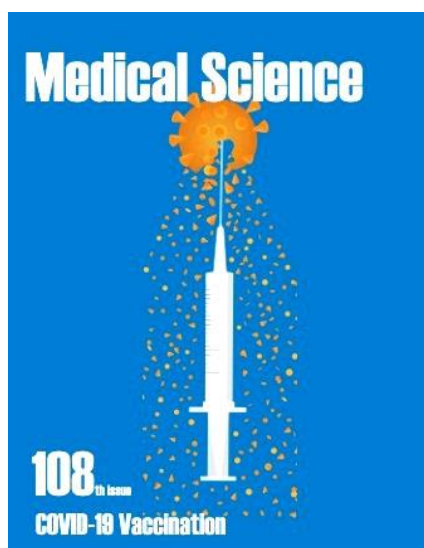


Medical Science

About the Cover



Aim: The objective of this study was to explore the public knowledge and attitudes towards COVID-19 Vaccination in Saudi Arabia. *Methodology:* This was an online, questionnaire-based cross-sectional study included a questionnaire that was prepared using an online questionnaire. The questionnaire was disseminated by social media platforms to be filled by the public in January 2021. *Results:* Most of the respondents were females (78.00%) and the age of the majority of them was less than 25 years old. Most of the respondents were aware of COVID-19 symptoms (94%), Aware of COVID-19 severity (91%), Aware of COVID-19 risk and negative outcomes (70%) and aware of vaccination necessity (68%). Only 37 % of them agreed that COVID-19 vaccination is effective and only 32% of them agreed that the vaccine is safe. *Conclusion:* The study showed that there was a good acceptability of the public of COVID-19 vaccination but the respondents are worried about the efficacy and safety of COVID-19 vaccines. Efforts to address these concerns and to improve vaccine usage are required. Additionally, targeted educational interventions are needed to increase COVID-19 vaccine uptake of the future. (Ref: Ahmed NJ, Alkhawaja FZ, Alrawili AS, Almalki ZS. Public knowledge and attitudes toward COVID-19 Vaccination: A cross-sectional study. *Medical Science*, 2021, 25(107), 279-284).

Dentoskeletal changes of anterior openbite cases treated by intrusion of maxillary posterior segments via zygomatic miniplates

Mohamed G Elshal

Introduction: No one can deny that the successful skeletal open bite treatment depends mainly on intrusion of maxillary buccal posterior segment and an anchorage system. So, intrusion of maxillary posterior segment was a magical orthodontic treatment mechanics granting a clock-wise rotation of the mandible, consequently closure of anterior open bite and improvement of facial profile convexity. So, the aim of this study is to evaluate skeletal and dental effects of intrusion of maxillary posterior segment by surgical miniplates. **Materials and Methods:** The selected sample size was ten patients (4 males and 6 females), ranging from 18 to 29 years of age (22.4 years, SD + 3.20 years), with skeletal anterior open bite were treated by intrusion of maxillary buccal posterior segment with surgical miniplates assisted intrusive device system which composed of zygomatic miniplates (Anchor unit), bonded acrylic maxillary hyrax expander with bite blocks (Reactive unit) and Nickel Titanium closed coil spring. Pre-treatment and Post-treatment lateral cephalograms were compared. **Results:** Maxillary first molars were intruded significantly by $-3.85 \text{ mm} + 0.82 \text{ mm}$ ($P < 0.004$). The lower anterior facial height was reduced statistically by $-4.20 \text{ mm} + 1.13 \text{ mm}$ ($P < 0.005$). **Conclusion:** The skeletal and dentoalveolar changes produced by zygomatic miniplate assisted maxillary buccal posterior segment intrusion were apparently impressive and sufficient for adult anterior open bite correction. The amount of intrusion produced by the current study was efficient to induce counter-clockwise rotation of the mandible. That amount of autorotation was enough to improve the retrognathic chin to be a prognathic one without the risk of orthognathic surgery.

Medical Science, 2021, 25(108), 254-271

CASE REPORT**Interventions of proprioceptive training in lateral ankle sprain- A case report**

Vrushali kharche, Tajuddin Chitapure, Bodhisattva Dass, Rinkle Malani

Ankle sprain is the most common injury in which lateral ankle sprain is more common. A 27 year male working in fire service twisted his leg while jumping. Then after 21 days of immobilization in plaster cast he came to physiotherapy department with complaint of pain and impaired balance and difficulty in changing direction. On MRI investigations partial tear of anterior talofibular and tibiotalar ligament were seen. Initially to reduce pain ankle range of motion exercises were given with cryotherapy. Progressive Proprioceptive, Balance and strength training were given with intrinsic muscle strengthening. Balance and proprioceptive training is effective in lateral ankle sprain with 4 week training protocol.

Medical Science, 2021, 25(108), 272-278

REPORT**Public knowledge and attitudes toward COVID-19 Vaccination: A cross-sectional study**

Nehad J Ahmed, Faisal Z Alkhawaja, Abdulrahman S Alrawili, Ziyad S Almalki

Aim: The objective of this study was to explore the public knowledge and attitudes towards COVID-19 Vaccination in Saudi Arabia. **Methodology:** This was an online, questionnaire-based cross-sectional study included a questionnaire that was prepared using an online questionnaire. The questionnaire was disseminated by social media platforms to be filled by the public in January 2021. **Results:** Most of the respondents were females (78.00%) and the age of the majority of them was less than 25 years old. Most of the respondents were aware of COVID-19 symptoms (94%), Aware of COVID-19 severity (91%), Aware of COVID-19 risk and negative outcomes (70%) and aware of vaccination necessity (68%). Only 37 % of them agreed that COVID-19 vaccination is effective and only 32% of them agreed that the vaccine is safe. **Conclusion:** The study showed that there was a good acceptability of the public of COVID-19 vaccination but the respondents are worried about the efficacy and safety of COVID-19 vaccines. Efforts to address these concerns and to improve vaccine usage are required. Additionally, targeted educational interventions are needed to increase COVID-19 vaccine uptake of the future.

Medical Science, 2021, 25(108), 279-284

ANALYSIS**Insulin-resistance conditions as risk factors for Acanthosis nigricans: A systematic review and meta-analysis**

Mohamad Ibrahim Alkhatib, Maryam Qashqari, Afrah Alhowety, Ghadah Abujamea, Anas Alsalman, Turki Aljuhani, Ali Aljameely, Amal Al Mutairi, Hiaallah Alshehri, Naif Alshaeri, Hassan Alnashri, Afnan Alshanqiti, Waleed Alshehri, Abdulmajeed Albalawi

Background: Acanthosis nigricans (AN), a dermatological condition, is characterized by dark velvety discoloration and thickening of the skin. It has been known to be associated with various insulin-resistant conditions; however, risk factors of AN are not fully established. **Methods:** We conducted a systematic search of the literature using various combinations of specific keywords. The

odds ratio (OR) and their 95% CI were used to draw forest plots. Results: In total, 37 studies were included in this meta-analysis. The combined meta-analysis yielded an OR of 0.35 with a 95% CI of 0.19–0.64 and a P value of .0006. The type 2 diabetes mellitus (T2DM)-related studies had an overall effect size of OR 0.24 with a 95% CI of 0.10–0.59 and a P value of .002. For obesity-related studies, the overall effect size was OR 0.62 with a 95% CI of 0.23–1.63 and a P value of .33. PCOS-related studies yielded an OR of 0.34 with a 95% CI of 0.07–1.59 and a P value of .17. Finally, the studies on acromegaly had an effect size of -0.17 with a 95% CI varying from -0.42 to 0.008 and a P value of .19. Conclusion: Insulin-resistance conditions such as T2DM, obesity, PCOS, and acromegaly are important risk factors for the development of AN when their effect size is combined with strong statistical significance. However, only T2DM shows a strong statistical significance; as a risk factor for AM when these conditions are taken individually.

Medical Science, 2021, 25(108), 285-299

RESEARCH

Histological, ultrastructural and molecular studies on the effect of *Coustus speciosus* extract on raising the efficiency of fertility in the testes of male rats treated with risperidone (antipsychotic drug)

Dalia Mostafa Mohammed Domiaty, sherifah Shaker Hamed Hasab Allah, Haleema Yousef Al-Nahary

Psychiatric disorders affect a high percentage of the world's population. Schizophrenia represents more than 90% of the inpatients of mental health hospitals. Risperidone is an important drug in the treatment schizophrenia. The study was designed to assess efficiency of Costus extract in limiting side effects occur as a result of the use of risperidone. Rats were divided into six groups G1 control animals. G2 treated with Costus extract. G3+5 treated with risperidone at low & high doses. G4 +6 treated with both risperidone at two dose and Costus extract. Bioassay results of blood's rat in G3,5 showed below-average levels of testosterone, high average levels in rat in G2,G4,G6. Histological and ultrastructural observations in testes of rats in G3, 5 showed: atrophy of several seminal tubules, necrosis of spermatogenic cells, pyknotic nuclei and loss of sperms. Rat in G4, 6 showed: Seminiferous tubules had a regular architecture more or less similar to control. Risperidone induced increase of CYP3A, CYP2E1, CYP2C6 and a decrease of CYP1A1 levels of P450 In testis. High-dose risperidone with Costus induced a decrease of all previs gene levels. Costus extract was raising the efficiency of fertility in the testes of male rats treated with risperidone.

Medical Science, 2021, 25(108), 300-311

Association between body mass index at diagnosis and outcome of children with Acute Lymphoblastic Leukemia

Gholamreza Bahoush, Zahra Rahmati, Fahimeh Soheilipour

Background: Several studies have been published on the effect of body weight at diagnosis on the outcome of children with leukemia, but the results are not the same. The aim of this investigation was to study the survival of children with ALL admitted to a tertiary center in a developing country. Methods and Materials: This retrospective cohort study was performed on with standard risk B-precursor ALL in Ali-Asghar Children's Hospital. Patients in the high-risk group, patients with Down syndrome, and patients who had undergone significant changes during the treatment protocol were also excluded from the study. After completing the questionnaire, BMI at the time of diagnosis was calculated and patients were divided into four groups: underweight, normal weight, overweight and obese. Finally, the results were analyzed using SPSS software, descriptive data was analyzed by descriptive analysis methods and survival rate was analyzed by Kaplan-Meyer method with considering 95% confidence interval. Results: 112 patients aged 1 to 10 years (m/f \approx 1.2/1) were enrolled to the study. 5-year overall survival of all patients and event-free survival of all patients were obtained from analysis 96.40 \pm 2.1% and 86.80 \pm 3.6%, respectively. Also from the analysis, the overall 5-year survival of all patients based on the status of the body mass index was obtained for underweight 100%, normal weight 95.70 \pm 3%, obese and over-weight 92.3 \pm 7.4%. Finally, no significant relationship was observed between overall survival and BMI. Furthermore, 5-year event-free survival analysis of patients based on BMI status in underweight 86.10 \pm 6.6%, normal weight 86.10 \pm 5%, obese and over-weight 92.9 \pm 6.9% was achieved. Lastly, there was no statistically significant relationship between event-free survival and BMI. Conclusion: Based on the results of this study and their comparison from other studies in this field, it is concluded that overall survival in obese and overweight children is lower than normal weight and underweight children. These different results from some other studies suggest the need for more accurate prospective studies with larger sample sizes.

Medical Science, 2021, 25(108), 312-319

ANALYSIS

The prevalence of migraine headache among students of Fakeeh College in Jeddah, Saudi Arabia

Mahdi Kanjo, Raghad H.Alsaati, Ohoud M.Jassomah, Sara H.Alhindi, Layal F.Jamjoom, Mashari A.Albogami

Background: Migraine headache is the most common health problem in the world that affects either one side or the whole head. It's usually felt as a pulsating pain, and could last up to 2-3 days; nausea, photophobia (sensitive to light) and phonophobia (sensitive to sound) are the associated symptom that comes with it. Due to the lack of studies done on migraine among medical field students in Saudi Arabia our aim was to measure the prevalence of migraine headache among students of Fakeeh College for medical sciences

(FCMS) in Jeddah, Saudi Arabia. *Methods:* A cross sectional study was conducted randomly among Fakeeh college students, from June to September 2020. All academic years was included, the data were collected through a questionnaire entered to Excel, then in statistical analysis frequency test was used for all univariate questions except for age mean and standard deviation were used to analyze it and (chi-square) were used for all bivariate variables. *Results:* Out of 800 students 313 has completed the questionnaire, female participants were higher in number than males. The prevalence of migraine headache was (71.6%). Moderate migraine headache was reported the highest among these students, and our findings showed that migraine increased with higher levels of academic year. Also, it showed that the most trigger increases headache was irregular sleep. *Conclusion:* According to our findings the prevalence of migraine was high in percentage among Fakeeh college students, and it increased with higher levels of academic years. The most increasing headache trigger was irregular sleep.

Medical Science, 2021, 25(108), 320-327

Holmium laser enucleation versus bipolar transurethral resection of the prostate in management of benign prostatic hyperplasia

Ahmed Lotfy Ghazy El Gohary, Mohamed Sherief Mourad, Mohamed Mohamed Yassin, Ahmed Farouk, Ahmed Ibrahim Radwan

Objective: To compare the efficacy and safety of Holmium enucleation of the prostate (HoLEP) versus Bipolar transurethral resection of the prostate (BTURP) in the management of benign prostatic hyperplasia. *Methods:* In our randomized controlled trial, 60 patients were allocated into 2 equal groups representing HoLEP and BTURP. Perioperative data were collected regarding the prostate size, post voiding residual urine (PVRU), international prostate symptom score (IPSS), peak urine flow rate (Qmax), and Quality of life affection (QoL). Operative parameters were recorded according to operative, enucleation, and resection time in addition to the volume of resected tissues and intraoperative complication. Patients were followed up at 1 and 12 months postoperative by PVRU, IPSS, Qmax, and QoL assessment. *Results:* Sixty patients finished our follow up period and their data were analyzed. The mean prostate size was 74.23 ± 9.58 ml and 72.6 ± 10.01 ml for HoLEP and BTURP groups respectively. Operative efficacy measures were comparable in both groups. HoLEP was associated with an earlier catheter removal time of 1.07 ± 0.25 days compared to 3.07 ± 0.78 days in the BTURP. Postoperative PSA, IPSS, QoL, PVRU, and Qmax were comparable in both groups and they both showed statistically significant improvement in the aforementioned parameters following treatment. There was no statistically significant difference between both groups regarding the complication rate. *Conclusion:* Both HoLEP and BTURP are safe and effective in the surgical management of benign prostatic hyperplasia. However, HoLEP has an early catheter removal, and shorter hospital stay.

Medical Science, 2021, 25(108), 328-336

Knowledge, attitude and practice regarding dengue infection among Jazan inhabitants, Saudi Arabia 2019

Osama B Albasheer, Amani Osman Abdelmola, Abeer Alomaish, Alanood Dallak, Kawakeb Darraj, Marwah hamzi, Hanan Shawlan, Shareefa Sumaily, Marwah Gomairy, Rana hakami, Mohammed S Mahfouze

Introduction: Dengue outbreaks are occurring in many countries of the world. Population awareness is fundamental for dengue prevention. The aim of this study was to assess the Knowledge, attitude, and practice (KAP) regarding dengue infection among Jazan inhabitants of Saudi Arabia. *Methods:* An observational cross-sectional survey was done on four hundred and forty (440) participants of primary health care attendants in Jazan Region, Saudi Arabia by a self-administered questionnaire in the period from July to October 2019. *Results:* The majority of the participants belonged to the age group of 25-34 years old ($n= 318, 72.4\%$). There was significant variation in the level of knowledge and Age group of the participants (p -value 0.006). There were no significant variations in the level of knowledge and gender differences, educational level, housing condition and working status of the participants (p -value 0.204, 0.806, 0.057, 0.052 respectively). 89.6% of the participants considered dengue as a serious disease, 65.1% agreed that patients with dengue fever need to be isolated, 79.6% agreed that all patients with dengue can recover, and 69% agreed that dengue fever is a contagious disease. *Conclusion:* Knowledge was adequate with regard to dengue disease transmission, presentation and severity. However, there was limited practice in preventing the mosquito bites. Policy makers can formulate strategies to enhance knowledge and to translate knowledge into sound practice.

Medical Science, 2021, 25(108), 337-346

CASE REPORT

Solitary precaval right renal artery: A cadaveric case report and review

Mohammed H Karrar Alsharif, Nagi M Bakhit, Mamoun A Alfaki, Nadia O Elamin, Juman M Almasaad, Abubaker Y Elamin, Khalid M Taha, Mohammed A Noureddin, Salah Eldein Hassan Aloub

This study reports an extremely rare morphology and branching pattern of the right renal artery. During our routine dissection of a 52-year-old male body cadaver, we observed that the right kidney was receiving a single main renal artery, which passed anterior to the inferior vena cava (Perceval); the artery also, has a unique origin (the abdominal aorta). We think comprehensive knowledge of renal vascular abnormalities will enhance the proper interpretation of radiological images and enable safer interventions such as retroperitoneal surgical and urological procedures. Familiarity with the renal vascular anomalies would also be of particular importance during endovascular embolization, stent placement procedures, and surgical treatment of aortic aneurysms and reno-vascular hypertension treatment.

ANALYSIS

Preferences and attitudes of Saudi female patients toward the gender of obstetricians and gynecologists

Khalid Akkour, Waleed H Alkhamis, Modhi M AlJumah, Lora T Dahy, Hani Alhalal, Nada Alayed, Maria Arafah, Shazia Iqbal

Background: Our aim is to evaluate the preferences and attitudes of Saudi females toward the gender of obstetricians and gynecologists (OB/GYN). *Methods:* We conducted an observational cross-sectional survey-based study on June-July 2020 among females attending the primary health care clinics in our institution. *Results:* We analyzed the association between the participants' variable characteristics and their gender preferences. Among 593 respondents, 74% preferred female OB/GYN doctors, while 17.4% have no gender preference and only 8.6% preferred male doctors. The most common reasons for female gender preference were "Issues of personal modesty" (58.2%), followed by "Religious beliefs" (44.7%), and "Females understand the problem better" (23.1%). More than third (40.8%) believed that a career in OB/GYN should be reserved for females. *Conclusion:* Similar to other Middle East countries, our society has a strong female OB/GYN gender preference and nationwide studies should be carried out and adopting new strategies are important to promote education, enhance workplaces and inaugurate gender equity.

Medical Science, 2021, 25(108), 353-362

Prevalence of allergic rhinitis among female secondary school students, in Arar city, Saudi Arabia

Yusra Saad Alruwaili1, Sabry Mohamed Hammad, Amal Elwan

Background: There has been no study done in Northern Borders region in the kingdom of Saudi Arabia exploring the prevalence of allergic rhinitis among female students in secondary schools, so this study conducted to assess the prevalence rate and understand risk factors associated with it. *Methodology:* A cross-sectional study was conducted during one year. The data was collected from students in October 2019 on female secondary schools in Arar city, KSA. A multistage cluster probability sample technique was used. The sample was drawn from 3 female secondary schools randomly using self-administered questionnaire. Data entry and analysis was performed using the statistical package social sciences program (SPSS) version 20, $P < 0.05$ were given to indicate statistical significance. *Results:* 15.1% of participants were 15 years old, 33.9% were 16 years, 36.2% were 17 and 14.8% were 18 years old. 98% of study participants were Saudi. Among all 24 allergic rhinitis patients; 54.2% suffer from stuffy nose once, 20.8% twice and 16.6% three times. Stuffy nose was reported to affect daily activity in 97.1% of all cases. Allergic rhinitis severely affects sleeping of 29.2% of cases, daily activities of 16.7% and study activities of 25% of patients. Of all studied sample; 3% answered yes when asked about allergy to specific food, 8.2% for dust, 5.6% for animals, 7.2% for moth insect and 0.3% were allergic to temperature changes. Family history of allergy was positive in 11.5% of sample. 6.9% of all participants answered yes for sneezing, 5.6% runny nose, 6.3% nasal obstruction, 5.3% itchy nose and 5.3% itchy skin or watery eyes. 7.8% of students were previously diagnosed with allergic rhinitis, 0.3% with eczema, 3% with eye allergy and 6.9% with asthma. *Conclusion:* In our study; the reported prevalence of allergic rhinitis was 7.8% which was lower than most reported figures. Effective preventive interventions may reduce the mortality, morbidity, and disability induced by this public health issue, such as raising awareness of the incidence of allergic disease and its risk factors and treatment options.

Medical Science, 2021, 25(108), 363-373

Cognitive interview for developing the instrument for high risk patients with diabetes and hypertension for Chronic Kidney diseases - Instrument about Measurement of Perception, Awareness, Social Support (I am PASS) scale

Shah PB, Jeyaseelan L, Soundararajan P, Sathiyasekaran BWC

Objectives: The objective is developing an instrument to assess the perception, awareness and social support for his risk patients with diabetes and hypertension towards chronic kidney diseases using cognitive interview. *Methods:* The items of PASS instrument were identified after extensive literature review and with the experts. Think aloud method of cognitive interview was used for the field staff and patients with diabetes and hypertension. *Results:* Six field staff and five patients with diabetes and hypertension were involved. Revised version of PASS instrument with 40 item instrument with 5 point likert scale was found to be a simple, user friendly, easily comprehensive version which takes about 30-40 minutes for an individual to respond. *Conclusion:* This multidimensional PASS instrument is based on health belief mode and its items comprises perception, awareness related to various aspects of chronic kidney diseases and its risk factors.

Medical Science, 2021, 25(108), 374-380

Hospitalization of rheumatoid arthritis patients at a tertiary care hospital in Saudi Arabia

Yasser M Bawazir, Mohammad Mustafa, Maram Alrajhi, Lugain Khoj, Roaa Alsolimani, Wail Alamoudi

Introduction: Rheumatoid arthritis (RA) involves a high economic burden, particularly for patients who require hospitalization, the need for which is affected by several factors including disease duration, comorbidities, medications, and socioeconomic status. *Method:* We retrospectively reviewed all adult RA patients who visited King Abdulaziz University Hospital between 2010 and 2020. *Results:* A total of 190 RA patients were identified, 176 and 141 of whom were female and seropositive, respectively. The most common comorbidity was hypertension, followed by diabetes mellitus. The most common reason for admission was sleep studies,

followed by elective drug infusions, most of which were for rituximab. There were 8 admissions for infection, 4 for pneumonia; 1 for pulmonary tuberculosis; and 1 each for osteomyelitis, pyelonephritis, and urosepsis. We identified 3 and 2 cases of acute coronary syndrome and breast cancer, respectively. *Conclusion:* The most common reason for hospitalization was biological drug infusion. Patients on biological treatments had an increased hospitalization risk secondary to infection, particularly lower respiratory tract infections. A national cohort for RA patients would help better understand this disease in our region.

Medical Science, 2021, 25(108), 381-390

CASE REPORT

Chorangiosis of placenta: A rare case report with unusual presentation and outcome

Khalid Akkour

Introduction: chorangiosis of placenta is a rare vascular lesion that leading to abnormal CTG due to fetal hypoxia. *Case report:* We report a 33-year-old patient at 40 weeks and 6 days of gestational age presented with spontaneous rupture of membrane (SROM) with re-assuring CTG. Upon delivery, unresponsiveness boy who was later announce dead due to placental chorangiosis. *Conclusion:* Placental chorangiosis could be presented with normal CTG and lead to drastic events, which ends up by neonatal death.

Medical Science, 2021, 25(108), 391-394

ANALYSIS

Population awareness and attitude towards cardiopulmonary resuscitation in Makkah, Saudi Arabia – A cross sectional study

Arwa Fairaq

Background: The abrupt loss of heart function or cardiac arrest is considered emergency conditions that result in loss of blood flow from the failure of the heart to pump effectively. If instant help is not provided directly to victims who suffer from cardiac arrest, sudden death can occur. Therefore, it is essential to provide immediate CPR. In the holy city Makkah, a huge number of pilgrims come annually from different parts of the world; any accident can occur that indicates an immediate CPR to save life and decrease mortality. Our study is the first to be done in Makkah. *Objective:* Our main aim was to assess the knowledge and attitude of general population in Makkah toward CPR. *Method:* This is a cross-sectional study from November 2020 to January 2021 was performed using an online survey. *Results:* Total of 101 participants, around 50.5% attended CPR preparation course. Around 42.6% witnessed a real situation of CPR, while only 9.9% were able to apply CPR by themselves. Most of the study participants have inadequate knowledge about CPR including only 18.8% knew the correct number of chest compressions per minutes, 36.6% knew the correct depth of chest compression, 35.6% knew the correct rate of breath to chest compression for adult victim and only 19.8% knew the correct duration for one cycle of CPR. *Conclusion:* We revealed that there is an inadequate knowledge among general population regarding CPR in Makkah. Therefore, more educational intervention should be applied.

Medical Science, 2021, 25(108), 395-400

Awareness towards obesity and bariatric surgery in Tabuk region

Fauwaz Fahad Alrashid, Raief Fahad Ali Alfriedy, Ragahd Ali Mohammed Albdair, Ethar Abed Awad Allah Alsulami, Alhanouf Mutlaq Salem Alazaima, Ayoub Hamdan Abis Alshehri, Hussain Gadelkarim Ahmed

Background: Bariatric surgery embodies as an effective mean for treating morbid obesity. Thus, the current study aimed to evaluate the awareness level towards obesity and Bariatric Surgery in Tabuk Region. *Methodology:* This descriptive cross-sectional study was conducted in the Tabuk region, Kingdom of Saudi Arabia, during 2020-2021. Subjects of this study were adults aged more than 18 years for both genders living in the Tabuk region, regardless of nationality, excluding adults below 18 years, medical staff, mentally disabled, younger than 18 years, and those living outside the Tabuk region. *Results:* On asking the participants, "Did you experience obesity," about 47% responded "Yes." On asking the participants "Did you experience bariatric surgery" around 86% replied "Yes." On asking the participants, "have you a family history of obesity" over 58% retorted, "Yes." On asking the participants, "Did you consider your current weight is harmful to your health" around 131(48%) answered "Yes." On asking the participants, "Are you curing about weight/physical appearance?", approximately 38% replied "Yes." *Conclusion:* Obesity/overweight health knowledge is poor among obese and those who have experienced bariatric surgeries in Saudi Arabia, which imposes further efforts at the community level. Knowledge of bariatric surgery-associated factors, including health benefits and complications, is low in the Tabuk area, necessitating educational interventions.

Medical Science, 2021, 25(108), 401-409

Uptake of influenza vaccine among type II diabetic patients in Arar city, Saudi Arabia

Aminah Abdullah Alhussain, Abdulrahman Abdullah Alhussain, Sabry Mohamed Hammad, Amel Elwan

Objectives: Estimating the uptake rate of seasonal influenza vaccine among type 2 diabetic patients and determining diabetes-related factors associated with influenza vaccination uptake among type 2 diabetic patients attending the diabetic centre in Arar city, 2019.

Methodology: A cross-sectional study conducted over one year in Arar, KSA, included all diabetic patients T2DM (≥ 18 years) attending the diabetic centre using a pre-designed questionnaire to fulfil the study's objective. *Results:* Of 357 participants, 42.3% (151 participants) received a seasonal flu vaccination. The main reasons for taking seasonal flu vaccination were: the importance of vaccine in preventing influenza in 45.1%, health awareness through various media in 18.2%, other people's recommendation in 15.4%, and the recommendation of the attending physician or nursing in 32.8%. Reasons for abstaining from getting the seasonal flu vaccination were: Not being advised by doctors and nurses 16.5%, thought of vaccination as not important in 5.1%, 12.3% thought that vaccination isn't effective, 16.5% fear the side effects of vaccination, fear of stinging the vaccination in needle 3.1%, Thinking that vaccination led to infection in 5.3%, didn't think influenza is dangerous 11.5%, 20.4% think that the flu vaccination is not important and fear of the side effects of vaccination in 16.5%. *Conclusion:* The uptake of seasonal influenza vaccination among diabetic patients in Saudi Arabia is relatively low, with no previous papers in Arar region discussing the same problem. We found a significant correlation between receiving seasonal influenza vaccine and age, gender, gender, educational level, working status, and commitment to diabetes treatment.

Medical Science, 2021, 25(108), 410-423

Characterization of brain lesions using Magnetic Resonance Spectroscopy

Negwa Gasim Mahgoub Ahmed, Asma Aamin, Sara Khalifa, Sawsan Mohammed Elhassan, Meaad Albashir, Mona Ahmed, Nada Alomairy

Nowadays MRS is considered one of the essential imaging modalities to assess the different brain lesions. This retrospective study was done in Khartoum state, Sudan to evaluate brain lesions using MRS. The data were collected from PACS of Royal care hospital after taken an ethical approval from the department of radiology. Total of 100 patients {54 male and 46 females} were examined. After collection, data was then analysed using statistical package for social sciences version 23, frequency and percentage used for categorical variable, cross tabulation using Chi square test to correlate between study variables, p value significant if ≤ 0.05 . The study found that the most frequent location of brain lesion in MRI is cerebrum 59%. The most common brain lesion described by MRS are low grade glioma is 18%, high grade glioma is 12%, gliomatosis cerebri 5%, focal encephalitis 3%, TB granuloma 4%. The Cho/Cr is done and show that the minimum ratio [1.10] in non-neoplastic lesion, maximum ratio {8} in high grade tumour. Most (86%) of these brain lesions yield low NAA, the lipid/lactate may be moderate or mildly elevated in 33% of cases, respectively. Significant correlation found between lesion type suggesting on MRS and metabolites values ($p < 0.01$) as lipid lactate producing sky high peak on different types of non-neoplastic eg. granuloma, normal peak in all cases of meningioma. The study concluded that MRS complementary to MRI in characterization of brain lesions, it can assess the lesion type and helping in grading of brain tumours.

Medical Science, 2021, 25(108), 424-431

Prevalence of low back pain and its relation to stress and study hours among medical students in University of Hail in Saudi Arabia

Khalid Farhan Alshammari, Othman Mohammad Alassaf, Hammad Yousef Alomaim, Ibrahim Abdullah Alnais, Salem Hmoud Alswayda

Background: Low Back Pain (LBP) involves the muscles, nerves, and bones of the back are considered a very common disease. It can affect many individuals around the world. The etiology of LBP in relation is influenced by long study hours, high occupational burdens and sedentary lifestyle. We aim to explore the effect of stress and studying on university students at the University of Hail. *Methods:* This is across-sectional questionnaire-based study involving 197 male and female medical students in University of Hail. It was carried out from May to September 2020 using the standardized Nordic questionnaire to assess low back pain while K10 questionnaire was used to assess the psychological stress. *Results:* Out of 197 students, 22.3% of medical students reported LBP, with 68.2% reported LBP in the last 7 days. Furthermore, 97.7% and 86.4% of students had LBP that interfered with their work and leisure activities, respectively. The mean stress score was 23.35 ± 9.68 with a significant association between LBP and stress level ($P = 0.000$). *Conclusion:* The prevalence rate of LBP was 22.3% while the prevalence of stress was 52.3%. Meanwhile, the risk factors associated with worse LBP are being in medical school for more than two years, female gender, obesity and having severe stress level.

Medical Science, 2021, 25(108), 432-439

Perspicacity of medical students towards breast self-examination

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Background: Breast self-examination it is not seen as a pertinent cancer screening tool, yet, it plays an important part in the breast health awareness program. *Aim:* To determine the awareness level of final-year female medical students towards breast self-assessment. *Methods:* A cross-sectional study included final-year female medical students of two consecutive academic years (2019 and 2020) (College of medicine, University of Hail). *Result:* An 83 college students, their additional knowledge regarding breast cancer was from media (69.9%). A 15.7% has a family history of breast cancer, this not affect their breast self-examination practice ($P=0.37$). A 61.4% were practicing. The justifications in the remainder for not practice either it is unhelpful or it may increase turmoil. An 86.7% believed it is useful means for early recognition of breast cancer. The age of 20 years is the appropriate age to

start practice, monthly and one week after menstruation were recognized by 57.8%, 87.9% and 86.7% respectively. Nearly, 69% knew its accurate technique. *Conclusion:* Students had inadequate knowledge and practice regarding breast self-examination, accordingly, its inclusion in the medical school curricula is recommended.

Medical Science, 2021, 25(108), 440-446

A study of outcome in comminuted supracondylar femur fracture with bone loss treated with locking compression plating and fibular bone grafting

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Background: Comminuted fractures of supra-condylar femur are rare, difficult to manage and challenging injuries usually associated with extensive soft tissue damage and bone loss. Due to large number of challenges presented, results are usually variable. *Materials and methods:* 33 patients of comminuted supra-condylar femur fracture coming to emergency department of Acharya Vinba Bhawe Rural Hospital Sawangi (Meghe) Wardha who met the inclusion criteria and operated with open reduction internal fixation with plating and autologous fibula strut grafting between duration of January 2018 to June 2019 were included in the study. The study was a prospective interventional study. *Observations and results:* The mean age of all the patients in the study was 43.745 years. Out of 33 patients in our study 27 were males and 6 were females. In our study, out of 33 patients, in 25 patients fracture was as a result of road traffic accident while in 8 patients it was due to fall from height. All the patients in our study had associated injuries. Out of 33 fractures, 7 were Type 33A2, 12 were A3, 9 C2 and 5 C3. Out of 33, 14 fractures had intra-articular extension. Also out of 33, 13 fractures were open fractures. Out of 13 fractures, 3 fractures were Type II, 4 IIIa and 6 IIIb according to Gustillo Anderson Classification. In our study, the average duration between injury and 1st intervention was 4.5 days with maximum patients (75%) getting operated within 2 days of arrival to the hospital. Out of 13 fractures, 10 were treated in 2 staged procedures, temporary stabilization followed by permanent stabilization. Average duration between 2 procedures was 2.5 months. All the 33 patients were operated under Spinal or epidural anaesthesia. Average time required for surgery was 104 minutes. The mean duration of union was 4.8 months. All fractures united. At final follow up, functional assessment with Neer's score was done which showed 17 had excellent results, 9 good, 6 fair and 1 patient had poor result. *Conclusion:* In conclusion, severely comminuted supracondylar fracture of the femur with significant bone loss can be effectively managed with distal femur locking compression plate and autologous fibula strut graft and cortico-cancellous bone graft from iliac crest. Harvesting and usage of fibula strut graft and iliac crest graft as mentioned in our study is relatively easy and cost effective and doesn't require micro-vascular expertise.

Medical Science, 2021, 25(108), 447-460

Culprit-only versus complete non-CTO revascularization during primary percutaneous intervention in acute STEMI with cardiogenic shock

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Background: There is marked controversy as regards the proper management approach among patients with STEMI, cardiogenic shock who show multi-vessel affection during the initial coronary angiography. A debate is present regarding culprit only versus total revascularization during the index procedure and the proper strategy needs to be re-addressed. *Aim:* This is an observational multicenter study that aims at assessing the best strategy for revascularization of STEMI patients with multivessel affection and cardiogenic shock excluding patients showing CTO lesions. *Methods:* We followed up 100 patients to either culprit-lesion-only PCI or immediate multivessel PCI. The results for the primary end point of death or renal-replacement therapy at 3 months have been reported previously. Prespecified secondary end points at 3 months included recurrent myocardial infarction, repeat revascularization, re-hospitalization for congestive heart failure, stroke, significant bleeding, the development of CIN and the amount of dye used. *Results:* As reported previously, at 3 months, the all-cause mortality was much lower the total revascularization group (32% vs. 52%, $P=0.043$), the need for replacement therapy was higher in the total revascularization group (10% vs. 2%, $P=0.204$) as well as the rates of CIN (28% vs. 9%, $P=0.235$). The rate of recurrent infarction was higher among the culprit-only group (10% vs 2%, $P=0.204$) as well as the need for urgent revascularization (18% vs. 2%, $P=0.008$). *Conclusion:* Among the selected groups of patients presetting with STEMI, cardiogenic shock and multi-vessel disease total revascularization provided better outcomes as regards 3-months mortality, recurrent infection and need for urgent re-intervention with no significant increment in the rates of CIN or renal replacement therapy.

Medical Science, 2021, 25(108), 461-468

Quality of life of type-1 Diabetic adolescents attending Arar diabetic centre, Saudi Arabia

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Background: Diabetes influences the quality of life which includes social, psychological and physical characteristics that affect health condition. Extra efforts are essential to assess and give consideration to health related quality of life. *Aim of the Study:* To assess the Quality of life of diabetic adolescents and to correlate between Quality of life and Subjective burden among diabetic adolescents. *Methodology:* Case control study conducted at MOH Arar diabetic centre included 25 adolescents with type 1 DM (12-18 year) were selected randomly from those attending diabetic centre in Arar city using a pre-designed validated SF-36 questionnaire translated into Arabic to collect the data from the participants by personal interviews. Collected data was coded and analysed using statistical package for the social sciences (SPSS, version 20). *Results:* 55% of participants aged between 12-15 years old. 60% of participants

were females. Of the 50 studied diabetic cases, 70% (35 case) reported regular insulin intake, 16% reported HbA1c \leq 7.5% while 84% $>$ 7.5% (Mean \pm SD= 9.11 \pm 1.40). Sex was significantly associated with the PHC, and MHC in the T1DM group ($P < 0.05$), and with the PHC in the control group ($P < 0.05$). Higher SF-36 scores were associated with poorer glycaemic control (HbA1c $>$ 7.5%) in physical functioning, (48.45 \pm 18.82), role limitations due to physical health (40.48 \pm 44.84) and general health (41.55 \pm 14.84). *Conclusion:* SF-36 scores of patients were low compared to control group which refer to poor quality of life among diabetic patients. Also, higher SF-36 scores were associated with poorer glycaemic control (HbA1c $>$ 7.5%) in all SF-36 components.

Medical Science, 2021, 25(108), 469-476

Incidence of contrast-induced nephropathy in complete versus culprit only revascularization in old patients with ST-elevation myocardial infarction undergoing primary percutaneous coronary intervention

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Objectives: To compare complete revascularization with a culprit-only revascularization in patients presenting with ST-segment elevation myocardial infarction (STEMI) and multivessel disease. *Background:* Although several trials have compared complete with culprit-only revascularization in STEMI, it remains unclear whether complete revascularization may lead to improvement in hard endpoints (death, contrast-induced nephropathy and renal hemodialysis). *Methods:* It's a cohort trial, the patients in our study were randomized into 2 groups; one of them had complete revascularization while the other group had culprit-only revascularization. *Results:* Our study including a total of 140 patients. 70 patients had complete revascularization, 65 patients at immediate procedure and 6 patients within 72h from initial procedure. The other 70 patients had only culprit revascularization. The exclusion criteria included patients who had chronic total occlusion (CTO) or creatinine clearance $<$ 30ml/min. Compared with a culprit-only strategy, complete revascularization had significantly higher risk for contrast induced nephropathy (CIN) $p=0.016$ but no significant difference between the two groups regarding renal replacement therapy during hospital stay or within one month $p=0.15, p=0.31$ respectively. There is also no significant difference between the two groups regarding one month mortality $p=0.31$. *Conclusions:* culprit-only revascularization reduces the risk of CIN in patients presenting by STEMI but don't differ in incidence of mortality or renal replacement therapy.

Medical Science, 2021, 25(108), 477-485

A clinical trial study on the efficacy of aprepitant for the prevention of chemotherapy-induced nausea and vomiting in children with cancer

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Background: Preventing and controlling cancer-induced nausea and vomiting (CINV) in children undergoing chemotherapy is a great challenge because of more vulnerability and susceptibility of this age group. The present clinical trial study aimed to compare the antiemetic regimens including ondansetron and aprepitant in management of CINV among children. *Material and Methods:* In this, quazi-experimental double blind and self-control clinical trial study, 85 children ranged 1 to 15 years suffering cancer and scheduling for moderate or severe protocols for chemotherapy referred to Ali-Asghar children hospital in September to December 2020 were included. The patients in first course of chemotherapy received ondansetron at a single dose of 0.1 mg/kg before starting chemotherapy (as the comparison course) and also received aprepitant in the next course of chemotherapy exactly the same as the first course (as the intervention group). *Results:* The severity of CINV during the first 24 hours of chemotherapy as well as after the first 24 hours of chemotherapy up to 120 hours in the intervention period was significantly lower than the comparison period ($P < 0.001$), independent to gender and severity of chemotherapy. *Conclusion:* Aprepitant is very effective in preventing CINV in children higher than 6 months as compared to ondansetron as the control. Such effectiveness is independent to baseline variables including gender and severity of chemotherapy.

Medical Science, 2021, 25(108), 486-491

Dermatofibrosarcoma protuberans: Our experience of 37 cases, a Single institutional review at NCI, Egypt

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Background: DFSP is a rare slow growing locally malignant skin tumor. It is the commonest cutaneous stromal tumor arising in young & middle-aged adults with rare occurrence in paediatrics. It arises as a firm slow-growing nodule that infiltrates deeply with in apparent finger projections beyond clinical margins. Commonly it recurs but rarely metastasizes unless there is a fibrosarcoma component diagnosed by open biopsy & IHC with CD34. Surgery is the main stay of treatment with wide clear margins of 2-3 cm or more beyond clinical borders & down to fascia. Mohs micrographic surgery plays a role especially when wide resection would result in poor cosmetic or functional outcome as on face or ears. Margins of first resection are the main factor to affect local recurrence rates & prognosis. With LNs metastases regional lymphadenectomy offers survival benefit. Lung metastases are rare & occur with multiple local failures after multiple compromised surgeries. Metastasectomy is justified in isolated oligo-metastatic resectable lesions mainly in lungs. CTH is rarely used & RT may be used adjuvant to surgery reducing recurrence when clear margins are not obtained. Imatinib may be considered an option for locally advanced & recurrent lesions. *Aims:* To study clinicopathological features of all cases of DFSP, presentations, diagnosis, surgical management, complications, reconstructive methods & outcome 'DFS' & 'OS'. *Materials & Methods:* A single institution prospective analysis of all cases presented to NCI-Cairo University with DFSP candidates for surgery over a period of 5 years from Jan 2015 until Dec 2019. 37 cases included. Data collected

from patients archives then analyzed. *Results:* Mean age was 36.5ys ranging (6-65ys). Males predominated (40 cases, 54.1%). Most lesions were on the trunk (14 cases, 37.9%). Protruding type was the commonest (26 cases, 70.2%). All cases were denovo at initial presentation. 8 cases (21.6%) were on top of previously injured skin. Post resection least diameter ranged (0.5-5.5cm) with mean (2.01±1.36 SD) while largest diameter ranged (0.5-14cm) with mean (3.79±3.08 SD). +ve or close margins (<1cm) encountered in (10 cases, 27%). Local recurrence appeared in (11 cases, 29.7%) for 1st time, in (5 cases, 13.5%) for 2nd time & in (2 cases, 5.4%) for 3rd time. Local recurrence occurred in (12 cases, 32.4%) of primary clear margins & among (7 cases, 18.9%) of primary close margins even after re-resection. Median & mean survival times were 4ys & 4.1yrs respectively. Most patients survived 3 or 4 years (43.2% or 35.1%, respectively). The only significant survival parameter was tumor free margins above 4 cm as free-margin lesions survived longer than those with close-margin lesions (<1cm).

Medical Science, 2021, 25(108), 492-500

RESEARCH

Clinical risk factors of acute myocardial infarction in young people: Anxiety in the lead?

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Background: Multiple risk factors are associated with acute myocardial infarction (AMI) but local data in young patients are limited. The present study explored risk factors of AMI in young patients. *Materials and Methods:* A cross-sectional study (n=224) was conducted on young adults with a recent first AMI and age-matched non-AMI controls. Demographic data, co-morbidities, lifestyle factors, family history, smoking history and anthropometric measures were recorded for each participant. Hamilton anxiety rating scale (HAM-A) was used to assess anxiety levels. Serum cardiac and liver enzymes were also measured. *Results:* AMI patients showed higher mean anxiety scores (25.16 vs. 13.27, p=0.000) and weekly cigarette consumption (4.32 vs. 0.21, p=0.000). 96.42% of AMI patients had moderate to severe anxiety. Other common risk factors included lack of regular exercise (82.14%), hypertension (HTN, 75%), unhealthy diet (66.08%), renal disease (60.71%), sedentary living (53.57%), diabetes mellitus (51.78%) and smoking (50%). Positive family histories of HTN, DM and AMI were observed in 96.42%, 94.64% and 57.14% of patients respectively. *Conclusion:* Anxiety is a major risk factor of AMI in young adults besides other conventional risk factors and controlling them may help lessen the burden of AMI.

Medical Science, 2021, 25(108), 501-507