3 mg/dL; 95% CI (-0.358, -0.243)] and proteinuria [SMD -2.97; 95% CI (-3.63, -2.32)]. Additionally, pro-fibrotic factors (SMD -4.14; 95% CI [-5.05, -3.25]) were reduced and anti-fibrotic factors (SMD 2.48; 95% CI [0.55, 4.41]) were increased with similar changes in pro-inflammatory (SMD -2.81; 95% CI [-4.01, -1.61]) and anti-inflammatory (SMD 3.71; 95% CI [1.65, 5.76]) kidney markers.

Conclusion: In conclusion, cell-based studies in animals with diabetes show improved kidney function and histology, likely through anti-fibrotic and anti-inflammatory effects supporting clinical studies in individuals with DKD to allow adaptation of this therapeutic strategy.



The Diagnostic Value of Prostatic Specific Antigen in The Diagnosis of Prostatic Carcinoma in King Abdulaziz Medical City, Riyadh

Heesa saad alabbas, "Dr.mohamed abdul fattah, Hasna alenazi, Nada jaber, Dr.tariq karar, Dr.khalid khalifa

Background: Prostatic Specific Antigen (PSA) and biopsy are the common tools for diagnosing Prostate Cancer(PC).However, the golden standard for diagnosis of PCis the histopathology results. The disadvantage of PSA is the high sensitivity and low specificity in the diagnosis of PC.In this study, we aimed to study the diagnostic sensitivity and specificity with the optimum cut-off point of PSA level in Saudi adult patients with PC

Methods: The study was conducted at King Abdul-Aziz Medical City (KAMC) complex, Riyadh.Adult patients with PC or benign prostatic hyperplasia (BPH) who admitted to KAMC during the period from June 2017 to Sept 2019 were selected based on retrospective cross-sectional hospital study. In addition, patients with UTI (urinary tract infection), bowel dysfunction, erectile dysfunction, chemotherapy and radiotherapy was excluded. Demographic data were collected for all patients in the study (age, weigh and medical history). All data were extracted from electronic files by using data collecting sheet

Results: A total of 98 subjects were investigated. Study groups were divided into two groups. The first group includes 39 patients with BPH39.8%, and second group includes 52 patients with PC 60.2%. The mean \pm SDof age was 75.90 \pm 8.350in BPH group,while the mean \pm SD of age in PC group was 78.03 \pm 10.85 In reference to Mann Whitney u test, the results showed a significant difference between BPH at which mean was 2.1 \pm 1.9 ng/ml and PC at which mean was 431.0 \pm 631.7 ng/ml, the p-value was <0.005. Diagnostic sensitivity and specificity were calculated according to different cut-off points of PSA which calculated by ROC curve. The area under the curve was 0.936

Conclusion: PSA level is increased markedly in patients with PC compared with patients with BPH. PSA have a valuable diagnostic efficacy using cut-off points of 4.12 ng/ml at which sensitivity is 89% and specificity is 85%.



Optimized PEGylated-polymeric Nanoparticles for the delivery of an anti-estrogen drug for breast cancer treatment

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Background: The aim of this project is to optimize a PEGylated-polymeric nanoparticulate system for the delivery of anastrozole (ATZ), a model anti-estrogen drug, in an attempt to enhance the activity against breast cancer.

Methods: ATZ-polymeric nanoparticles were prepared by direct emulsification-solvent-evaporation method. PEG content and PEG:PCL ratio were studied as formulation variables in which they optimized to obtain high entrapment efficiency (%EE) for ATZ with low particle size (< 300 nm), high level of particle size uniformity and physical stability. The particle shape was characterized using scanning electron microscope SEM. The in vitro drug release was monitored using the dialysis bag method.

Results: The prepared ATZ-polymeric nanoparticles showed particle size in a nano-range of 193.6 ± 2.9 - 218.2 ± 1.9 nm. Also, these prepared nanoparticles formulations have a good particle size uniformity (poly-dispersity index around 0.1) and acceptable range of zeta potential ranged from -0.50 ± 0.52 to 6.01 ± 4.74 . The DSC patterns of prepared nanoparticles formulations showed disappearance of melting sharp peak of pure ATZ, which indicating the incorporation of the drug into polymeric nanoparticulate system. SEM images indicated a spherical shape for the majority of the particles with the appearance of an external lipid layer. The common biphasic pattern was also concluded for the release of ATZ from the particles with a 20-30% released in the first 12 hours followed by another phase of slow release extending for 6 days.

Conclusion: PEGylated polymeric nanoparticles exhibit a stable encapsulated system to formulate anticancer drug (ATZ) in a form of nanoparticles (around 200 nm) with high percentage Entrapment efficiency (around 80%) and good size uniformity.



Awareness about stroke and proper actions to be taken; A room for improvement

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Background: Stroke is one of the major causes of long-term disability worldwide and is currently considered the second leading cause of death. Delay in recognition of stroke warning signs and in seeking medical advice increases stroke related morbidity and mortality. To design effective stroke education strategies, an assessment of the public knowledge of stroke in Saudi Arabia is required.

Methods: A cross-sectional study on a randomly selected community-based population. The study was based on a convenience sample at public places in Riyadh, Saudi Arabia. A sample size of 600 participants aged 18 years and above of both nationals and expatriates were enrolled in the study. A validated questionnaire was used. The questionnaire includes four sections; I- socio-demographics, II- warning signs, III- risk factors, IV- Immediate response to stroke attack. The knowledge score of stroke was calculated and good knowledge was estimated to be above 60%.

Results: Considering the acceptable level of knowledge of 60% (16 out of 28 correct answers), (56.5%) of participants could not achieve this level of knowledge with the median score of 15.6 and Interquartile range of 7. Regarding the relation between various factors and knowledge about stroke, participants who were able to identify five or more risk factors were significantly younger (75%) and achieved university education or higher (53.7%). Those who identified at least three warning signs were mostly females (64.6%). Participants who intended to call ambulance in the first three hours were significantly younger (76.1%), mainly students (45.4%) and were able to identify at least five risk factors (64.5%) and three warning signs (74.1%).

Conclusion: Our study showed there is poor knowledge of stroke risk factors, warning signs and immediate response in case of stroke attack. Public health measures to correct this deficiency in the community are clearly needed. This survey can provide a useful guide for these measures.



Effect of new mobile application in oral hygiene instructions on orthodontic patient compliance: A randomized controlled trial

Tumadher Saad Almufleh, Khalid Almoammar, Ghaida Aldughaishem, Ala Albelali

Background: Literature advocates the use of several motivation methods to improve compliance with the oral hygiene instructions among orthodontic patients. Objective: to evaluate the effect of the following oral hygiene motivation methods on the orthodontic patients' compliance; Edge Animation Video Application, If-Then-Plan psychological intervention designed to enhance planning of behavior change and the usual routine.

Methods: In this randomised controlled trial of three interventions, Forty-five participants attending the Orthodontic Clinics of the College of Dentistry of King Saud University were recruited, the participants were randomly allocated to one of three conditions; (1) a standard oral hygiene instruction - no intervention; group 1(2) If - then plan psychological intervention for oral hygiene instruction; group 2 (3) oral hygiene instruction delivered by a video demonstration using Edge Animations Application; group 3. Patients Oral hygiene was assessed by measuring bleeding on probing (POB) and plaque index (PI) buccally and lingually. Assessment of oral hygiene was repeated at 4, 8, and 12 weeks following the placement of the orthodontic fixed appliance.

Results: Measurements were not significantly different across the three interventions($P>.05$). However, BOP and buccal plaque index(BPI) significantly improved through time in ITP by 0.273% and 0.5% respectively, while lingual plaque index (LPI) reduced in EVA and UR by 0.412% and 0.374% respectively.

Conclusion: Though no one intervention demonstrated superiority, each significantly reduced plaque.



Utility of Procalcitonin test in appropriate antibacterial choice: retrospective evaluation

Nourah Saad Alsubayie, Dr. Mohammad Shawaqfeh, Jawaher Gramish, Fares Almutairi

Background: Procalcitonin testing (PCT) demonstrates its effectiveness for specifically diagnosing the bacterial infections as it is elevated in bacterial infections but not the viral infections. Its clinical usefulness has been shown with antibiotic selection for different infections.

Methods: This retrospective observational study aims to evaluate procalcitonin (PCT) test clinical utility in reducing the use of antibiotics, and the length of hospital stays. The study conducted at King Abdulaziz Medical City (KAMC) in Riyadh, Saudi Arabia included a total of 660 patients who were ordered procalcitonin test.

Results: Subjects were grouped according to procalcitonin (PCT) level. All patients with PCT level $\geq 0.1\text{ng/ml}$ ($n=457$) are qualified to receive antibiotic treatments. A total of 75.7 % were prescribed antibiotics. The length of hospital stay (LOS) in patients who received antibiotics were statistically significant higher than patients who did not receive any antibiotics (LOS 32.7 vs. 65.1 days, $p\text{-value} < 0.01$). However all patients with PCT level $< 0.1\text{ng/mL}$ ($n=203$) shows no statistically significant difference in the length of stay at hospital among patients who was prescribed an antibiotic or not ($p\text{-value}=0.64$). Only 31% of this group was inappropriately prescribed an antibiotic. Other infection precursor like WBC count was also evaluated with no significant differences among groups.

Conclusion: This study showed that utilization of procalcitonin (PCT) guided antibiotic prescribing reduces the length of stay and reduce the antibiotic use. PCT guided antibiotic prescribing can be utilized efficiently in hospital setting.



Readmission Rates of CABG and Their Risk Factors in a Tertiary Academic Medical City in Riyadh, Saudi Arabia

Mohammad Ali Alghafees, Noura Alsubaie, Ihab Suliman, Salman Aljafari, Eyad Alshehri, Lina Alsadoon, Abdulaziz Boquaied

Background: Coronary artery bypass grafting (CABG) is a surgical procedure in which a section of a blood vessel is grafted to the coronary artery to bypass the blocked section of its circulation. It is one of the most demanded cardiac surgical procedures performed. CABG can be associated with high readmission rates for a plethora of causes, which could substantially raise healthcare costs. The study aims to assess the rates and associated risk factors of 30-day readmissions for CABG patients in King Abdulaziz Medical City.

Methods: A retrospective cohort study was performed at the King Abdulaziz Medical City, a tertiary academic hospital located in Riyadh, Saudi Arabia. The study targeted adult patients who underwent CABG between January 1, 2016, and January 31, 2019. Data was extracted using the BESTCare system.

Results: The overall 30-day readmission rate was 17%. Females demonstrated higher odds of 30-day readmission than males (OR 0.34 [95% CI 0.18 to 0.59]). A hospital length of stay > 2 weeks increased the probability of 30-day readmission more than a stay ≤ 2 weeks (OR 0.59 [95% CI 0.36 to 0.95]). Diabetes mellitus, hypertension, dyslipidemia, chronic kidney disease, and smoking were associated with a higher odds for readmission (OR 2.709 [95% CI 1.299 to 5.652]; OR 1.530 [95% CI 0.862 to 2.717]; OR 1.364 [95% CI 0.839 to 2.217]; OR 1.927 [95% CI 0.862 to 4.309], OR 0.357 [95% CI 0.110 to 2.216], respectively).

Conclusion: The estimated readmission rate was higher than those reported in many other countries. Female sex, hospital length of stay > 2 weeks, diabetes mellitus, hypertension, dyslipidemia, chronic kidney disease, and smoking were all associated with higher risks for readmission. These predictors must be considered to develop effective strategies for reducing readmissions after CABG, and to remove—or at least mitigate—the financial burden on healthcare resources.



Renal function assessment following solid organ transplantation

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Background: Despite of the major advances in solid organ transplantation, post-transplantation renal insufficiency is a crucial issue that adversely influence the long-term organ functioning and the patient survival. An accurate assessment of the renal function after transplantation is fundamental using the major endogenous markers that reflect the kidney function including serum creatinine, blood urea nitrogen, and proteinuria. Objectives: The primary objective is to assess the prevalence of kidney function deterioration <60 ml/min/1.73m² during the first year among liver and kidney transplant recipients. The secondary objectives include the determination of the factors that might lead to the renal damage.

Methods: retrospective evaluation of endogenous markers associated with kidney function of liver and kidney transplant patients for the first year following transplantation. All SCr, BUN, and proteinuria were collected along with relevant demographics, medications, and comorbidities. The study was IRB approved through KAIMRC.

Results: The average Scr for our cohort for the first-year post-transplantation was 253.5 μ mol/L which is elevated and indicate a deterioration of renal function. Normal reference level of Scr is (60 to 110 μ mol/L) for men and (45 - 90 μ mol/L) for women. The average BUN for our cohort for the first-year post-transplantation was 10.4 mmol/L which is elevated and indicate a deterioration of renal function. Normal reference level for BUN is (2.5 to 7.1 mmol/L). The average proteinuria for our cohort for the first-year post-transplantation was 0.675 g/L which is elevated and indicate a deterioration of renal function. Normal reference level for proteinuria is ≤ 0.14 g/L. Tacrolimus average levels were within the therapeutic range.

Conclusion: Renal function deterioration were observed, and all endogenous markers associated with it were elevated in the first year following transplantation. The factors that might be leading to such events are being analyzed and these include nephrotoxic medications and other comorbidities.



Risk Factors and Mortality in Pediatric Patients with *Stenotrophomonas maltophilia* Bacteremia

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Background: *Stenotrophomonas maltophilia* (*S. maltophilia*) is an opportunistic and nosocomial pathogen that can cause an invasive and fatal infection, particularly in hospitalized and immunocompromised patients. However, a little is known about the impact of *S. maltophilia* bacteremia in pediatric patients. We aimed to identify risk factors for mortality, antibiotic susceptibility of *S. maltophilia* and mortality rates in pediatric patients with *S. maltophilia* bacteremia.

Methods: We conducted a retrospective cohort study by identifying all *S. maltophilia*-positive blood cultures in the microbiology laboratory database between January 2007 and December 2018 from hospitalized pediatric patients (age 1-14 years) at King Faisal Specialist Hospital and Research Center, Riyadh, Saudi Arabia. After identifying patients with *S. maltophilia* bacteremia, medical charts were reviewed for demographics, clinical data, and outcome within 7 days of bacteremia diagnosis. Risk factors associated with mortality in *S. maltophilia* bacteremia patients were determined using univariate and multivariate analysis.

Results: Sixty-eight pediatric patients with *S. maltophilia* bacteremia were identified. The most common underlying primary diagnosis was malignancy (29.4%), congenital heart diseases (16.2%), and anemia (14.7). The risk factors associated with mortality as determined by univariate analysis were ICU admission ($p < 0.001$), intubation ($p = 0.001$), neutropenia ($p = 0.008$), prior use of carbapenem ($p = 0.002$), thrombocytopenia ($p = 0.006$), and respiratory colonization ($p < 0.001$). On multivariate analysis, ICU admission ($p = 0.007$; 95% CI, 0.003-0.406) and neutropenia ($p = 0.009$, 95% CI, 0.013-0.537) are the major risk factors associated with mortality. *S. maltophilia* was most susceptible to trimethoprim and sulfamethoxazole (TMP/SMX, 94.1%), followed by levofloxacin (85.7%). The overall mortality rate within 7 days of *S. maltophilia* bacteremia diagnosis was 33.8%.

Conclusion: *S. maltophilia* bacteremia is a devastating infection associated with high mortality among hospitalized children. Therefore, early diagnosis and prompt management based on local data susceptibility are crucial. Various risk factors associated with *S. maltophilia* bacteremia mortality particularly the ICU admission and neutropenia.



Early vs. Late Cranioplasty: Can Timing Affect the Neurological Outcome?

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Background: The optimal timing for performing cranioplasty and its effect on cognitive function is still an area of debate. Multiple confounding factors may come into role; including neuropsychological rehabilitation, surgical technique, cognitive assessment tools, and the overall complications. The aim of this study is to assess the neurological outcome and post-operative complication rates among patients who underwent early vs. late cranioplasty.

Methods: A retrospective cohort study was conducted to investigate the neurological outcome and post-operative complications among patients who underwent cranioplasty between January 2005 and December 2018 at King Abdulaziz Medical City (KAMC), Riyadh, Saudi Arabia. Early and late cranioplasties were defined as surgeries performed within and more than 90 days of decompressive craniectomy, respectively. The Glasgow outcome score (GOS) and modified ranking scale (mRS) were used to assess the neurological outcome.

Results: A total of 101 cases of cranioplasty were included in the study. The mean age of the patients was 31.4 ± 13.9 (Age range; 5-67 years). The mean GOS for all patients was 4.0 ± 1.0 . The mean mRS was 2.2 ± 1.78 . Most patients (N = 86; 85.1%) were males. Most DCs (N = 78; 77.2%) were performed within 24 hours of admission. Seizures were noted in 12 and 16 patients who underwent early and late cranioplasty, respectively (P = 0.77). Hydrocephalus was noted in 18 patients (Early, N = 6; Late, N = 12; P = 0.48).

Conclusion: The differences in the rates of overall post-operative complications between early vs. late cranioplasty were statistically insignificant. The optimal timing of performing cranioplasty after DC remains controversial. Further studies investigating post-operative complication rates in relation to cranioplasty timing are required.



Assessment of Community-Based Home Health Programs among children with Chronic Disease in tertiary care center, Riyadh.

Seba Almutairi, Tala Albassri, Nazish Masud, Feryal Said, Ibrahim Aljohani, Manal Bawazeer

Background: Home health care (HHC) is a newly developed model of care that help patients to avoid hospital admission aiming to promote, maintain or restore health as part of their comprehensive services. The aim of this study was to assess the effectiveness of HHC in reducing the admissions and ED visits for children with chronic diseases.

Methods: This was a cross sectional study held at a tertiary care center. Consecutive sampling technique was used to review all the patients' files registered for HHC program from 2016 to 2018. Continuous variables were reported as mean and standard-deviation, whereas categorical were reported as percentages and frequencies. Wilcoxon rank test was used to assess differences before and after enrollment in the HHC program. Statistical Package for Social Sciences was used for analysis.

Results: 92 patients were involved in this study; 57% were males and 44% were females. 42% of them had neurodevelopmental diseases. Among all services provided by HHC, nursing care was the most needed service. Average days of admission per patient was 28 ± 0.6 at 4 months before enrolment which was reduced to 6.75 ± 0.39 days after enrolment with p value < 0.001 However, the total number of admissions was not affected much. Similarly, at 6 months number of days of admission before and after was 38.37 ± 62 vs 9.02 ± 14 with p-value < 0.001 .

Conclusion: HHC program showed an effective result in reducing the frequency of hospital admission and days of children's admission, yet it had no effect on lowering the ED visits.



Compliance with the North American Society of Pacing and Electrophysiology guidelines on amiodarone monitoring in Riyadh, Saudi Arabia

Nouf Almutairi, Bandar Albasam, Sara aldosari, Dr hind Almodaimegh

Background: Amiodarone is known for its efficacy as an antiarrhythmic agent; however, its extensive side-effect profile requires careful selection of patients and frequent monitoring. The purpose of this study was to evaluate the compliance with conducting baseline tests before initiating amiodarone therapy and appropriate monitoring based on the North American Society of Pacing and Electrophysiology (NASPE) guideline.

Methods: A retrospective descriptive study based on reviewing patients' electronic medical records for patients 18 years of age and older who were started on oral amiodarone with primary diagnosis of atrial fibrillation, atrial flutter, atrial tachycardia, ventricular tachycardia, ventricular fibrillation or premature ventricular contraction from January 2016 to December 2018 in King Abdulaziz Medical city (KAMC), Riyadh-Saudi Arabia. Medical charts were reviewed for the performance of recommended baseline and follow up of chest X-ray (CXR), liver function test (LFT), thyroid function test (TFT) and electrocardiogram (ECG).

Results: Over the study period, 143 eligible participants were included with an average of 165 ± 207 days on amiodarone. Based on NASPE recommendations, 36.4% of patients had the entire recommended baseline assessments before initiating amiodarone. Our results indicated optimal adherence rates to baseline tests of CXR (79.7%), LFT (79.7%) and ECG (86.7%). However, lower compliance rate was to TFT (40.6%). Compliance rate to the guideline recommendations on follow up tests was minimal. On-going monitoring performance rates were 47.6% of CXR, 49% of LFT, 54.5% of ECG and 22.4% of TFT.

Conclusion: Overall, compliance to NASPE guidelines on amiodarone baseline and on-going monitoring was suboptimal. Improvements could be made by establishing local protocol for amiodarone monitoring and pharmacists participating in amiodarone laboratory assessments.



Descriptive Study and Surgical Management Among Infiltrating Lobular Carcinoma Patients Admitted to KAMC from 2000-2017: Retrospective cross-sectional study

Afnan Abdullah Alsahli, Sara Alshahwan, Ghada Alsowailmi, Amal Alotaibi , Lolwah Alriyees, Abdulmohsen Alkushi, Manal Alzaid, Aamir Omair

Background: Invasive lobular carcinoma (ILC) is the second most common histologic type of breast carcinoma. The etiology of ILC is unknown; however, many contributing risk factors have been suggested. Treatment of ILC can be divided into local and systemic.

Methods: This study included 91 ILC patients from 2000-2017 in a tertiary care center in Riyadh and the study design was a retrospective cross-sectional descriptive study.

Results: The median age at the primary diagnosis was 50. On the clinical examination, 63 (71%) cases were found to have palpable masses which were the most suspicious finding. On radiology, the most encountered finding was speculated masses which was seen in 76 (84%). Regarding the pathology, unilateral breast cancer was seen in 82 while bilateral breast cancer was found only in 8. The most common location was upper outer quadrant. For the biopsy, core needle biopsy was the most commonly used in 83 (91%) patients. The most documented surgery for ILC patients was modified radical mastectomy followed by breast conserving therapy. Metastasis to different organs were identified with musculoskeletal system being the commonest site. Different significant variables were compared between patients with or without metastasis. Skin changes, Post-operative invasion, Estrogen, progesterone, and HER2 receptors were significantly associated with metastasis. Patients with metastasis were less likely to have conservative surgery as compared to those with no metastasis. In addition, patients who had a recurrence and patients who did not have were compared using different variables which revealed recurrence was common in patients who had fine needle aspiration and excisional biopsy and nulliparity was more prevalent in patients with a recurrence.

Conclusion: To our knowledge, this is the first study to exclusively describe ILC in Saudi Arabia. The results of this current study are highly important, as these results provide baseline data of ILC in the capital city of Saudi Arabia



Effect Of Virtual Reality On Pain Threshold And Tolerance Using An Ice Bath

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Background: The aim of this study was to evaluate the efficacy of virtual reality on pain tolerance and threshold by using ice bath as a temporary non-invasive inducer of thermal pain.

Methods: A 2x2 within-subjects experimental study design was conducted on 53 female students at Qassim University main campus in Buraydah, Saudi Arabia. The data were directly collected from participants who met the eligibility criteria. Three trials were conducted baseline, passive and active. For the each of the trials, the researcher instructed participants to submerge their non-dominant hand into an ice bath at 5°C then the researcher measured pain threshold by setting a timer until participant indicates a sign of pain. Tolerance was measured by setting another timer till the participant withdrew their hand from the ice bath.

Results: The study showed that participants have higher pain threshold and greater pain tolerance during active and passive VR trials in comparison to their own pain threshold and tolerance during baseline trials ($p < 0.05$). Although both VR trials showed significant increases in pain tolerance and threshold, participants were able to tolerate the pain about three times longer during active VR trial, where it required the participant to interact with the game, than during passive VR trial, where they were only watching and exploring the surrounding ($p < 0.05$).

Conclusion: The virtual reality system increases pain threshold and tolerance with minimal side effects and inconvenience. Furthermore, active virtual reality gaming showed to be significantly more effective at increasing pain tolerance.



The Prevalence of Reperfusion Lung Injury after Cardiac Surgery

Bader Alotaibi, Alaa Bugis, Bader Alotaibi, Bader Alanazi, Omar Harisi, Mohammad Almalki, Abdulaziz Aloufi, Winnie Philip, Mohamed Kabbani

Background: Reperfusion is a pathological condition characterized by a decrease of blood supply to an organ followed by reoxygenation and returning of perfusion. It is one of the most complications for cardiac surgery. The PaO₂/FIO₂ is used to identify the risk to have the disease. Early extubation and following guidelines of controlling hospital acquired pneumonia has proven to be effective in reducing complication rate. The aim of the study was to identify prevalence of reperfusion lung injury after cardiac surgery and factors associated with it.

Methods: Data was collected of 2016-2019 in PICU. Patients who had undergone cardiac surgery below 16 years of age were included. It was a cross-sectional descriptive study.

Results: Among 250 cardiac surgery cases, 53.2% were males. Thirty-two percentage cases constituted those in the age group of less than a year. The prevalence of the disease was 22.4% with more prevalent in males (57.1%). The prevalence in the age group of less than a year was 46.4% and 4.1% of age less than a month ($p=0.001$). Patient with reperfusion lung injury stayed longer on mechanical ventilator (MV) (Mean rank= 54.89) than other patients (Mean rank= 31.21) ($p = 0.001$). The minimum age was 6 days and the maximum was 14 years with the majority in the age group of less than a year (32.4%).

Conclusion: The prevalence of reperfusion lung injury after cardiac surgery was 22.4%. Age and duration of MV were significant factors in those who had the disease.



Incidence, predictors and outcomes of permanent pacemaker insertion following transcatheter aortic valve implantation: from the first TAVI registry in Saudi Arabia

Shaya Fahad Aldosari, Fares Rajah, abdukhaliq Alamiri, Mohammed Mahmood, Thamer Alhowaish, Abdulwahab Hussein, Emad Masuadi, Haitham Alanazi

Background: Transcatheter aortic valve implantation (TAVI) is a procedure done for symptomatic severe aortic stenosis. Although permanent pacemaker insertion (PPI) is a known complication of TAVI, whether this complication can be predicted or is associated with adverse outcomes has not been studied in the Saudi population.

Methods: This is a retrospective, single-center, cohort study including all 174 patients who underwent TAVI from 2010 until 2018. Patients with prior pacemaker implantation or implantable cardioverter defibrillator were excluded. Data analysis done using JASP version 0.10.2.0. categorical variables were compared using Pearson chi-square test. Continuous variables were compared using the Wilcoxon rank sum test.

Results: The result shows 48 of 170 patients (28.2%) required PPI within 30 days of TAVI. The median time from TAVI to PPI was 2 days (IQR: 0 to 5 days). Positive predictors of PPI vs no PPI were prior right bundle branch block (20.8% vs 2.5%; $p < 0.001$), development of left bundle branch block after TAVI for PPI vs no PPI (45% vs 26.3%; $p 0.027$), PR interval increment of more than 28 milliseconds after TAVI for PPI vs no PPI (30.6% vs 7.6%; $p < 0.001$). Diabetes was a negative predictor of PPI vs no PPI (60.4% vs 76.2%; $p 0.039$). There was a trend towards longer hospital stay with PPI, but it did not reach statistical significance (18 days vs. 13.5 days; $p 0.058$).

Conclusion: Early PPI following TAVI was common in our patient population, especially among non-diabetics. Expanding the study population by creating a nationwide TAVI registry will help us confirm these findings, as well as examine the association between PPI and negative clinical outcomes.



The Association Between Unemployment and Depression in Riyadh, Saudi Arabia

Meshal Abdulaziz Alhadlaq, Faisal Abdulrzag Aldbian, Muhanad Mohammad Alasiri, Rakan Mohammed Alharbi, Saleh Ibrahim Alfawaz, Prof. Mazen Ferwana

Background: Depression is considered one of the most common mental health illnesses worldwide that usually involves persistent low mood along with other symptoms. Unemployment is known to be a risk factor of poor mental health that might affect an individual greatly. With the rise of unemployment rate in many countries and the paucity of local research, the aim of this study is to assess the association between unemployment and depression.

Methods: A cross-sectional study was conducted from September 2017 to February 2019 in Riyadh, Saudi Arabia to examine the relationship between unemployment and depression. The questionnaire was composed of demographical and occupational data in addition to the Patient Health Questionnaire-9 (PHQ-9) to screen for depression with a cutoff score of ≥ 10 .

Results: Patients included in the survey analysis were 357, of whom 51% were females, 40% were married, and nearly 9% were using sleeping pills. The prevalence of depression was 38% for the whole population. The comparison between depression in employed group was 27%, while the non-employed group was 49%. Additionally, depression scores were significantly associated with unemployment (P-value less than .001) being single (P-value of .005), not owning a residence (P-value of .035), and usage of sleeping pills (P-value of .005). Other variables were not found to be significant.

Conclusion: The results indicate significant association between unemployment and depression. The prevalence of depression in total was 38%. Some social demographic characteristics were significant with depression, such as being single, not owning accommodation, and usage of sleeping pills. The duration of unemployment and depression was not significant. This implies the need of spreading awareness about mental health diseases, especially depression in Saudi Arabia. Further research on this subject is recommended due to the lack of locally published papers addressing this topic.



Evaluation of respiratory therapist knowledge to evidence-based guidelines for preventing ventilator-associated pneumonia in King Abdulaziz Medical City

Razan Alotaibi, Rana Almutairi, Maisa Alqahtani, Nora Aljafn, Manal Almasoud, Farhan Alenezi, Prachi Tambur, Winnie Philip

Background: Ventilator-Associated Pneumonia (VAP) is defined as a pneumonia that develops more than 48 to 72 hours after endotracheal intubation. VAP incidence and mortality rates can be reduced significantly by following VAP bundles. Since there are no studies focused on critical care respiratory therapists' knowledge, this study was conducted. The aim of this study is to assess the critical care respiratory therapists' knowledge regarding evidence-based guidelines for preventing ventilator-associated pneumonia.

Methods: A descriptive cross-sectional study was conducted at King Abdulaziz Medical City, Riyadh during June - August 2019. The participants were Respiratory Therapists working in the Critical Care area. The data was collected using a valid and reliable questionnaire to evaluate the level of critical care respiratory therapists' knowledge regarding evidence-based guidelines for the prevention of ventilator-associated pneumonia. The data was analyzed using SPSS 22.

Results: The study included 90 participants with (72.2%) males. Forty six percent were aged between 21-30 years and 40% had ≥ 10 years of experience. The results showed that the majority (55.6%) were below the average knowledge score. There was no significant relationship between gender and the knowledge score; however, statistical significance was observed between experience and the knowledge score ($P=0.021$). As the experience increases so does the knowledge score.

Conclusion: The study concludes that critical care respiratory therapists' knowledge was below the average. In order to increase their knowledge, they need to focus more on educational programs to help reduce the incidence of VAP.



Assessment of perception ,practice and barriers of exercise during pregnancy among Saudi pregnant women

Abeer al thagafi, Farida habib, Nagwa afefy

Background: Regular exercise routine throughout the pregnancy has many benefits to the pregnant women and the fetus and decrease some common discomforts during pregnancy. Aim of this research was to assess the perception of Saudi pregnant women about physical exercises during pregnancy, actual practices of physical exercises during pregnancy, and the barriers that might exists to prevent Saudi pregnant women from practicing physical exercise during pregnancy.

Methods: A descriptive correlational cross-sectional research design was utilized on a convenience sample of 210 Saudi pregnant women who attended Obstetrics & Gynecology outpatient clinic at (KAMC-MNGHA). Data was collected using interviewing questionnaire included six parts which were demographic data, Obstetric data, Medical data, Assessment of perception, practice and barriers.

Results: About half of the sample (48.6%) agreed that exercise during pregnancy is beneficial. Most of them (83.8%) either strongly disagree or disagree that exercise during pregnancy is increasing the risk of low birth weight. More than three quarters (76.5%) either strongly agree or agree that exercise during pregnancy is beneficial in weight gain management. Near three quarter (72.9%) strongly agreed that exercise during pregnancy facilitates normal delivery. About half (50.5%) were practicing exercise during current pregnancy and (49.5%) were walking. Less than one third (22.9%) start practicing exercise at Third trimester. However about 35% of the women who didn't practice exercise during pregnancy reported feeling tired as a barrier to practice exercise during pregnancy.

Conclusion: Majority of Saudi pregnant women demonstrated inadequate knowledge but had positive attitude towards exercise during pregnancy. Knowledge about benefits and contraindications to exercise during pregnancy significantly influenced the attitude towards exercise in pregnancy. The most common barrier that prevent Saudi Pregnant women from practicing exercise during pregnancy is feeling tired to exercise.



Poster Presentations Session 3



The Incidence of Gallstones among Patients underwent Bariatric Surgery in Saudi Arabia 2015-2017

Mohammed Abdullah Aldriweesh, Dr. Abdullah Adlan, Ghadeer Aljahdali, Edi Shafaay, Nawaf Alhamied, Dalal Alangari, Hadeel Alradhi, Amirah Yaqoub

Background: Obesity is one of the global health problems and its prevalence dangerously increased. Hopefully, there is awareness of obesity's short- and long-term effect, thus morbidly obese patients tend to choose bariatric surgeries as a solution after failed attempts of diet modification and physical activity. Obesity and bariatric surgery outcomes are known to increase the risk of developing gallstones. Recent studies have measured the incidence of gallstones; Hernán M. Guzmán et al. have found post-operative incidence of 36.9%, while Ahmed M. Makki et al. found an incidence of 2.3%. Rapid weight loss after bariatric surgeries and obesity are strongly correlated with gallstones development.

Methods: A cohort retrospective study of all morbidly obese patients who underwent bariatric surgery in two tertiary care hospitals between 2015-2018. We excluded Revisional bariatric surgery, Gallstones detected before bariatric surgery and Cholecystectomy before bariatric surgery.

Results: Among 498 obese patients who underwent bariatric surgeries at KAMC-RD and KAH between 2015-2018, gallstones were diagnosed in 30 (6.1%) patients. The patients were divided into two age groups ≤ 25 (102, [21.1%]), > 25 (381, [78.9%]). The peak incidence of gallstones formation ranges from 7-24 months after the surgery. high BMI loss was highly associated with gallstones formation ($p=0.01$). There was no relation statistically between gallstones formation and demographics.

Conclusion: In conclusion, a link between BMI loss post bariatric surgery and gallstone formation was established. In specific, higher BMI loss most likely to increase the risk to develop gallstones. Based on our results we recommend re-evaluating the practice that indicates bariatric surgery develops gallstones which accordingly surgeons do cholecystectomy at the same time as a precaution. This research reflects that gallstones could not be a prominent risk factor to the surgery, so we recommend more critical work based on evidence in the near future.



A Study Based on Perception towards the Radiation Exposure to Adult Patients at King Abdul-Aziz Medical City, Riyadh, Saudi Arabia

Turki Alnasser, Ali Aldhebaib, Oinam G. Singh, Ziad Almutlaq, Abdulrahman Alaqeel, Rakan S. Alkhalifah, Turki N. Alnasser, Fahad F. Alharbi, Faisal H. Alshaalan

Background: Radiologic diagnostic procedures using ionizing radiation carry potential health risks to the patients. So, patient's knowledge about ionizing radiation would play a key role in reducing unnecessary imaging and its impacts. This study to investigate patient's perception of ionizing radiation and its associated risks towards the radiation exposure to the adult patient.

Methods: We included 204 adult patients (175 males and 29 females; age range 18-51 or above and suitably structured questionnaire was used. A cross-sectional survey was conducted, using a suitably structured questionnaire consisting of 16 questions divided into multiple parts. Descriptive statistics were used to explain the demographic characteristics and information regarding radiation knowledge of the respondents. This study was conducted at King Abdulaziz Medical City, Riyadh, Saudi Arabia in the Radiology Department between October and January 2017.

Results: A total of 204 patients responded to this study. It is clarified that there were (85.8.3%) male and (55.4%) female, their age's ranges between 18 to 51 years and above, and educational level ranges from less than higher secondary to Ph.D. level Furthermore, we found that the number of the respondents was agreed with questions. It was a surprising result that the majority of respondents did not know about the imaging modalities that do not use ionizing radiation. In addition, the large numbers of undecided and disagree responses (41.7% and 33.3%) for the exposure to radiation when you are during travel by airplane along with 59 respondents were given "No" answer for the source of their information and they did ask their physician about radiation risks prior to X-ray examinations.

Conclusion: It is clear from the study that most of the patients have a good knowledge and recognized a correlation between ionizing radiation and its associated risks. In the conclusion, similar studies with a large sample size may be required to order to get enough empirical data about the radiation knowledge of the patients



Knowledge, awareness and vaccination compliance of Hepatitis B among medical students in Riyadh's governmental universities

Taif Alqahtani, Jumana Ahmad, Lama Aldosari, **Manar Alzahrani**, Ghala Alotaibi, Dr. Afaf moukaddam, Dr. Abdulrahman Altamimiazan.

Background: Hepatitis B is a blood-borne infectious liver disease caused by Hepatitis B Virus (HBV). Vaccination is the most effective method to prevent HBV infections. Medical students have a high risk of contracting HBV infection due to occupational exposure; therefore, it is important for them to have adequate knowledge about HBV and vaccination against it.

Methods: A cross-sectional, descriptive study was conducted in the College of Medicine (COM) of four governmental universities, KSAU-HS, KSU, PNU, and IMIU, in Riyadh. The study included 263 pre-clinical medical students who completed a questionnaire with sections about demographics, HBV awareness, knowledge and vaccination compliance. SPSS was used for analysis and a significance level of $p < 0.05$ was considered statistically significant.

Results: Majority of the students showed poor general HBV knowledge but had moderate understanding of HBV transmission modes and vaccination. KSU students had the highest vaccination compliance ($p < .001$) (54.2%), followed by PNU ($n=11$, 36.7%), IMIU ($n=18$, 30.5%), and KSAU-HS ($n=19$, 23.8%). The most cited reason for noncompliance was forgetting about the vaccine.

Conclusion: Overall, pre-medical students had poor knowledge about HBV and vaccination compliance. Therefore, we recommended adding an infectious disease awareness and prevention program to the curriculum to remedy that problem. The implementation of vaccination checking before the beginning of the clinical years might also be beneficial.



Frequency of genetic mutation in pediatric patients diagnosed with nephrotic syndrome: a single-center retrospective study in Saudi Arabia

Turki Almutairi, Khamisa Almokali, Abdulaziz Ajeebi, Ali Alyami, Marwh AlDriwesh

Background: Nephrotic syndrome (NS) is a renal disease characterized in childhood by massive proteinuria, hypoalbuminemia, oedema, and hyperlipidaemia. Current evidence suggested that genetic mutation may contribute in the aetiology of NS. However, there is limited data to investigate the common genetic mutations causing NS among Saudi Arabian population. We, therefore, conducted this study to estimate frequency of genetic mutations in paediatric patients with NS.

Methods: A retrospective cross-sectional study was conducted at King Abdullah Specialized Children Hospital in Riyadh, Saudi Arabia. All paediatric patients diagnosed with NS between March 2015 to March 2019 were included. Data were extracted from BestCare 2.0. For each patient, demographic data were collected such as age, gender, and ethnicity. Categorical variables were gathered also including genetic mutation, gene locus, associated anomalies and consanguinity.

Results: Within the study period, there were 206 patients diagnosed with NS. However, molecular genetic profiling was only performed for 35 patients. Of those patients, the median age at diagnosis was 36 months (IQR 0.03 -144 months), and 51.5% of them were girls. The positive consanguinity was detected in 51.5%. Out of 35 patients, there were 19 patients with positive molecular genetic results. An underlying causative homozygous mutation was observed in 14 children (73.7%): PLCE1(42%), NPHS1(26.3%), and LAMB2(5.2%). On the contrary, a heterozygous mutation was detected in 2 children: CFB, and WT1, and two heterozygous mutations were reported in one child: COL4A5 and INF2. The associated anomalies were recognized by 40%, with the highest percent linked to cardiovascular diseases and nephropathies (17%). Our data also revealed a novel CD151 mutation in a 12 y/o NS patient and positively associated with an anomaly.

Conclusion: PLCE1 is the major underlying cause of NS in the study population which may cause diffuse mesangial sclerosis (DMS) in the kidney with early onset NS and poor prognosis.



Plain lumbosacral X-ray for low back pain: trend of use and correlation of findings with clinical indication at primary care setting at King Abdul-Aziz Medical City, Riyadh, Saudi Arabia

Abduleleah Ayyah Alseraihi, Dr. Mohammed AlAteeq, Abdulaziz alhussini, Sultan Bin Hassan, Emad Ahmri

Background: Low back pain (LBP) is a common disabling condition that is frequently seen and managed in primary Care, with 62% of people experience at least one in their lifetime. LBP is the most common condition for which general practitioners order an imaging test. Use of imaging studies for LBP in absence of clear clinical indication carries possible harm on patients and overutilization of resources. This study aimed to explore the trend of plain X-rays use in the evaluation of low back pain in primary health care setting, and to correlate the radiological findings with the initial clinical presentation.

Methods: This is a retrospective chart review study conducted on 384 adult patients who had plain lumbosacral x-ray due to LBP in primary care centers at King Abdulaziz Medical City for National Guard in Riyadh-SA, in the period from 1 Jan 2017 to 1 Sep 2018, selected by convenience sampling. Data collected using predesigned sheet to include study variables such as gender, age, chief complain, co-morbidities, and lumbosacral x-ray findings. Statistical analysis done using SPSS software.

Results: Majority of patients were female (57.6%), in the 26-35-years age group (30.5%) (fig.1). The chief complaint was back pain in 95.6% of patients. No abnormality detected in 35.5% of lumbosacral x-ray. The most reported abnormal findings were spondylosis (20.3%), narrowing of intervertebral foramina/space (17.4%), and scoliosis (15.1%). Mean number of radiological studies done in 12 months was 2.6 per patient.

Conclusion: Majority of lumbosacral x-rays done for patients with low back pain in this study were either normal or with findings not related to the clinical presentation. It is important to establish guidelines for the management low back pain at the primary health care setting to minimize waste in sources and overexposure of patients to radiation that might lead to unwanted consequences.



The Perception of ICDAS and the Methods of Caries Detection Among Dental Practitioners in Riyadh, Saudi Arabia

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Background: Dental caries is the most prevalent disease in the world, and is best managed when diagnosed as early as possible. Caries diagnosis has been described as “the art or act of identifying a disease from its signs and symptoms”. In the last few decades, various assessment principles have been implemented to determine the presence and diagnosis of caries. ICDAS (International Caries Detection and Assessment System) was introduced to guide and help dental practitioners to detect caries and follow the principles of assessment. Starting with coronal caries ICDAS scores 0 to 6, where 6 is the most severe carious lesion. The Aim of this study was to understand the method of diagnosis of caries used and the perception of ICDAS among the dental population.

Methods: This study involves dental practitioners and dental students in their clinical years in Riyadh city Saudi Arabia. The sample size was (N=496). The questionnaire was distributed using a convenience sampling method. The questionnaire was composed of 18 multiple choice questions divided into three parts Which include Knowledge of ICDAS, caries detection techniques they used, their routine performance with new patients and the last part was emphasized on the clinical and histological management according to the images presented to them .

Results: Most of participant they know about ICDAS. Less experienced dentists have greater awareness of ICDAS in comparison to more experienced dentists. Moreover , Majority of participant they use a sharp explorer for detecting a dental caries. Most of responders they do not used a new technique for diagnosis of caries. In clinical and histological picture, the respondents agreed on the operative treatment option for scores 3&4 and 5&6 ,whereas in Score 2 there was deviation in treatment option between the participant.

Conclusion: Although most Dentist they know about the ICDAS ,however; they do not implement in their clinical practice.



Medical Students Insights toward Patient Safety

Saeed Alshahrani, Ahmad Tariq Alswaidan, Ala Ibrahim Alkharaan ,Abdulrahman Ibrahim Alfawzan , Emad Masudi, Awad Alshahrani

Background: The widespread culture among physicians and attitude toward patient safety remains one of the most important determinant factors, that is thought to be an obstacle as well. Therefore, this study aims to explore the attitudes and knowledge of Saudi medical students toward patient safety.

Methods: A cross sectional descriptive study was conducted in KSAUHS, College of Medicine Department. It explored the attitudes and knowledge of 385 undergraduate medical students toward patient safety through convenience sampling. Attitudes to Patient Safety Questionnaire (ASPQ III), which was tested for validity and reliability was used, and completion was voluntary and anonymous. Data was analysed by SPSS, where students' attitudes and knowledge were displayed in mean scores and standard deviations. One-way analysis of variance (ANOVA) was used to compare the mean scores among different age groups.

Results: A total number of 301 participants were included with a response rate of 78%. Overall, twelve items showed a positive attitude while fourteen items showed neutral attitude. "Team functioning" had the highest mean score (5.8) followed by "Working hours as an error cause" (5.6) and Error inevitability (5.4). There was a significant difference between gender in "Patient involvement in reducing error" (p-value = 0.012) and "Importance of PS in the curriculum" (p-value = 0.001). Also, the "Importance of PS in the curriculum" showed a significant difference (p-value= 0.039) between different age groups. Also, students showed a weak to neutral knowledge toward patient safety.

Conclusion: Despite the positive attitudes shown toward patient safety, there is a major knowledge gap particularly in the process of reporting an error. The current status of undergraduate education of patient safety seems to be inadequate. This study recommends the implementation of a comprehensive undergraduate program in patient safety to fulfill the educational needs of future doctors.



Stroke mimics: clinical characteristics and outcome Single center experience from Saudi Arabia

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Background: Stroke mimics (SMs) can be difficult to distinguish from real stroke. Misdiagnosis of stroke leads to unnecessary test, harmful intervention and cost. We aimed to study the prevalence and nature of SM among Saudi patients who came to the emergency department with sudden neurological deficit and suspected stroke.

Methods: We retrospectively reviewed records of all patients with suspected stroke admitted to the stroke unit at King Abdulaziz Medical City, Riyadh, Saudi Arabia from February 2016 to July 2018. SMs were identified based on the treating team final diagnosis at discharge. We compared SMs to real strokes. Logistic regression analysis was conducted to identify the potential predictors of SMs. Study was approved by local institutional review board.

Results: Of the 1063 patients, 131 (12.3%) were SMs. The most common causes were peripheral vestibular disorder (27.4%) followed by psychogenic causes (24.4%) (figure1). SMs were commoner among younger age, women and less likely to have vascular risk factors (arterial hypertension, diabetes and smoking). At discharge, SMs were more likely to be independent at discharge, had milder deficit and shorter hospital stay. Predictors of SMs were age, gender, deficit at presentation and functional status prior to stroke.

Conclusion: SMs are common among suspected strokes. Practicing physicians should consider the potential diagnostic errors particularly in the hyperacute phase of stroke.



Evaluation of general surgery consultations in a tertiary care center; a retrospective study

Rand Alazaz, Ibrahim Albabtain, Karam Basham, Iama Araier, Shaden Almushawwah, Lujane Alqahtani, Roaa Alsuhaibani

Background: Consultations are usually requested when a health care provider believes that the patient requires further diagnostic assessment by a subspecialized physician from a different department. This is an important aspect of the multidisciplinary approach to improve the patient's care by using the knowledge of different specialties. The aim of the study was to determine the rate and reasons of consultations, and the need for surgical intervention or further work up.:

Methods: Consultations received by the general surgery department at King Abdulaziz Medical City from September 2017 to September 2018. Investigators collected data from medical records, which included consulting departments, investigations conducted prior to and after the consultation, the final decision made by general surgery physicians, and the need for surgical intervention. Moreover, by using a confidence interval of 95% and a significance level of 5% the minimum required sample size was 300, but we included 400 to avoid missing data and errors.

Results: The majority of consultations were requested from the emergency department 282 (70.5%). The consultations accepted consisted of urgent surgical operations (14%), hospitalizations (12.5%), and interventions under local anesthesia (10.8%). Less urgent consultations needed out-patient follow up (15.8%), further evaluation (13.8%), and elective operations (4.8%). The remaining were signed off (28.3%) as they did not have conditions that could be managed by general surgery or needed to be referred to a different department. Necessary investigations including imaging and laboratory tests were not performed for (27%) of the cases prior to the consultation. The most common reason for consultation was abdominal pain (17%), followed by abscesses or swellings (15%), and cholecystitis (10.5%).

Conclusion: Majority of consultations did not require surgeries nor acute interventions. Giving the high referral rate of un-urgent cases, implantation of a standardized referral system and criteria is mandated.



Early seizures after stroke are associated with increased complications and poorer outcomes at discharge

Norah Abdullah Alkeneetir, Dr. Ismail A. Khatir, Fatimah Alsaad, Moath Almatroudi, Alhanouf Alatawi

Background: Stroke is a major contributor to seizures and secondary epilepsy in adults. Post-stroke early seizures (ES) are defined as seizure that occur during first 7 days following stroke. Our study investigated the frequency, and risk factors of ES and their effect on patient outcomes in a Saudi Population.

Methods: After IRB approval, a retrospective, cohort study was conducted on stroke patients admitted in the stroke unit of King Abdulaziz Medical City, Riyadh from February 2016 to December 2017.

Results: A total of 665 stroke patients met the inclusion criteria. ES were observed in 51 patients (7.67%). Women were twice as likely to develop early seizure [OR 2.09; CI 1.15 - 3.81, $p = 0.0161$]. Patients with hemorrhagic strokes (16.1%) were more likely to have ES compared to ischemic strokes (6.8%) ($p = 0.009$). Certain anatomical locations of stroke were associated with ES, including multifocal infarctions ($p=0.04$), right lobar hemorrhage ($p= 0.01$) and right brainstem hemorrhage ($p=0.002$). Female gender, hemorrhagic stroke, multifocal infarction, right lobar hemorrhage, and bilateral brainstem hemorrhage were predictors of ES on multivariate analysis. Higher rates of complications were seen in patients with ES (72.55%) compared to those without ES (40.52%), ($p<0.0001$). Patients with ES were more likely to be admitted to ICU ($p=0.0005$) and had a longer duration of ICU stay (22.7 days versus 10.3 days) compared to those without ES. Patients with ES were more likely to be more severely disabled (mRS 3 - 5) at discharge ($p = 0.005$) or dead (mRS 6), ($p<0.0001$).

Conclusion: Early seizures after stroke were common in our cohort. Female gender, hemorrhagic stroke, lobar hemorrhage, and brainstem hemorrhage were predictors of early seizures after stroke. Early seizures after stroke were associated with higher in-hospital complications, longer ICU and hospital length of stay and poor outcome at discharge.



The effect of consuming low glycemic index foods on body composition among obese and overweight females at PNU

Najla Turki Alorayyidh, Najla Turki Alorayyidh, Dina Ali Aljuhani, Dr.Najmus Mahfooz

Background: Obesity and overweight are a growing public health concern worldwide. A study by WHO in 2016 showed that prevalence of overweight and obesity in Saudi Arabia has increased to 68.2% and 39.5% respectively (WHO 2016). Fortunately, both overweight and obesity are preventable health problems if healthy lifestyles and good food habits are adopted. One of the ways to help reduce weight gain is by eating meals made up carbohydrates with Low Glycemic Index (LGI). There are many health benefits of LGI foods that include weight loss, reduced appetite, and increased sensitivity to insulin. Therefore, the aim of this study was to assess the effect of consuming LGI foods on body mass index (BMI), fatty mass and lean body mass in overweight and obese females.

Methods: 15 Obese and 15 overweight adult female participants were recruited from Princess Nourah bint Abdulrahman University, Riyadh. Subjects were told to substitute high glycemic index carbohydrates with low glycemic index ones in their meals. Body weight and body composition were measured at baseline and after 6 weeks of intervention using body SECA analyzer machine.

Results: After the end of 6-weeks, the overweight group showed significant reduction in their Weight, BMI, Waist circumference and visceral fat ($p < 0.01$, < 0.01 , < 0.01 and < 0.001 respectively). Surprisingly, there was no significant change in weight, BMI, and body composition among the obese group. Interestingly, this study also observed a significant difference in body composition between overweight and obese group, when the study started suggesting that obese group not only differ in overall body mass but exhibit major differences in their body composition as well.

Conclusion: This study has shown that overweight adult females showed a significant change in weight, waist circumference, and visceral fat after following a six-weeks intervention of consuming LGI foods. The findings imply that LGI foods should be encouraged as a strategy for weight loss.



Assessment Of Depression, The Use Of Mental Health Services and Its Barriers Among Medical Students in Unaizah College Of Medicine (UCM)

Razan Almehmadi, Naif Alsughair, Ibrahim Alshudukhi, Meshari Alharbi, Shouq ALBAQMI, Sultan Alreshood

Background: Medical students are more susceptible to depression than the general population due to many factors, yet they are not seeking mental health services. Untreated depression among medical students can have significant consequences on the academic performance and professional development. The study aimed to assess the use of mental-health services by depressed medical students and to identify its barriers. The results would be a significant endeavor to provide medical schools and health organizations with complete understanding and encourage effective interventions for early prevention and treatment to be designed to improve mental health status and the well-being of the students.

Methods: A cross-sectional study was conducted among medical students at Unaizah College of medicine (UCM), from October 2018 to April 2019. The participants were given self-demonstrated paper-based survey to answer certain questions. The questions focused on assessing the presence of depression and suicidal ideation, the use of mental-health services and to establish the barriers that contributed in preventing the students from seeking help.

Results: The response rate was 85.25% (n=341). The depression among students was found to be 36.6% (PHQ-9 of 10 and more), and out of these depressed students, 48.4% reported suicidal ideation. Fourteen percent of depressed students have used mental-health service. The top and main barriers that prevented the students from seeking help were their underestimation of depression, lack of time, depression denial, and fears of being stigmatized.

Conclusion: A small proportion of depressed students have used mental-health services with identified barriers. Effective interventions for early prevention should be encouraged by medical schools and health authorities to reduce the alarming reported incidence of depression among students, and to reflect positively on their future career and life.



Utilization of Complementary Medicine by Pediatric Neurology Patients and Their Families in Saudi Arabia

Naif Hamdan Althonayan, Ahmed Al-Rumayyan, Hamoud algarni, Badr Almanna, Mohammed Alhalafi, Nawaf Alomary.

Background: It is important to study the extent of complementary medicine consumption especially in children because it is part of the families believe and it has an influence on their health and treatment. The main goal of this study is to find the prevalence of parents visiting the neurology clinic who utilize complementary medicine (CM) to treat their children. In addition, it shows the most common used CM.

Methods: This is a cross-sectional study that was done in King Abdullah Specialized Children Hospital (KASCH) at the neurology clinic. A total of 352 parents were given a self-administered questionnaire.

Results: The study found out the prevalence of CM usage among participants to be 42%. Also, Roquia (Quran recitation) was the commonest CM used (66%) followed by herbs (30%), then cautery (26%).

Conclusion: Almost half of the parents who visited the neurology clinic at KASCH have used CM for their children, and nearly three-quarters of the parents who never used CM have thought about using. Therefore, this shows how CM is common in our community.



Perception of Dental Professionals towards Dental Management of Patients using Antithrombotic Medications in Saudi Arabia: A cross-sectional survey

Sarah Aljohani, Mohamed Alsheef, Majed aljohani, Abdulaziz Aljohani

Background: Antithrombotic medications are frequently used for the prevention of ischemic stroke in patients with cardiovascular diseases. However, antithrombotic therapy leads to bleeding risk upon invasive dental procedures. Previous studies have shown variations in the management practices followed by the dentists despite several available guidelines. Objectives To assess the perception and knowledge of dentists and dental hygienists in Saudi Arabia about dental management of patients on antithrombotics and to determine if treatment approach is in accordance to the international guidelines using a questionnaire survey.

Methods: This cross-sectional survey was conducted by King Fahad Medical City in Riyadh, Saudi Arabia from January 2014 to December 2015 which included participants from different dental institutions and one Saudi's annual dental conference attendees. The participants included licensed dentists and dental hygienists. A paper version of the self-administered questionnaire was distributed among participants and collected by 2 dental hygienists. The participants were asked questions about dental management of their patients on antithrombotics. The data was analyzed using the Statistical Package for Social Sciences statistical software, version 22

Results: 305 participants, 302 completed the survey (dentists: 94.7% and dental hygienists: 5.3%). For traditional antithrombotics, familiarity was higher for Warfarin and Aspirin as compared to Clopidogrel. However, familiarity with new oral anticoagulants (NOACs) was very less, which was significantly less for Rivaroxaban ($p=0.042$). For NOACs, a significant number of participants responded that they were unsure as how to treat patients [Enoxaparin ($p<0.001$), Rivaroxaban ($p<0.037$), and Dabigatran ($p<0.027$)]. Further, management of patients on traditional or NOACs was not in accordance with guidelines (ranging: 8.2 to 42.2%).

Conclusion: The familiarity of dental professionals with antithrombotics especially for the newer ones is limited. Therefore, they need to be made more aware of NOACs and their impact on dental procedures in order to facilitate proper and timely management.



Post-Exodontia Complications at College of Dentistry, King Saud bin Abdulaziz University for Health Sciences (KSAU-HS), Riyadh

Shahad Meaigel, Nouf Alqahtani, Arwa Aldeeri, Renad Alshunaiber, Haya Alzaid, Abdallah Adlan

Background: One of the main requirements for all dental students is exodontia, teeth extraction, which may be followed by complications. The purpose of this study is to evaluate post-extraction complications, estimate the incidence and identify the risk factors in College of Dentistry (COD), KSAU-HS

Methods: An observational prospective cohort study of 337 extraction cases. Data was collected in a clinical form includes patient age, gender, medical status, smoking habits, tooth number, reason for extraction, operator, follow up and any complication during or after the extraction

Results: A total of 337 exodontia cases, 27.89% encountered some complications during operating of which tooth fracture was 23.74% followed by soft tissue injuries (7.72%). Follow-up was conducted for 67.95% of the participants within a period of 1 week (36.07%), in which 50.45% reported some postoperative complications such as bleeding (6.23%), delayed socket healing (5.64%), pain (2.97%). Whether the operator was a 3rd, 4th year students, dental interns or supervisors, no significant difference was found between not experiencing complications. Significantly less complications were found in medically fit patients and non-smokers compared with diabetics, hypertensives and smokers.

Conclusion: The incidence of complications at KSU-HS comes within similar range reported in other studies worldwide. Exodontia, occasionally, results in complications which range in severity and significance. Dental practitioner should be fully aware of their bases and management



Awareness of ASD Early Signs in Children Among Primary Health Care Physicians

Amal AlZahrani, Dr. Elham Al-Hifthy, Roba AlShaban, Ghadeer AlElaiwi, Bashayer AlNasser, Deem AlKhalidi, Balqees AlHammad

Background: Primary healthcare physicians (PHC) play an important role in early diagnosis of Autism Spectrum Disorder (ASD) in children as they are the first line of contact. There have been no studies evaluating the knowledge level of PHC physicians in Saudi Arabia. This study aims to assess the awareness of the PHC physicians of ASD early signs in children, by determining the level of knowledge possessed by PHC physicians, identifying the limiting factors affecting their awareness, and discussing the preferred methods required to fill in the knowledge gap.

Methods: This cross-sectional study was conducted among 147 PHC physicians working in PHC centers and major hospitals during January 2019 to February 2019 in Riyadh, the capital of KSA. The physicians were recruited through convenient sampling technique. A written questionnaire was used for data collection.

Results: The study findings revealed a poor level of knowledge possessed among PHC physicians in Riyadh concerning ASD early signs in children. A significant positive association was appreciated between the total mean knowledge score with both job title and experience years. Physicians who received prior psychiatric training were associated with higher level of knowledge about ASD early signs than untrained physicians.

Conclusion: Having a suboptimal awareness of identification of early signs and symptoms of ASD can lead to delayed diagnosis and intervention which adversely affecting the health needs and quality of life for children with autism. Thus, actions should be taken to improve the awareness among PHC physicians in Saudi Arabia.



Awareness about the role of Respiratory Therapists among other health care providers at KAMC

Fahad Binrobiq, Dr. Farhan alanzni, Omar Alenazi, Mohammed almauf, Bader Albogami, Fahad Binrobiq, Ms. Munira alhoty

Background: Respiratory therapists (RTs) are health care practitioners who trained to use scientific concepts to identify, manage, prevent and treat acute or chronic dysfunction of the cardiopulmonary system. This study was conducted to measure the level of awareness about the role of (RTs) among intensive care unit doctors and nurses.

Methods: A cross-sectional study was conducted in the ICUs of King Abdulaziz Medical City in Riyadh during Jun to Jul 2019. A total of 107 health care providers including doctors and nurses were the participants. The data was collected using a valid and reliable questionnaire which consists of closed-ended questions. The data was entered in Microsoft excel and analyzed using SPSS 22.

Results: A total of 107 health care providers working in ICU at KAMC (78.5% nurses, 21.5% doctors) participated in this research. A majority of health care providers were significantly agreed that respiratory therapists (RTs) were able to assess cardiopulmonary status and review chest radiograph to determine abnormalities ($p=0.001$). Also, they confirmed that RTs were able to perform intubation and extubation beside their abilities to interpret hemodynamic monitoring data. They agreed that RTs were capable to manage mechanical ventilator (MV) settings for different ventilators, including disease-specific ventilator protocols and weaning procedures (>95%). RTs were supported for their abilities to observe for signs of patient-ventilator dysynchrony (80.4%). The majority of the participants (>90%) were agreed that RTs can interpret ventilator graphics and spirometric data.

Conclusion: The majority of health care providers had the perception that Respiratory Therapists were able to assess cardiopulmonary status and manage MV for ICU patients.



Effect of oral corticosteroid in preventing readmission of COPD patient at KAMC in Riyadh

Alanoud Alsaif, Haneen Almuzaini, Rawan Alharbi, Nahil Aldulaimi, Dr. Fatmah Othman, Ms.Munira Alhotye

Background: Chronic obstructive pulmonary disease (COPD) is a chronic progressive respiratory condition. The use of oral corticosteroid in the management of acute exacerbation of COPD has been a mainstay of treatment in many guidelines. Although the use of oral corticosteroid has been shown to improve the clinical symptoms of COPD, their effect on re-visit to the Emergency department (ED) due to exacerbations have not been conclusive. The aim of this study, therefore; was to determine the impact of using oral corticosteroids on reducing ED re-visit for COPD exacerbation.

Methods: An observational study have been carried out at ED in King Abdul Aziz medical city between 2016 to 2018. A cohort of COPD patients who received oral corticosteroid and discharged from the ED have been followed for any subsequent ED visit due to exacerbation of COPD. We defined re-visit if the date of the subsequent ED visit was within 60 days from the first ED discharge. For each patient, we reviewed the medical file to collect information on the following: demographic factors, clinical comorbidities, and type of steroid that have been received.

Results: In total, 343 consecutive COPD patients were identified who had been seen in ED. 24% of these patients were given at least one prescription of oral corticosteroid during the first ED visit. The mean age of those patients was 75 years(SD 10 years), and 52 % of them were female patients. The rate of ED revisit due to COPD exacerbation was 38% for those patients who use oral corticosteroid. The patients who have ED revisit were more likely to have cardiac disease (75% vs 44%) and hypertension (87% vs 84%).

Conclusion: the finding from this study suggest that using oral corticosteroid may be useful in reducing the rate of ED revisit and hence the risk of severe exacerbation.



Genetic profile of Epidermolysis Bullosa cases in King Abdulaziz Medical City, Riyadh, Saudi Arabia

Muhannad Alnahdi, Dr. Mohammed Albalwi, Dr. Sultan Al Khenazan, Raghad Alharthi, Ahad Alharthi, Seba Almutairi

Background: Epidermolysis bullosa (EB) is a rare genetic mechano-bullous skin disorder characterized by increased skin fragility leading to blister formation after minor injuries. EB may be inherited as an autosomal dominant or an autosomal recessive and can be classified into dystrophic EB (DEB), junctional EB (JEB), and EB simplex (EBS). The study aims to explore the genetic profile of Saudi EB patients at a tertiary healthcare center.

Methods: This was an observational, retrospective chart-review study targeting patients with EB registered in our tertiary care center, Riyadh, Saudi Arabia. Consecutive non-probability sampling technique was used to approach all affected patients. Molecular analysis was done by testing patients' genomic DNA using a custom design AmpliSeq panel of genes. All disease-causing variants were checked against HGMD, ClinVar, Genome Aggregation Database (gnomAD) and Exome Aggregation Consortium (ExAC) databases

Results: A cohort of 28 EB cases were collected and thirteen (46.4%) of which were with DEB followed by 6 (21.4%) EBS, and 6 (21.4%) JEB. The molecular genetic result revealed 24 various genetic variations detected among EB associated genes and of which 14 were novel mutations. Most frequent variations were detected in 12 (42.9%) of COL7A1 followed by LAMB3 in 5 (17.9%), and TGM5 in 4 (14.3%). Furthermore, majority (87.5%) of EB cases were documented positive consanguinity history and confirmed by presence of homozygous mutations. Only three cases were found to be autosomal dominant displaying heterozygous mutations.

Conclusion: To our knowledge, this is the first report of EB genetic profile in Saudi Arabia. DEB was the most frequent type associated with COL7A1 gene mutations and we identified 14 novel mutations previously not detected. Due to the common consanguinity level among Saudi population, we propose a nationwide EB program that would help to prevent the future of such rare genetic disorder.



Estimate the best method associated with lower infection rate with central line insertion in adult patients in King Abdulaziz Medical City (KAMC)

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Background: Central venous catheter (CVC) is a procedure uses catheter inserted in a central vein to state in vena cava. This procedure provides central venous pressure which indicates the volume status of patient, and it is used to administrate fluid, blood, medication and nutrition. Despite the fact that CVC has a very important role in critical patients, CVC could have some complications such as developing infection, one of which is a central-line associated blood-stream infection (CLABSI). Moreover, infection incidences could be affected by some factors related to CVC such as the technique utilized during insertion and site of insertion. This research will estimate the most effective method to reduce infection rate associated with CVC by identifying the technique and CVC site of insertion, and the relation between infection rate and other factors.

Methods: The study conducted in operative room and intensive care unit in King Abdul-Aziz Medical City Riyadh from January 2018 to October 2019. The study design was cross sectional retrospective. The study subject was 255. Data had been collected from the hospital data system, including type of technique used, site of insertion, number of attempts, ASA classification, age and gender of the patient.

Results: 225 patients had CVC, males 54.5% and 45.5% females. All anesthetists followed the audit technique (100%) and the total of infection incidence was 73, three out of which was CLABSI. 215 (84%) of the patients undergo one attempt of insertion. The internal jugular was the highest site selected (56.5%), and (50.7 %) had developed infection. Patients who classified as ASA 3 and 4 were (43 %), on average of (42.25 %) had developed infection. The average percentage of infection rate for departments and patient's gender were (50 %).

Conclusion: The audit technique shows effectiveness in reducing infection rate while other factors had insignificant relation to infection rate.



Poster Presentations Session 4



A survey on the knowledge and attitudes of surgical patients towards anaesthesia and role of Anaesthesiologists in National Guard Health Affairs (NGHA) Riyadh, Saudi Arabia

Meshael Awadh Alotaibi, Dr. Nancy Khalil Massoud, Ms. Winnie Philip, Shahad Marie Alqarni, Razan Mohammed Alnassar, Shahad Saleh Alzahrani, Mr. Abdullah Alharbi, Ms. Saja Alharbi

Background: Anesthesiology is an important science in the medical field which is concerned with acute care, assessment and preparation of patients for surgery during the perioperative period. Some previous studies record that there is a variance in patients' knowledge, differences in their attitudes towards anesthesia and understanding the role of anesthesiologist. Therefore, the study is conducted to evaluate the degree of awareness of the surgical patients towards anaesthesia and the role of anaesthesiologist in the perioperative period at the National Guard Health Affairs (NGHA) Riyadh, Saudi Arabia.

Methods: A cross-sectional study was conducted from June - September 2019 in 306 patients between 18-60 years of age who had undergone elective surgeries. The study area was King Abdul Aziz Medical City (KAMC) located in National Guard Health Affairs (NGHA) Riyadh. The data was collected using a structured questionnaire of 16 closed ended questions and was analyzed using SPSS 22.

Results: 306 patients successfully enrolled in the questionnaire survey with the majority (52%) being females. Forty-five percent of the participants were in the age group of 18-30 years. It was observed that a greater part of the patients (58.8%) were below the average for knowledge score towards anaesthesia. The median (Interquartile Range, IQR) knowledge score was 6 (2). Forty-five percent opined that they are more nervous about the surgery itself. Most of the patients (85%) were of the attitude that the anaesthetists should tell about the complications of anaesthesia. It was observed that 75% considered anaesthetists to be in charge of anaesthesia for surgeries.

Conclusion: In conclusion, the majority of respondents were below the average for knowledge towards anaesthesia. Therefore, increasing awareness of anesthesia and anesthesiologist is intensely recommended which can be done by various means such as obligating surgical patient to visit per-anesthesia clinic and spread educational materials related to anesthesia through the media.



Surgical Site Infections Following Pediatric Cardiac Surgery in a Tertiary Care Hospital: Prevalence and Risk Factors

Nouf Salah Almutairi, Milad Alshaya, Rahmah Aldosari, Sadeem Alname, Dr. Ghassan Shaath, Dr. Riyadh Abu-Suliman, Dr. Alaa Althubaiti

Background: This study was undertaken to determine the prevalence, risk factors, and the commonest pathogen associated with the development of surgical site infections (SSIs) in pediatric cardiac surgery.

Methods: We conducted a retrospective, matched case-control study in pediatric patients at a tertiary care hospital (MNGHA), who developed SSIs following cardiac surgery, from January 2010 to December 2015. We included all patients < 14 years old and used the Centers for Disease Control and Prevention (CDC's) diagnostic criteria for identification SSIs. Cases of SSIs were identified retrospectively and individually matched to controls at a ratio of 2:1 by weight category criteria.

Results: 118 SSIs and 238 control cases were included. During the study period, SSIs developed in 7.8% of the pediatric patients who underwent cardiac surgery. In the multiple logistic regression analysis, risk factors for SSIs were catheter-associated urinary tract infection (CAUTI) (odds ratio [OR], 5.7; 95% confidence interval [CI], 2.3-13.8; $P < 0.001$), ventilator-associated pneumonia (VAP) (OR, 3.2; 95% CI, 1.4-7.2; $P = 0.005$), longer postoperative stay (≥ 25 days) (OR, 4.1; 95% CI, 2.1-8.1; $P < 0.001$), and RACHS-1 score ≥ 2 (OR, 2.4; 95% CI, 1.2-5.6; $P = 0.034$). *Staphylococcus aureus* was the most frequently isolated pathogen with a percentage of 32.2%.

Conclusion: SSIs remain a burden on the healthcare system by increasing morbidity and mortality. The prevalence of SSIs in MNGHA was relatively high in comparison to other studies. Risk factors were longer postoperative stay, CAUTI, VAP, and RACHS-1 score ≥ 2 . Knowledge of risk factors for SSIs is necessary to provide optimal preventive and treatment strategies.



Novel Liposomal system loaded with N-acetyl cysteine and Azithromycin combination

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Background: Antimicrobial resistance is considered an emerging clinical challenge leading to many treatment failures and deaths. The synergy reported with a number of antibiotics when combined with NAC is an option to overcome this obstacle. Combining this with the many well-known benefits of liposome as a delivery moiety has a lot of potential to result in development of a new successful treatment option.

Methods: Liposomes were prepared according to simple drying/rehydration method using DSPC/DOPE/cholesterol in 2:4:1 Molar ratio using a BUCHI Rota-evaporator R-300 with cooling condensation system. AZ was incorporated with the lipid solution in 2:1 methanol: ethanol and Nac was incorporated during the hydration phase. The size of the liposomes was reduced by intermittent exposure to high intensity ultrasonic pulses. The formed AZ/Nac loaded liposomes were evaluated to their Particle size, size distribution, zeta potential, %EE, and particle morphology using TEM.

Results: The prepared Az/Nac liposomes exhibited low mean particle size of 138.7 ± 30.64 nm with a low polydispersity index (PDI) of 0.3. The TEM images confirmed the size range of the formed liposomes and indicated spherical shape and drug encapsulation in their cores. The particle zeta-potential was -23 mV indicating reasonable stability. The EE% were 59.2 and 57.4 for Az and Nac, respectively.

Conclusion: The co-encapsulation of Az and Nac in liposomes were successfully prepared and optimized to produce low liposome sized and relatively high EE%.



Pulse Pressure as an Early Warning of Hemorrhage in Trauma Patients

Nouf Alharbi, Hani AlKhulaiwi, Alaa Alzamil, Emad Masuadi

Background: Hypotension based on low systolic blood pressure (SBP) is a well-documented indicator of ongoing blood loss. However, the utility of pulse pressure (PP) for detection of hemorrhage has not been well studied. The purpose of this study was to determine whether a narrowed PP in non-hypotensive patients is an independent predictor of critical administration threshold (CAT+) hemorrhage requiring surgical or endovascular control.

Methods: We performed a retrospective single-center study (January 2001 to September 2019), including trauma patients ≥ 16 years old with SBP ≥ 90 mmHg upon emergency department (ED) admission. We identified patients who were both CAT+ and required either surgical or interventional radiology for definitive hemorrhage control as the active hemorrhage (AH) group. Analyses were then performed to elucidate the association between PP and hemorrhage.

Results: Of the total 1388 patients identified, 460 (33,14%) met the criteria for clinically significant hemorrhage. Mean PP was significantly lower in the AH group compared with the non-AH group (39 ± 18 mmHg vs 53 ± 19 mmHg, $p < 0.0001$). Multivariate analysis revealed that narrowed initial ED PP is an independent predictor of AH (adjusted odds ratio [AOR] 0.975) along with age (AOR 1.01), penetrating mechanism (AOR 9.476), field SBP (AOR 0.985), ED heart rate (AOR 1.024), and Injury Severity Score (AOR 1.126). Cutoff analysis of PP values identified a significantly higher risk of AH at a PP cutoff of 55 mmHg (AOR 3.44, $p = 0.005$, AUC 0.955) in patients 61 years or older vs 40 mmHg (AOR 2.73, $p < 0.0001$, AUC 0.940) for patients 16 to 60 years old. The predicted probability of AH increases as PP narrows.

Conclusion: In patients who are non-hypotensive, a narrowed PP is an independent early predictor of active hemorrhage requiring blood product transfusion and intervention for hemorrhage control.



Evaluation of Surgical Site Infection and Their Prevalence in Patients After Total Knee Arthroplasty

karam basham, Khalid Alshaikh, Ali alhandi, Mohammed almeake, Rand alazaz, Ahmed Alrasheed, Feras alsulaiman

Background: Total knee arthroplasty (TKA) is one of the most common and successful surgeries performed to treat end-stage knee disease. One of the rare but devastating complications after total knee arthroplasty is surgical site infection.

Methods: All patients from January 2016 to December 2018 undergone knee arthroplasty at our hospital were included. Data was acquired from the electronic medical records of the hospital's database. It was collected by the co-investigators which included patients' demographic variables, length of hospital stay, co-morbidities, site of infection, and then assessed whether it affects the rate of SSI in total knee arthroplasty.

Results: A total of 735 had total knee arthroplasty at King Abdulaziz Medical City. Females represented 75.92% (558) of patients, and the mean age was 64 ± 9.03 SD. Forty-six percent of those cases were left TKA, 40% were right TKA, while the remaining 14% were bilateral. All patients were on post-operative cefazolin which was usually given in three doses. Hemovac drain was on average put for 3 ± 1.59 days. The primary dressing was removed after 4 days which mostly a day after the drain's removal. The mean length of hospital stay after the surgery was 8 ± 4.93 days. The prevalence of surgical site infection was 1.5% which accounts for 11 cases. The most common organisms were Methicillin-resistant Staphylococcus aureus and staphylococcus aureus with a rate of 27.7% for each. Obesity was the most prevalent comorbidity as 80.3% were obese, 15.2% were overweight, and only 4.5% of patients had a normal BMI. The other common co-morbidities were hypertension 63.27%, dyslipidemia 50.61%, diabetes mellitus 50.61%.

Conclusion: This study showed a low rate of SSIs following TKA as there were only 11 reported cases out of 735 surgeries with no correlation between the infections and existing comorbidities.



Incidence and Predictors of Seizure in Patients with Alzheimer's Disease at King Abdulaziz Medical City, Riyadh, Saudi Arabia

Abdulaziz Ali Alqahtani, Rahaf Ali Alqahtani, Shaden Alsugheir, Nouf Almutairi, Lina Alhumaid, Ali Khathami, Mohammed Alessa, Mohammed Alhokail, Mohamed Eldigire Ahmedd

Background: It is known that Alzheimer's disease (AD) is a risk factor and highly associated with seizures. The incidence of seizures among AD patients can be 5% up to 64% as mentioned in previous studies. The aim of this study is to determine the incidence and predictors of seizures in patients with AD at King Abdulaziz Medical City (KAMC), Riyadh, Saudi Arabia.

Methods: A retrospective, matched case-control study conducted using the electronic medical records of AD patients who had an unprovoked seizure, from October 2015 to May 2018. The study conducted at the Department of Neurology, KAMC, Riyadh, Saudi Arabia. Patients who were diagnosed with AD and older than 18 years were included in the study with no gender restriction. Any patient who had a provoked seizure caused by medications, hypoglycemia or electrolyte imbalance was excluded. In addition, patients diagnosed with epilepsy prior to being diagnosed with AD were excluded as well. Several possible predictors of an unprovoked seizure in patients with AD were investigated. This study has been approved by KAIMRC RC18/201/R.

Results: In total, 19 cases and 195 controls were identified. Statistically significant risk factors for an unprovoked seizure in patients diagnosed with AD were found to be hypertension (p-value = 0.001), autoimmune disease (p-value = 0.040), as well as stroke and TIA (p-value = 0.001). The multivariate logistic regression analysis identified hypertension (OR = 2.89; p = 0.009) and autoimmune disease (OR = 19.6; p = 0.045) as predictors of unprovoked seizure in AD patients.

Conclusion: The study found that the occurrence of unprovoked seizures was more likely in severe cases of AD. In addition, the risk of seizure in patients with AD increased with two co-morbid conditions, hypertension, and autoimmune disease. However, further studies are required to determine the underlying mechanism of the association between the two risk factors and AD.



Knowledge and Practice of Diabetic Foot Care among diabetic Patients in Aseer region

Mohammed Aboud Abdullah Alqahtani, Manea Ali Abdullah Al-Jarallah, Mohammed Aboud Abdullah Alqahtani, Saad Thamer A. Alshahrani, Nawaf Amer Abdullah Alshahrani, Abdullah Ali Mohammed Alshehri

Background: Diabetic foot is one of the major complications of diabetes due to uncontrolled blood glucose levels as well as poor diabetic foot care. It can lead to significant morbidity, especially if amputation is needed. The appropriate level of Knowledge towards diabetic foot care can reduce the occurrence of diabetic foot complications. This survey analysis aims to explore the level of knowledge as well as the attitude of diabetic patients in Aseer, Saudi Arabia, towards diabetic foot care.

Methods: A self-administered structured questionnaire was distributed in outpatient clinics to diabetic patients, including questions on the diabetic foot care as well as attitude of the responders on their foot care in addition to socio-demographic data. Data analysis was done through SPSS program version 22

Results: The overall mean score for both knowledge (11.01 ± 2.591) and attitude (29.17 ± 7.451) are considered low. Females appeared to have a significantly higher level of knowledge (P-value = 0.004), as well as attitude (P-value = 0.035), compared to males. Patients who had previous training or attended workshops on diabetic foot care had a significantly higher score in both knowledge (P-value = 0.027) and attitude (P-value = 0.032) sections.

Conclusion: The level of knowledge and behavior of diabetic patients in Aseer area of kingdom Saudi Arabia are considered unsatisfactory. Further studies should examine the level of knowledge and practice of diabetic foot towards diabetic foot care in other areas in Saudi Arabia.



Knowledge and Level of Awareness of Colorectal Cancer Among People Aged 45 and Above at Hail Region

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Background: Colorectal cancer (CRC) is the second leading cause of cancer-related deaths in the United States. It is the second most common cancer in Saudi Arabia, and in Hail region. CRC is the third most common disease affecting both male and female. The aim of this study is to evaluate the knowledge and level of awareness among the high-risk population in Hail region.

Methods: A cross-Sectional study was conducted among random healthy individuals age 45 years old and above, from Hail region in Saudi Arabia. They were approached by 10 multiple choice questions electronic survey, in May/2019. Data were analyzed using SPSS.

Results: More than half of the participants were knowledgeable regarding what the colon is, but less than half of them did not recognize its function. Regarding incidence and screening, their knowledge was not satisfactory when we ask them about the rate of incidence and the screening age. Only 19.7%(n=83) choose the colon polyps as a possible risk factor, and most of them are academically educated. Fortunately, the majority of the participants were optimistic, and 65.4%(n=276) of them thought that the patients could be cured of CRC.

Conclusion: Our study revealed a low to medium level of awareness and knowledge about colorectal cancer incidence rate, risk factors, presentation, screening age, and modality. Awareness campaigns are recommended to increase the public awareness. A screening program in primary health care units is also recommended to obtain better prognosis through early detection.



The relationship between homocysteine level and metabolic Syndrome among Saudi people

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Mohammed alhazmi

Background: Homocysteine (Hcy) is a non-protein amino acid which is synthesized from methionine that is obtained from either endogenous or exogenous proteins degradation. Metabolic syndrome is a pathophysiological condition in which multiple metabolic abnormalities exist; central obesity, dyslipidemia, hypertension and type 2 diabetes mellitus. According to large number of researches, both Hcy and metabolic syndrome can predict cardiovascular events. The purpose of this study is to identify the relationship between Hcy levels and metabolic syndrome among Saudi patients at King Abdulaziz Medical City (KAMC).

Methods: This is a retrospective cross-sectional study carried out in king Abdulaziz Medical City (KAMC). All consecutive plasma Hcy level test that had been done from 2010 to 2018 were extracted. All measures of demographic data, lipid profile, and A1c were collected. Study sample were 446 patients. IDF criteria of metabolic syndrome was used to classify the patients. SPSS program used to analyze the data.

Results: Mean Hcy was 10.52 $\mu\text{mol/L}$ (male 11.48 $\mu\text{mol/L}$, female 9.61 $\mu\text{mol/L}$). Hcy has no correlation with metabolic syndrome (P-value= 0.33). More than half of patients with metabolic syndrome have HHcy, but it is insignificant (P-value=0.066). Gender is associated with metabolic syndrome (P-value=0.004).

Conclusion: Hcy has no association with metabolic syndrome or its components. Although most of patients with metabolic syndrome have HHcy, it is insignificant. Gender has an influence upon increased Hcy.



Establishment of Dose Reference Levels for Common Diagnostic Computed Tomography Examinations in a large tertiary care hospital in Riyadh, Saudi Arabia

Nout alghubaini, Rana Bin Talib, Hadeel Alradhi, Rinad Barayan, Anoud Alradhi, Maram Almutari, Dr. Khalid al-yousef.

Background: Computed Tomography (CT) is a very valuable tool in medicine. As CT technology has advanced, the number of medical applications of CT imaging and the exposure to ionizing radiation increased substantially. The numbers of CT scans that are performed every year at the King Abdulaziz Medical City (KAMC), Riyadh, Saudi Arabia have exceeded 55,000 with an increasing annual rate of 10%. Currently, there are no established Diagnostic Reference Levels (DRLs) at KAMC. The aim of this study is to establish regional DRLs and achievable dose (AD) for pediatric and adult patients.

Methods: CT dose data from 5 CT scanners were collected using locally installed dose management software (Dose watch). DRLs for the dose length product (DLP) and CT dose index (CTDIvol) were calculated according to ICRP publication 135. For each examination the median DLP and CTDIvol were determined. DRLs were calculated as the 75th percentile of the distribution of the medians. Achievable dose (AD), on the other hand, were calculated as the 50th percentile of the distribution of the medians.

Results: Records from 6593 exams were included in this study including brain (51%), abdomen & pelvic (25%), chest (17%), neck (3%), c-spine (3%) and pelvic (1%). 94% of the exams were for adult and 6% were pediatric patients. DRLs for CTDIvol ranged from 12 mGy (low dose chest) to 51 mGy (head) for adults and from 6 mGy (neck) to 33 mGy (head) for pediatrics. On the other hand, DRLs for DLP ranged from 461 mGy.cm (low dose chest) to 944 mGy.cm (head) for adults and from 117 mGy.cm (low dose chest) to 608 mGy.cm (head). The corresponding achievable doses (AD) for CTDIvol ranged from 7 mGy to 45 mGy for adults and from 4 mGy to 24 mGy for pediatrics. On the other hand, the corresponding achievable doses (AD) for DLP ranged from 244 mGy.cm to 817 mGy.cm for adults and from 82 mGy.cm to 422 mGy.cm for pediatrics.

Conclusion: The results are comparable with data reported in the literature. Inter-CT scanner variability were noted but not significant. The outcome of this study is the first step in establishing the Diagnostic Reference Level (DRL) and Achievable Dose (AD) at king Abdulaziz medical city (KAMC).



Intracranial Pressure Monitoring Complications at a Major Tertiary Hospital in Saudi Arabia

Rana Abdulazeem Al-Bassam, Hanin Alsuwailm , layla Zaeim , Babar Kahlon

Background: Intractable elevated intracranial pressure can lead to mortality or irreversible neurological brain damage. Thus, monitoring of intracranial pressure becomes a necessity in many traumatic and non-traumatic brain lesions. Potential risks and complications of monitoring include bleeding, bacterial infections, and injury due to probe misplacement.

Methods: This is a retrospective cohort study, which was performed from January 2016 until December 2018. Patients were recruited from the neurosurgery department at King Saud Medical City (KSMC). The patients were 14 years of age and older and used an intraparenchymal transducer ICP monitoring device during their admission. The collection sheet covered the following topics: socio-demographic variables, age at admission, gender, chronic diseases, indications, CT diagnosis and complications associated with intraparenchymal transducer ICP monitoring devices, GCS score at admission and discharge, and whether there Main Outcome Measures: complication rates due to ICP transducer monitoring.

Results: A total of 88.7% of patients did not have any complications. However, at the surgical site of intraparenchymal ICP monitoring insertion, 7.5% of patients developed wound infections, 1.9% of patients developed leakage, and 0.9% of patients developed both wound infections and leakage.

Conclusion: The complication rates due to ICP transducer monitoring were low. Specifically, 88.7% of the patients did not have any complication, whereas 10.3% of the patients showed minor complications without serious consequences. These complications were treated immediately after they were diagnosed.



A comparison of cancer detection rate between the grasper-integrated disposable flexible cystoscope and the reusable flexible cystoscope in the follow up surveillance of patients with non-muscle invasive bladder cancer

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Background: Flexible cystoscopy under local anesthesia is the gold standard for surveillance of non-muscle invasive bladder cancer. Failure of the cystoscopes to pass the leakage test during sterilization results in a disruption of patient follow-up. We explored the feasibility of using the grasper incorporated single-use scopes for bladder tumor surveillance.

Methods: This is a retrospective study of consecutive diagnostic cystoscopy. We compared the reusable, flexible scopes (Storz, Germany) between 3 July 2017 and 20 Sep 2017, with the disposable grasper incorporated cystoscope (Isiris, Coloplast, Denmark) between 9 Oct 2017 and 31 Jan 2018. We compared patient characteristic, previous tumor pathology, smoking status, positive cystoscopy finding of a tumor, and subsequent resection pathology result. Descriptive statistics, t-test for continuous variables, and Fisher exact 1-sided tests for 2x2 tables were used. Significance was assumed when $p \leq 0.05$.

Results: Each of 117 patients underwent a single procedure using, 54 (46.2%) disposable and 63 (53.8%) reusable scopes. The mean age was 61.2 years (SD 13.9), BMI 30.4 (SD 6.6), non-smokers 35 (29.9%), smokers 30 (25.6%) and 52 (44.4%) with unknown smoking status. Overall, 33 (28.2%) patients had a visible tumor at cystoscopy. After resection, six had high-risk tumors, nine had a medium or low-risk tumor, 12 had benign lesions, one had only tumor fulguration and one was lost for follow up. There was no statistically significant difference in weight ($p=0.552$), BMI ($p=0.161$), smoking status ($p=0.112$), or previous cancer pathology ($p=0.397$). Positive cystoscopy was found in 17 (27%) and 16 (29.6%, $p=0.455$), while cancer was confirmed in 9 (14.3%) and 6 (9.5%, $p=0.545$) patients in reusable and disposable groups respectively.

Conclusion: Single use grasper incorporated flexible cystoscope may be used for surveillance of patients with bladder cancer. Our study did not detect a significant difference when compared to reusable scopes



Oxidative Stress and Severity of Diabetic Retinopathy in Type I and Type II Diabetic Patients

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Background: Diabetic retinopathy (DR) is a retinal microangiopathic disease which can be resulted from diabetes mellitus. The condition is one of the most leading causes of blindness in adults. Hyperglycemia exacerbates the oxidation process in the body, makes a possible association between the oxidative stress and DR. Previous studies suggested that oxidative stress can be a major factor involved in the development of DR. Oxidative stress is an imbalance between oxidants or reactive oxygen species (ROS) and antioxidants defense system. The aim of this study was to correlate between oxidative stress and severity of DR in type I and type II diabetic patients.

Methods: This was a cross sectional study conducted in retina clinics at King Abdulaziz University Hospital in Riyadh, KSA. The study was contained three groups, patients with type I and II diabetes for longer than 10 years in addition to control subjects. A total of 148 participants were participated. All groups underwent ophthalmic examinations (visual acuity, intraocular pressure and fundus examination) and laboratory tests (Hemoglobin A1c (HbA1c) and lipid panel). Moreover, antioxidant enzymes (i.e. superoxide dismutase (SOD) and catalase) in blood serums were tested.

Results: Among 148 participants, 47 subjects completed the study and underwent oxidative stress serum blood analysis. The mean differences of both SOD and catalase levels were higher in control group compared to diabetic patients. There was no significant correlation between antioxidant levels (SOD and catalase) and severity of diabetic retinopathy ($p=0.0507$, $p=0.2257$) respectively. However, there was a significant positive correlation between HbA1c level and severity of diabetic retinopathy ($p<0.0001$).

Conclusion: There is no correlation between antioxidant markers and severity of diabetic retinopathy in type I and type II diabetic patients. However, antioxidant markers (SOD and catalase) were higher in control group compared to diabetics. Future study with larger sample size is recommended.



Effectiveness of Continuous Positive Airway Pressure on Depression Symptoms among Patients with Obstructive Sleep Apnea at King Abdul-Aziz university hospital, Jeddah, Saudi Arabia 2017-2018

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Background: Obstructive sleep apnea (OSA) is characterized by episodes of complete or partial upper airway obstruction during sleep. As result of the interrupted sleep architecture in OSA patients, they may experience several different of physical and psychological disorders including mood changes such as irritability and depressive symptoms. The incidence of depression is higher in OSA patients than in the general population. This study aims to assess the effect of Continuous Positive Airway Pressure therapy on Depression among Patients diagnosed with Obstructive Sleep Apnea at King Abdul-Aziz University in Jeddah.

Methods: A cross-sectional study was conducted in the sleep center in King Abdulaziz University Hospital, Jeddah, Saudi Arabia. Fifty-seven patients who completed diagnostic and titration Polysomnography (PSGs) performed at the Sleep Medicine and Research Center (SMRC) enrolled in the study. Data collected using the Beck Depression Inventory Questionnaire (BDI-II).

Results: 57 patients included in the study 66.7% of them showed poor compliance with their CPAP device. This includes 60.7% of male and 72.4% of female participants. 24.6% of the patients scored moderate or severe on the Beck scale. Beck Score was not affected by the CPAP compliance by the patients or by the OSA severity based on AHI, as there no significant relationship was found. Patients showed no significant reduction in depressive symptoms with treatment of Continuous Positive Airway Pressure Device (CPAP).

Conclusion: The study revealed that CPAP is not suggested to be used alone to prevent or treat depression in OSA patients. Therefore, other therapies might support the latter concern regarding the depression symptoms among OSA patients. However, future studies in this area should be conducted covering more centers and regions of Saudi Arabia matching specific independent factors as age groups, gender, and variable comorbidities.



Assessment of Quality of Life in Saudi Hemodialysis patients and Associated Factors

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Background: We aimed in this study to assess the quality of life for kidney-ill patients using KDQOL-SF36 and the impact of other demographic, clinical, and social on patients' QOL.

Methods: The quality of life was assessed using an Arabic version of KDQOL-36. The KDQOL-36 subscales Physical Component Summary (PCS) and Mental Component Summary (MCS) Burden of Kidney Disease and Effects of Kidney Disease were calculated. Scores of the different subscales were calculated according to the KDQOL-36 scoring p system. The effect of Sex, diabetic status, DM, marital and status employment status, exercise, dialysis shift, vascular access type, Kt/V and dialysis vintage on these subscales were evaluated. Reliability was determined by calculating Cronbach's alpha.

Results: 254 patients were enrolled. The mean age was 58.2 (18.2) years; 61% were male, 56.7% diabetic and 11.4% were employed. The Cronbach's alpha for internal consistency in our study was 0.9. The Mean domain scores on the PCS, MCS, burden of kidney disease and effects of kidney disease subscales were 49.4, 38.7, 52.6, and 37.2 respectively. Afternoon shift patients score highest among all shifts in MCS and PCS ($p=0.0001$). The MCS score (38.7 ± 28.7) was significantly lower than PCS (49.4 ± 16.5) ($p=0.0001$). The "effect of kidney disease" subscale was higher in males ($p=0.02$), employed patients ($p=0.02$), in the afternoon dialysis shift (0.0001). For PCS higher scores were seen in males ($p=0.0001$), in non-diabetics (compared to diabetics) ($p=0.006$), in the employed patients ($p=0.02$) and was higher in those exercised more but this did not reach significance level ($p=0.07$).

Conclusion: The highest score was seen in the "burden of kidney disease" subscale and the lowest in the "effects of kidney disease" subscale. Higher scores were seen in males, in non-diabetics, in the employed patients.



ASSESSMENT OF DIFFERENT MODALITIES AND THEIR IMPACT ON PATIENTS WITH RUPTURED INTRACRANIAL ARTERIOVENOUS MALFORMATION (AVM) TREATED IN KING ABDULAZIZ MEDICAL CITY IN JEDDAH

Ahmed Sameer Alzahrani, Fayez Alshehri, Fahad Okal, Ahmed Aliehyany, Abdulrauf Samkari, Suliman Alghamdi, Noor Mail

Background: Intracranial arteriovenous malformation (AVM) is a rare congenital disease that is characterized by an abnormal tangle of blood vessels where arteries abnormally shunt into veins with no intervening capillary bed. Several treatment modalities, such as microsurgical removal, embolization, and stereotactic radiosurgery (SRS), are used to treat AVM either solely or in combination. We aimed to assess and compare the effect, morbidity, and mortality outcomes of mono-treatment with embolization and combined treatment for AVM obliteration.

Methods: This retrospective cohort study was conducted in the National Guard Hospital Jeddah and reviewed all the AVM patients that visited the center between 2008 and 2017. We assessed presenting symptoms at diagnosis and any co-morbidities as the clinical characteristics and the patients' AVM and Spetzler-Martin grade as the morphological characteristics. Moreover, we performed a 3-year follow-up on suitable patients and assessed their outcomes using the Modified-Rankin scale. In addition, we performed follow-up imaging on the patients to evaluate AVM obliteration after any of the procedures.

Results: We included 29 patients treated in our hospital (72.4%, males; 27.6%, females; mean age, 40 years). About 65% of the patients underwent mono-therapy consisting of one or more embolization sessions while about 34% underwent combined treatment (embolization + surgery or embolization + SRS). We found more cases of complete obliteration among patients who underwent mono-therapy (52.6%) than among those who underwent combined treatment (30%). Patients who underwent mono-therapy showed better outcome compared to those who underwent combined therapy; however, it did not reach statistical significance.

Conclusion: Embolization mono-therapy appears to be more effective with regards to the obliteration rate and outcome compared to combined therapy with either SRS or surgery.



De novo mutations in regulatory elements in neurodevelopmental disorders in paediatric patients in Saudi Arabia population

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Background: Neurodevelopmental disorders are group of disorders which affect the development of nervous system leading to abnormal brain functions. The role of De Novo Mutations (DNMs) in regulatory elements affecting neurodevelopmental disorders associated genes is essentially unexplored. Therefore, the aim of this study was to estimate the contribution of DNMs in regulatory elements in neurodevelopmental disorders in Saudi Arabia population at King Abdullah Specialist Children Hospital (KASCH). The finding from this study will predicate understanding of the coding and non-coding variation in the human genome.

Methods: A descriptive cross-sectional study was conducted at KASCH between 2015 and 2019. We collected information from Best Care Software that include type of neurodevelopmental disorders, gene mutations, patient's history and others. A Molecular diagnosis includes Whole Genome Sequencing, Whole Exome Sequencing, and Comparative Genomic Hybridization test was done. We estimated the prevalence of DNMs among patients with neurodevelopmental disorders.

Results: In a total of 105 patients with neurodevelopmental disorders 69% were males and 31% were females with a mean age of nine years old. We identified that DNMs were found in four band chromosomes and also in X chromosome. We observed that DNMs constitute 16% mostly of which are pathogenic. Also, we observed that 10 out of 20 DNMs are significant existing in regulatory elements which impair the activity in the brain leading to neurodevelopmental disorders. These elements happen in transcription processes which regulate the first step in the gene expression of the DNA.

Conclusion: Our findings represent the contribution of de novo mutations in regulatory elements (non-coding) to the neurodevelopmental disorders, and emphasize the importance of combining functional (coding) and evolutionary evidence to identify regulatory causes of genetic disorders.



Awareness and knowledge of the uses & side effects of antidepressants and their association with addiction and social stigma among Imam Abdulrahman bin Faisal University students. A cross sectional study in Dammam, Kingdom of Saudi Arabia

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Background: Depression is one of many mood-related mental illnesses that is treated effectively by antidepressants with wide range of both benefits and side effects that may affect the adherence to such drugs. Most of the public are not aware of the various benefits of antidepressants such as their role in treating other diseases. Antidepressants are also associated with controversial false believes such as causing addiction. They are also known to be related to social stigma.

Methods: This is a cross-sectional study involving 389 young adults who completed a 22-item valid questionnaire to measure their degree of knowledge and awareness in regard to uses, side effects and misconceptions related to antidepressants.

Results: Among the 389 participants, 196 are females. Only 28.5% and 10.3% of the participants were knowledgeable of the uses of antidepressants for other psychiatric and somatic diseases, respectively. Additionally, 47.3% of the participants agreed that patients may stop taking antidepressants if they had a previous knowledge of their side effects. Surprisingly, this study reports the lack of awareness of 35% of the participants that antidepressants increase suicidal thoughts. Moreover, 71% of the participants falsely believed that antidepressants cause addiction, and a large number of them stated that this belief shall not prevent the patients from taking medications. Also, social stigma that is acknowledged by 255 participants to be related to antidepressants is among the reasons why patients may stop taking the medications, 244 participants believe so.

Conclusion: This study concludes that there are a lot of misconceptions regarding antidepressants' clinical uses and side effects. Moreover, antidepressants are perceived as addictive and stigmatizing agents. These results are alarming and highlight lack of awareness about antidepressants in our society. This study is expected to guide health care professionals about the importance of spreading awareness regarding antidepressants and the need to minimize their social stigma. Eventually, this will lead to improving patients' quality of life.



Depression and Anxiety Symptom Assessment in Adults with Polycystic Ovarian Syndrome

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Background: Polycystic ovarian syndrome (PCOS) is a gynecological endocrine disorder, in which females have a potential for depression and anxiety due to biochemical changes, physical appearance, and social pressure regarding fertility. The aim of this study was to assess depression and anxiety symptoms along with their prevalence among these females.

Methods: Pre-validated Arabic version of the questionnaires Hamilton Anxiety Rating Scale, Hamilton Depression Rating Scale, and a demographic sheet were filled by 250 female participants attending primary health care clinics in Kashm Al-An. Statistical analysis was performed using (SPSS) version 22. Categorical variables were reported as frequencies and percentages, while mean and standard deviation were used for continuous variables. Inferential statistics were computed using Chi-square test, considering p-value of <0.05 was significant.

Results: The mean age of participants was 28 ± 8 years. Prevalence of clinical anxiety was noted in 100 participants (40%). Single women 124(50%) had a higher prevalence of clinical anxiety reported in 59(48%) ($\chi^2 = 5.8$, p-value < 0.01). Lower-income was associated with a higher prevalence of anxiety 18(67%) ($\chi^2 = 10.3$, p-value = 0.03), additionally, non-employed women 71(45%) were more likely to have anxiety ($\chi^2 = 4.5$, p-value = 0.03). Clinical depression was reported in 122 participants with a prevalence of (49%). Those women who had anxiety, had a significant positive correlation with depression ($r=0.73$, p-value < 0.001).

Conclusion: Prevalence of clinical depression in females with PCOS was 49%, compared to clinical anxiety which was present among 40% and related to being single, unemployment, and low income. Those females who had anxiety were more likely to experience depression symptoms too.



Reasons for the unscheduled return visits within 72 hours to the adult Emergency department in KAMC riadh

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Background: Avoidable Emergency Department (ED) return visits is one of the main causes of overcrowding in the ED, which is a major barrier towards providing appropriate medical services. This study aimed to investigate unscheduled return visits to the ED within 72 hours, to identify the most common diagnoses, and to estimate the mortality rate within one month from that visit.

Methods: A cross-sectional retrospective study that was conducted among patients above the age of 15 years. A simple random sampling technique was used to select patients with 72 hours return visits to the adult ED at King Abdulaziz Medical City, Riyadh from January to December 2017. The main variables included age and gender, chief complaint of the first and second visit, diagnosis of the first and second visit, co-morbidities, and mortality rate within one month.

Results: There were 11,177 (6.1%) out of total 182,602 visits to the ED who had an unscheduled return visit. A total of 375 revisits were enrolled in the study. There were 228 (60.8%) who returned with the same complaint as their previous visit. Abdominal pain (24%) was the most common chief complaint in the first return visit followed by cough (8%). Upper respiratory tract infection was the most frequent diagnosis for the first (10%) and second (9%) return visits respectively. Hypertension (25%) and diabetes mellitus (21%) were the commonest co-morbidities. The mortality rate within one month of discharge was 0.8%.

Conclusion: More attention and preventive treatment measurements for complaints such as abdominal pain are needed to avoid return visits to the ED. Also, accurate diagnosis for diseases such as upper respiratory tract infections is important to reduce the patients' unscheduled return visits to the ED.



Case Reports Poster Presentations



Preoperative control of blood pressure in familial paraganglioma using Esmolol

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Background: Paragangliomas and pheochromocytomas are rare neuroendocrine tumors in pediatric population. The use of antihypertensive medications is usually challenging in these patients. Long acting alpha blockers could be useful preoperatively but challenging postoperatively. We present a case of familial paraganglioma that is successfully treated by esmolol with no associated perioperative complications

Case Description: A 13-year-old girl, known case of bronchial asthma, presented with classic signs and symptoms of Pheo/Paraganglioma. She had impressive family history, and CT abdomen showed right sided paravertebral mass, therefore, treated as familial paraganglioma. She was started on prazosin but continued to experience fluctuation in BP. She developed a serious reaction to atenolol, therefore switched to esmolol that successfully controlled her BP alongside prazosin and intermittent doses of hydralazine. She underwent laparoscopic surgery and the diagnosis was confirmed by histopathology and genetics.

Discussion: Preoperative management using Alpha and beta blockade is crucial to prevent the intraoperative complication. Phenoxybenzamine, a long acting non selective alpha blockade, has been widely used. Also, prazosin, a selective alpha 1 blockade, has been used in favor due to its short action, so it causes less side effects postoperatively. Beta blockade are generally used to suppress tachycardia after alpha blockers have been started. There is no evidence to support the use of beta 1 blockade such as atenolol over the non- selective beta blockers which include propranolol. There are two studies that support the use of esmolol in adult, yet in pediatric, this is the first case that showed the effectiveness of esmolol as a beta blocker. Esmolol showed a good effect as adjuvant therapy to alpha blockers and short half life that help avoiding post-operative complications due to sudden intravascular volume and pressure changes.

Conclusion: Esmolol can be a good replacement to other relatively long acting beta blockers in the perioperative management of Pheo/Paraganglioma..



A rare variant of Stevens-Johnson Syndrome, Fuchs' Syndrome, diagnosed and managed at KASCH, NGH, Riyadh, Saudi Arabia

Abdullah Mohammad S Alfaleh, Waleed Alajroush

Background: Fuchs Syndrome, is a rare variant of Stevens-Johnson Syndrome, in which the skin involvement is absent.

Case discussion: A 13-year-old male was referred to our hospital, KASCH from hail with a complaint of gum bleeding, conjunctival irritation and genital lesions following an upper respiratory tract infection. The diagnosis of Fuchs syndrome was made on the basis of the clinical picture, with histopathological sample confirmation taken from the oral mucosa, which showed ulceration and granulation tissue formation. As well as the complete resolution of symptoms after proper intervention was made.

Discussion: Stevens-Johnson syndrome without skin manifestation is another name of Fuchs syndrome. This syndrome almost always occurs following Mycoplasma pneumonia infection. However, some medications have been proven to be possible culprits. The diagnosis is mainly clinical but serological markers for Mycoplasma and histopathological biopsy from the affected mucosa can confirm the diagnosis. Treatment of the syndrome involves fluid replacement, pain management and anti inflammatory drugs such as steroids and Cyclosporine.

Conclusion: Although Fuchs syndrome is a rare complication of mycoplasma induced upper respiratory infection, high index of suspicion should be kept with proper intervention.



Use of Dual Cup Mobility Technique with Bone Grafting For Reconstruction of Acetabular Defect in Hip Sarcoma without Stabilizing Plates: Case Report

Mansoor Mohammed Albarrak, Reema M Alhussein, Osama S Alshaya

Background: Acetabular reconstruction following malignancy considered a difficult technique. Using impaction bone grafting (IBG) in combination with cemented socket without using reamer in reverse to impact the grafts is one of approaches that have been adopted to maintain stability. To the best of the authors' knowledge, no reports so far have been found of using bone grafting in addition to Dual Mobility Cup (DMC) without stabilizing plates in a patient with hip sarcoma.

Case discussion: A 31-years-old female patient presented with deteriorating right hip pain. The histopathological examination showed pleomorphic undifferentiated sarcoma involving the right femoral head extending to the acetabulum. We investigated systemically and locally by radiographs, computed tomographic scan (CT), magnetic resonance imaging (MRI), and bone scan. We used a modified extra-articular wide surgical resection of the proximal femur and acetabulum instead of classic extra-articular resection followed by reconstructed using cancellous bone chips and DMC without stabilizing plates. At 7-month follow-up, the allograft had united with the host bone, and radiographs showed satisfactory position and stability of the components.

Discussion: Different reconstruction techniques have been obtained for periacetabular tumors that may exist in different areas of the acetabulum with a variation in size. As it poses a challenge among orthopedic surgeons. Van Haaren et al. linked the higher failure rate with insufficient experience of surgeons. Other studies considered the size of bone loss as a major predictor for operation failure.

Conclusion: Using IBG followed by reconstruction with DMC is considered a successful procedure in our oncology case. It had shown favorable outcomes for 7 months follow-up and allowed the patient to return to normal weight bearing at about 3 months post- operation without complications. Further studies are suggested, to evaluate long-term outcome of this technique.



Linear Dermatomyofibroma over the Nape of Neck: Report of an Unusual Case and Literature Review

Lama R. AlZamil, Fahad M. AlSaif, Ammar C. AlRikabi, Aljohara M. AlMazroua

Background: Dermatomyofibroma is a rare cutaneous mesenchymal tumour of benign fibroblastic and myofibroblastic derivation. Clinically, patients present with a history of a slowly growing asymptomatic plaque or nodule associated with reddish-brown hyperpigmentation. Dermatomyofibroma is most frequently located on the shoulder. It is usually small and on average measures between 1 to 2 cm at the maximum diameter. The clinical presentation of dermatomyofibroma is vague, and diagnosis of such condition constitutes a challenge for clinicians because of its close resemblance to other similar lesions. Therefore, histologic examination and immunohistochemistry markers are necessary to reach a conclusive diagnosis.

Case discussion: A 41-year-old female patient presented with an asymptomatic lesion over the nape of her neck. The lesion had been slowly progressing over 5 years. The patient denied any history of trauma. Her medical, surgical, and medication histories were unremarkable. On examination, there was an ill-defined linear red-to-brown indurated plaque measuring approximately 7×3 cm over the nape of her neck. A skin punch biopsy measuring 3 mm at the maximum diameter was obtained and sent for histopathological examination.

Discussion: The differential diagnosis of the tumour includes dermatofibrosarcoma protuberans, dermatofibroma, morphea, and hypertrophic scar. Histologically, elastic fibers in dermatomyofibroma are thickened and increased, which is an important microscopic finding for differentiating dermatomyofibroma from dermatofibroma and hypertrophic scar, where elastic fibers are decreased. Immunohistochemically, these cells stain negatively for CD34, factor 13A, and S100 protein. This finding helps to exclude other lesions such as dermatofibroma and dermatofibrosarcoma protuberans, which stain positive for factor 13A and CD34 respectively.

Conclusion: Our patient's lesion is unusual in its location, size, shape, and presentation, and to the best of our knowledge, only one case has been reported to date with a similar linear configuration in the upper neck. Recognition of such conditions is important in order to distinguish it from other aggressive cutaneous neoplasms.



Large right atrial mass is it Tumor or Thrombus?

Ali Abdulaziz Alyami, Abdulaziz Ajeebi, Turki Almutairi, Ihab Suliman

Background: Tumors and thrombi are the most common masses in the right atrium (RA). The diagnosis between them could be challenging since some masses behave in a manner that leads to mistake the accurate diagnosis. In some cases, it is difficult to differentiate between the two.

Case discussion: This report describes a 28 years old single female living in the southwestern region with 5 months history of progressive shortness of breath (SOB), palpitation, severe cardiomyopathy with Ejection fraction (EF): <20%. Five months later, after an hour flight, she developed severe acute chest pain with an SOB which urged evacuation to the nearest hospital. On arrival to the emergency room, an electrocardiogram (ECG) was done and showed fast Atrial Fibrillation (AF). 10 days later, Transesophageal Echocardiography (TEE) and Computed Tomography Angiography (CTA) were performed which showed a mass on RA appendage, and it looked like a thrombus. Then, the team decided to perform Magnetic Resonance Imaging (MRI) as it is the modality of choice for confirmation, MRI was done and showed the mass behaved more likely to be a tumor, not a thrombus, unlike TEE and CTA. The mass was surgically excised and final pathology indicated an organizing thrombus adherent to cardiac muscle.

Discussion: The RA mass in this patient was suspicious of thrombus after the result of TEE and CTA, however, the case was re-discussed in the combined meeting of the multidisciplinary team after the result of MRI with an impression of likely to be a tumor, not a thrombus. The final and accurate diagnosis was given by pathologist which was a thrombus.

Conclusion: Cardiac masses, in general, are considered rare. Tumors and thrombus are the common masses that could be involved in the RA. The imaging diagnosis of the masses consider to be challenging since the appearance of differentiated characteristics is confusing.



BILATERAL VALGUS SLIPPED CAPITAL FEMORAL EPIPHYSIS IN AN 11-YEAR-OLD GIRL

Jude Alshamrani, Sulaiman F. Almudaifer, Abdullah J. Alshehri, Thamer S. Alhussainan.

Background: Slipped capital femoral epiphysis (SCFE) is a relatively rare disease that was first reported by Muller back in 1926. It is a condition of the posteromedial displacement of epiphysis on the metaphysis.

Case discussion: We present to you a case of an 11 year old middle eastern girl, who was diagnosed to have symptomatic valgus SCFE with the incidental finding of vitamin D deficiency. Bilateral percutaneous in situ pinning was performed and in her one year follow up, mild improvement in pain was reported though she was still unable to bear weight without crutches. After reviewing the outcomes from bilateral percutaneous in situ pinning, the decision was made to do revisional surgery to remove the screw.

Discussion: Valgus SCFE, in contrast to the classic form, is the superolateral displacement of the epiphysis. Incidence rate for SCFE in the United States is estimated to be 1-10 per 100,000. Common risk factors for SCFE include hip dysplasia, metabolic disorder, vitamin D deficiency, endocrinopathies and obesity.

Conclusion: In conclusion, we did not observe significant difference in the patient's outcome after bilateral percutaneous in situ pinning when compared to conservative management.



Postinfectious Glomerulonephritis with Crescents in an Elderly Diabetic Patient

Ahmed Sameer Alzahrani, Dr. Turki Banamah, Dr. Hatim Qasim Al-Maghraby

Background: Postinfectious glomerulonephritis (PIGN) is commonly seen in children after a recent history of upper tract infection or impetigo, and PIGN is rarely seen in elderly. The most common organism for PIGN is streptococcus in children and adult, while staphylococcus is a common agent in elderly.

Case discussion: we present a case of an elderly diabetic female developed PIGN with crescents after upper tract infection. Serologic test showed C3 was low, and C4 was normal.. Renal biopsy showed diffuse global obliteration of capillary loops by endocapillary hypercellularity with cellular crescents. Immunofluorescence showed granular mesangial and capillary wall positivity for C3, IgG, IgA, kappa, and lambda. Electron microscopy revealed mesangial, subepithelial, and subendothelial electron-dense deposits. Thus, she was diagnosed with PIGN and diabetic nephropathy. A permanent catheter was inserted for hemodialysis. After forty days, the patient was discharged with good status of health. Hemodialysis was stopped after six months, and the renal function improved gradually until the permcath removed with a creatinine level of 120.

Discussion: PIGN is an immune mediated glomerulonephritis after a recent upper tract infection or skin infection, and it occurs primally in children. The prevalence of PIGN has decreased over the past three decades because of an early recognition and treatment. Therefore, it is rarely seen in elderly. Some immunocompromised conditions are risk factor for PIGN in elderly in sixty-one percent of patients, and diabetes followed by malignancy are the most common conditions. Treatment of PIGN with crescents in elderly is highly difficult and variable because there is no clear-cut guideline.

Conclusion: we present a case of an elderly diabetic female developed PIGN with crescents. PIGN is rarely seen in the elderly, but it should be suspected with acute kidney injury after upper respiratory tract or skin infection in elderly. We should more aware of an atypical presentation of PIGN



Demyelinating optic neuritis in a young lady with coronary artery dissection, carotid artery dissection and post-stroke epilepsy - bad luck can hit more than twice

Amal AlOtaibi, Nouf Fahad A Bin Muammar, Ismail Khatiri

Background: Optic neuritis (ON) is the commonest cause of optic neuropathy affecting young adults, and is mostly idiopathic. Carotid artery dissection and spontaneous coronary artery dissection are considered uncommon conditions, however, can happen rarely in the same individual. There are no published reports of the three conditions together in one individual. We present a case in which the three uncommon and unusual conditions occurred in single individual.

Case discussion: A 20 years old lady presented with left eye and head pain, associated with blurred vision and photophobia. Her examination showed relative afferent pupillary defect in left eye with decreased visual acuity of 20/400. She was diagnosed with optic neuritis and treated with intravenous methylprednisolone. Her past history was significant for acute coronary artery dissection at age of 16 requiring coronary artery bypass graft (CABG) and valve repair. She developed left hemiplegia at the age of 17 due to a right corona radiate infarction resulting from right internal carotid artery dissection. She made significant recovery from her stroke. Her extensive evaluation for connective tissue diseases and genetic conditions resulting in large vessel dissections was unremarkable except myxomatous degeneration of aortic biopsy specimen. Her MRI brain at the time of optic neuritis showed an old stroke in right hemisphere without any demyelinating lesions. At age 19, she required implantable cardioverter defibrillator due to worsening of her cardiac status. Her symptoms of optic neuritis improved after the administration of steroids suggestive of inflammatory nature of her optic neuritis. She returned to her baseline functional status and is currently attending college.

Discussion: The co-occurrence of spontaneous coronary artery dissection, spontaneous carotid artery dissection, and idiopathic optic neuritis is not reported in the literature before, and this case represents unique luck where bad luck can hit more than twice.

Conclusion: This case represents unique combination of extremely rare diseases including spontaneous coronary and carotid artery dissection, with idiopathic optic neuritis in the same individual.



Perrault Syndrome with amenorrhea, infertility, Tarlov cyst and degenerative disc, a novel mutation

Saed Enaby, Dania Al-Jaroudy, Malak Al-Thagafi, Joud Enabi

Background: Genetic disease could contribute significantly to primary amenorrhea and infertility. An example of these syndromes is Perrault Syndrome, which is autosomal recessive disease and is characterized by sensory neuronal hearing loss in male and female and ovarian dysgenesis female. Five genes mutations have been identified to cause this syndrome; CLPP, ERAL1, HARS2, HSD17B4, LARS2, TWNK gene.

Case discussion: Case Presentation: A 27 year deaf and mute female presented to our department due to primary amenorrhea. She is a daughter of a consanguineous marriage. She had s a brother who is deaf and mute. Her mother and sisters had a normal menstrual cycles and pubertal growth. Upon examination, her weight was 78 kg, height was 176 cm and her arm span was 140 cm span. The Height ratio > 1.03 which is suggestive of Marfanoid habitus. She had Tanner stage two of breast and axilla. Her external genitalia were fully developed.

Discussion: The hormonal essay is showed in table 1. Pelvic U\S: hypoplastic uterus with bilateral streak ovaries. MRI: showed disc degeneration at level L5-S1 and Tarlov cyst at S2 level. Whole exome sequencing: homozygous LARS2 gene mutation. Whole exome sequencing was performed for the patient and an unclassified variant was detected in one of the genes associated with hearing impairment. LARS2; Chr3(GRCh37):g.45461162A>C:NM_015340.3c.457A>C(p.(Asn153His)):homozygous. Pathogenic mutations in the LARS2 gene causes Perrault syndrome type 4 (OMIM#6615300), which is characterized by hearing impairment and ovarian abnormalities. DEXA scan: significantly progressive decrease of the bone density; T score 3.4 at L4. She was treated with hormone replacement therapy and vitamin D and was referred to the audiologist and otolaryngologist to assess her hearing loss. She is married to a husband who is deaf and mute also. They are seeking to have children; however, they were informed that the chances of pregnancy are almost nil.

Conclusion: To the best of our knowledge, uterine hypoplasia, ovarian dysgenesis, Tarlov cyst and degenerative changes of the vertebral column along with the pathogenic mutation of LARS2 gene have not been reported earlier with Perrault's syndrome.



Management and outcome of bilateral neck of femur fractures: a case report

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Background: Simultaneous bilateral femoral neck fractures are extremely rare. There are different surgical options in the management of femoral neck fractures. Hip hemiarthroplasty is the recommended option in the elderly and low mobility population. This report presents a case of bilateral neck of femur fracture due to household fall in a hypertensive patient with end-stage renal disease (ESRD).

Case discussion: This case is about a 59-year-old female that was brought to the ER after she fell. The patient is known to have hypertension, ESRD, Hyperparathyroidism. The patient at presentation was vitally stable, has bilateral hip pain and inability to move her lower limbs. She underwent bilateral bipolar hip hemiarthroplasty which she tolerated well initially and was able to mobilize but suffered numerous medical complications where she was not able to recover from. The patient passed away 3 months post-operatively due to cholangitis in the same admission.

Discussion: Simultaneous, bilateral neck of femur (NOF) fractures are considered rare with few cases reported in literature. Managing such cases requires fast intervention to prevent high mortality and morbidity rate and to maximize the post-operation rehabilitation process. This is especially true in ESRD patients. This case highlights the possible detrimental sequelae for such a presentation where the surgical intervention was successful in treating the initial injury, but the patient's general condition deteriorated to an unrecoverable state which ended with her unfortunate demise.

Conclusion: The decision to manage bilateral neck of femur fractures is highly influenced by the patients' medical condition. Surgeons have to be cognized of the balance between possible surgical complications and, as this case, medical complications further out from surgery.



An Unusual Case of Double Mandibular Parapremolars. A Cone Beam Computer Tomography Assessed Case Report

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Background: Supernumerary teeth are odontostomatologic anomaly characterized by presence of existence excessive number of teeth. Frequently, multiple supernumerary teeth are associated with developmental disorders. Cone beam computed tomography imaging allows a tridimensional evaluation and detailed visualization of teeth and their adjacent anatomical structures. CBCT evaluation of supernumerary teeth for accurate case planning is recommended. The purpose of this paper is to present a rare case of double parapremolars in on single quadrant and investigate these teeth by using cone beam computed tomography (CBCT).

Case discussion: 28 years old, Filipino female patient came to PNU dental clinics. Medically fit, not on medications and no allergies were detected. Intraoral examination revealed two supernumerary teeth at area between #35 and #36. The Parapremolars located in quadrant three, both are with normal shape and color. Regarding the position, first supernumeraries is erupted lingually, the second is in the arch line but slightly tilted to the lingual. As a result of the extra teeth number, moderate crowding found in the area. Patient denied any family history of similar findings.

Discussion: After analyzing CBCT, extraction of first supernumerary tooth was carried out to facilitate proper oral hygiene, to prevent food impaction, and eliminate its possible effects on the adjacent teeth. Extraction was performed cautiously without causing any damage to the anatomical structures. Regarding the anatomical position of the tooth, we prepared splint for teeth stabilization in case of adjacent teeth mobility. Extraction was done under local anesthesia. Soft tissue around the tooth was reflected by Mucoperiosteal elevator. By using upper anterior forceps extraction was completed. Socket was washed using normal saline, blood clot was formed. Patient was followed up after the extraction, no complications was reported.

Conclusion: Double parapremolar teeth were found in non-syndromic patient. CBCT precisely locate malposed supernumerary teeth and help in getting proper treatment plan without complications.



CLEIDOCRANIAL DYSOSTOSIS: REPORT OF CASE FROM SAUDI POPULATION WITH NEW RADIOGRAPHIC FINDING IN INFRAORBITAL RIM

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Background: Cleidocranial dysplasia (CCD) is a rare autosomal dominant genetic disorder which is characterized by its unique intraoral and extra features. Sometimes the disease occurs spontaneously. Here we describe a case of spontaneous occurrence from Saudi Arabia due to its extreme rarity in this continent

Case discussion: This case report is important that only one case from Saudi population has been reported. This may be due to genetic features among the Saudi population. Thus we are reporting this case due to its rarity in the Saudi population and add one more case for demographic purposes

Discussion: A 36 year-old male attended to our hospital with the chief complaint of inability to chew food due to bad teeth. The history revealed that the whatever teeth were present, his many teeth were extracted due to different reasons and most of them were milk teeth and the last tooth was extracted last year only.) A rare finding in this case we deciphered in CT image (Fig. 4c) as bilateral radiolucent intrabony lesion on infraorbital floor, without any correlation with pathological lesion

Conclusion: In individuals suffering from CCD, certain complications are common which include dental caries, osteomyelitis of the mandible or maxilla, respiratory distress in early infancy, in late stages shoulder and hip dislocation, upper airway complications, recurrent ear infection, hearing loss



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