

Medical Science

About the Cover



Background: Use of smokeless tobacco (SLT) and its cardiovascular risk was not well studied among Sudanese. In this study we aim to study the changes in pulse and blood pressure among snuff users. *Methods:* This is a cohort (before and after) study, carried among Sudanese SLT users, with the aim of reviewing its effect on their blood pressure and pulse rate. A questionnaire, with direct interviewing was used to collect data, blood pressure and pulse rate records, initially and after one hour following the use of SLT. *Results:* Out of 100 participants who were all males, their age varied between 20-68, mean 34 years SD 9.36, married 58%, the dominant occupation was students 37%, drivers 21% and farmers 18%. The mean age at start snuffing, was around 16 years. Interestingly, their systolic, diastolic blood pressure and radial pulse rate has increased one hour following the insertion of their usual snuff dose. The mean difference was 11.56 with 12.07 SD for systolic blood pressure, P value (0.001), and 10.73 with 11.29 SD, for the diastolic blood pressure P value (0.001) and 2.32, with 10.20 SD, for the pulse rate P value (0.001). All participants shared the same type and way of use of the SLT. *Conclusion:* This study has shown highly statistically significant increase in the blood pressure and pulse rate after one hour following the use of SLT. With an early start of using SLT among different Sudanese workers. (Ref: Ahmed IE, Rami SH. Effects of smokeless tobacco on the blood pressure and pulse rate among Sudanese users: A Cohort study. *Medical Science*, 2021, 25(110), 781-787).

A cross sectional study to assess the awareness regarding spinal disc herniation among Hail population, KSA

Fatmah Fahad Alreshidi, Nourah Mohammed Alshammari, Ashwag Ghazi Alshammari, Hanan Hamdan Alshammari

Background: Spinal disc herniation is a condition that arises as a result of high pressure on the disc, trauma, and obesity leading to dislocation of disc material outside the intervertebral disc space. That can lead to multiple health's serious problems. *Methods:* A descriptive, cross-sectional study was conducted through an electronic questionnaire. It was distributed through social media apps to the general population of Hail City. The data were collected between November and December 2020. The online questionnaire was obtained and valid from previous study. *Results:* 411 people participate in the study majority were female 72.5% and 27.5% male, 94.2% out of them were Saudi. Most of them were young, 48.4% aged between 18 and 29 years old. The level of knowledge among participants was moderate (4.39±1.50). *Conclusion:* The majority of the participants demonstrated insufficient knowledge regarding a majority of the study aspects, thus the need to increase awareness level by providing the scientific material for the general population.

Medical Science, 2021, 25(110), 751-759

Preoperative immature granulocyte count and percentage for complicated acute appendicitis and uncomplicated acute appendicitis (A retrospective cohort study)

Mehmet Buğra Bozan, Fatih Mehmet Yazar, Özlem Güler, Ayşe Azak Bozan, Ömer Faruk Boran

Aim: Complicated acute appendicitis causes prolonged hospitalisation and increased risk of complications. Preoperative differentiation of this case can help us to select appropriate treatment options (surgery or medical treatment). In this retrospective cohort study it is aimed to evaluate the preoperative immature granulocyte count (IGC) and percentage (IGP) in differentiation of complicated and uncomplicated acute appendicitis cases. *Methods:* 70 of 156 patients who were operated with the same surgical team for acute appendicitis between June 2018 – June 2019 included into this study. Demographic data (age, sex), white blood cell count (WBC), Neutrophil-Lymphocyte Ratio (NLR), IGC and IGP of complicated acute appendicitis (Group C) cases and uncomplicated acute appendicitis (Group UC) cases were evaluated retrospectively. *Results:* Male/Female rate was 40/30 (%57.1/%42.9). The count of cases for Group C and Group UC was 25/45 (%35.7/ %65.3). Between Group C and Group UC, there was no statistically significant difference for age and sex ($p>0.05$); there was statistically significant difference for WBC, NLR IGC and IGP ($p<0.05$). A multivariate analysis of the effective factors shows that both of the factors WBC, NLR, IGC and IGP are predictive for complicated acute appendicitis cases (p value <0.001 for both of the factors). *Conclusion:* The IGC and IGP obtained from the complete blood count test are sensitive predictive factors with the other inflammatory parameters to make a differential diagnosis between uncomplicated and complicated acute appendicitis. As a result IGC and IGP can be useful for guidance of nonoperative management of acute appendicitis.

Medical Science, 2021, 25(110), 760-766

Eating disorders amongst adolescents in Makkah: Effects of stress and smoking

Khloud J Ghafouri, Alaa H Qadhi, Mazen M Ghaith, Wedad F Azhar, Firas S Azzeh, Mahmoud M Habibullah

Background: Eating disorders (ED) are a common health problem amongst adolescents. The high incidence may reflect ignorance, but it may also be influenced by environmental factors. This study aimed to investigate the potential students at risk of ED amongst high school students in Makkah, and to evaluate the relationship between risk of ED and smoking or perceived stress. *Method:* 471 students (72 males and 399 females) from private and public secondary schools were enrolled in the study. Demographic data and Perceived Stress Scale questionnaires were used to determine the potential prevalence of students with the risk of ED. *Results:* Results classified 46% students into the group at risk for anorexia or bulimia nervosa. 29% students were identified as having possible issues with food or body image. A significant relationship was found between stress levels and the risk for ED ($p<0.05$). Additionally, there was a significant relationship between smoking and the likely risk of ED. Girls exhibited a higher prevalence of stress compared to male subjects ($p<0.05$). Significant relationships were identified between obesity and risk of ED in both genders ($p<0.05$), also between gender and weight ($p<0.05$). *Conclusion:* Students in Makkah are at risk of ED. Data suggesting that high stress levels and smoking have a significant influence on ED development.

Medical Science, 2021, 25(110), 767-775

CASE REPORT

A case of hypothyroidism presenting as dilated cardiomyopathy

Hao Thai Phan, Hanh Le Minh Doan

Thyroid disorders including hyperthyroidism and hypothyroidism may affect the cardiac function. In particular, inadequately treated hypothyroidism can cause diastolic and systolic dysfunction. Dilated cardiomyopathy, a condition that causes a decrease in the systolic function of the heart, is a rare manifestation of hypothyroidism, reversible with thyroid hormone therapy. We report a clinical case of reversible hypothyroidism induced dilated cardiomyopathy.

Medical Science, 2021, 25(110), 776-780

Effects of smokeless tobacco on the blood pressure and pulse rate among Sudanese users: A Cohort study

Izzaddinn Elawad Ahmed, Saeed Hameed Rami

Background: Use of smokeless tobacco (SLT) and its cardiovascular risk was not well studied among Sudanese. In this study we aim to study the changes in pulse and blood pressure among snuff users. *Methods:* This is a cohort (before and after) study, carried among Sudanese SLT users, with the aim of reviewing its effect on their blood pressure and pulse rate. A questionnaire, with direct interviewing was used to collect data, blood pressure and pulse rate records, initially and after one hour following the use of SLT. *Results:* Out of 100 participants who were all males, their age varied between 20-68, mean 34 years SD 9.36, married 58%, the dominant occupation was students 37%, drivers 21% and farmers 18%. The mean age at start snuffing, was around 16 years. Interestingly, their systolic, diastolic blood pressure and radial pulse rate has increased one hour following the insertion of their usual snuff dose. The mean difference was 11.56 with 12.07 SD for systolic blood pressure, P value (0.001), and 10.73 with 11.29 SD, for the diastolic blood pressure P value (0.001) and 2.32, with 10.20 SD, for the pulse rate P value (0.001). All participants shared the same type and way of use of the SLT. *Conclusion:* This study has shown highly statistically significant increase in the blood pressure and pulse rate after one hour following the use of SLT. With an early start of using SLT among different Sudanese workers.

Medical Science, 2021, 25(110), 781-787

Laboratory prognostic factors correspondence to independent postoperative histo-pathological prognostic factors in pancreatic ductal adenocarcinoma

Ahmed Tabaan Alenezi

Background: Investigating the various prognostic factors affecting pancreatic cancer prognosis is of great value in their management during clinical practice. This study aimed to identify all these prognostic factors used in the systematic review in a correlation analysis to conduct their influence on pancreatic cancer patients. *Material and Methods:* Systematic review search was conducted in PubMed, EMBASE, and EBSCO through July 2020. The meta-analysis was applied in 32 study articles and reported their hazard ratios (HRs), 95% confidence intervals (CIs), and their effects on the prognosis of the pancreatic cancer patients. *Results:* Thirty-two studies with 7778 patients were included in the study. The pooled analysis indicated bad prognosis in lymph node metastasis (HR= 1.61; 95% CI; 1.01-2.22), lymph node ratio (HR= 2.63; 95% CI; 1.23-6.50), lymphatic invasion (HR= 1.29; 95% CI; 0.89-1.69), lymphovascular invasion (HR= 2.08; 95% CI; 0.38-3.79), vascular invasion (HR= 1.55; 95% CI; 1.04-2.25), duodenal invasion (HR= 1.17; 95% CI; 0.95-1.38), NLR (HR= 1.11; 95% CI; 1.03-1.19), PLR (HR= 1.04; 95% CI; 0.95-1.13), neutrophil count (HR= 2.94; 95% CI; 0.18-5.70) and good prognosis with high LMR (HR= 0.83; 95% CI; 0.74-0.93) while the marginal invasion (HR= 1.00; 95% CI; 0.24-1.75). *Conclusion:* The results of the meta-analysis showed that the following prognostic factors; lymph node metastasis, lymph node ratio, lymphovascular invasion, lymphatic invasion, vascular invasion, duodenal invasion, NLR, PLR, neutrophil count and lymphocyte count are of worse prognosis. However, high LMR referred to a good prognosis in pancreatic cancer patients. We recommend physicians and health care providers to deem the aforesaid results while assessing the prognosis among pancreatic adenocarcinoma patients.

Medical Science, 2021, 25(110), 788-805

CASE REPORT

Stuttering priapism in a case of Sickle Cell Disease – A case report

Amol Andhale, Abhijit Dhale, Sourya Acharya, Anuj Varma, Nakul Kadam

Priapism is a painful penile erection unrelated to sexual desire. It can be graded as low flow (ischemic) or high flow (non-ischemic). Low-flow priapism accounts for most cases of priapism in SCD individuals. Stuttering priapism is an ischemic variant characterized by short repeated episodes of intermittent, self-restricted priapism, which are also known as chronic ischemic priapism. Each episode usually lasts for two to three hours. The common hematologic conditions associated with priapism are sickle cell disease, leukemia, thalassemia, multiple myeloma, thrombotic thrombocytopenic purpura. We report a case of a 17 year old male, who had recurrent episode of stuttering priapism over 3 to 4 years and finally presented to us with an episode of ischemic priapism lasting for more than 36 hours.

Medical Science, 2021, 25(110), 806-811

Chromophobe variant of renal cell carcinoma – A rare case report

Harsh Dinesh Bhalsod, Imran Ali Khan

Chromophobe renal cell carcinoma (ChRCC) is a rare variant of renal cell carcinoma which is usually diagnosed in advanced stages of life. It is imperative to differentiate it from the more common clear cell and papillary cell carcinomas as it displays a significantly better prognosis. We hereby present a case report of female, 44 years of age, who came with complaints of pain and palpable lump in abdomen. A renal mass was observed on radiological investigation. Left nephrectomy was done. Histopathological examination was suggestive of chromophobe variety of renal cell carcinoma. We are presenting this case due to its rare incidence and to emphasize the importance of its diagnosis from its differentials.

ANALYSIS

Assessment of control of bronchial asthma persistence and basic anti-inflammatory therapy volume control: School patients dynamic longitudinal monitoring results

Olena Koloskova, Natalia Shevchenko, Uliana Marusyk

The task was to study the characteristics of the control of symptoms of the disease at school age in order to improve the management of bronchial asthma in children. The study was conducted within the framework of the project of longitudinal monitoring of children's cohort formed by simple random sampling, which lasted 5 years. The control of the symptoms of the disease, the severity of the course and the response to the prescribed basic anti-inflammatory therapy were evaluated. The study covered 196 school children suffering from asthma in the non-attack period. The monitoring showed a significant 2.12-fold increase in the proportion of controlled asthma in the total cohort of patients, a statistically valid increase in the proportion of patients with low asthma control by 2.3-fold and a 1.9-fold decrease in the number of patients with partially controlled symptoms. The study showed that the proportion of patients with controlled persistent bronchial asthma during the observation period, according to the clinical-instrumental assessment scale, compared with the initial data, statistically reliably increased by 2.54 times. During the dynamic monitoring using the GINA questionnaire and the clinical-instrumental evaluation scale, a decrease in the proportion of uncontrolled asthma was revealed, contrary to the data of the AST test, which showed an increase in the number of such patients.

Medical Science, 2021, 25(110), 816-822

Knowledge, attitude and school preparedness of first aid among kindergarten teachers in Makkah, Saudi Arabia: A comparative cross-sectional, analytical study

Reham Naif Bin Hassan, Muhammad Irfanullah Siddiqui, Yasmeen Ismail Barmawi, Bashaier Ahmad Fairaq

Aim: This study aimed to assess the level of knowledge, attitude, and school preparedness of first aid among kindergarten teachers in Makkah, Saudi Arabia. *Method:* A comparative Cross-Sectional, Analytical Study was conducted among 582 kindergarten teachers working in Makkah Al Mukaramah city from November 2019- January 2020. Data were collected using a self-distributed questionnaire. *Result:* Knowledge level was reduced among 58.2% of the teachers, with a mean score of 11.66 ± 3.84 . On the other hand, the majority 90% of the teachers showed a positive attitude with a mean score of 10.19 ± 3.07 . More than half of the schools had poor school health services (56.0%), with a mean score of 5.06 ± 1.77 . *Conclusion:* The current study shed light on the poor level of knowledge about first aid among kindergarten teachers, as well as the shortage of healthcare services in the schools, even that the majority of the teachers had high positive attitude, particularly the importance of learning first aid and having adequate first aid services in schools. *Recommendation:* There is need for further nation-wide studies on assessment of kindergarten teachers' knowledge and attitude regarding first aid in schools on larger sample sizes and regions other than Makkah Al-Mukarramah.

Medical Science, 2021, 25(110), 823-835

Outcome of wide local excision with and without corticosteroid therapy in management of idiopathic granulomatous mastitis

Amira Maher R, Osama Al Atarash, El-Shinawi M, Fahmy K, Ahmed Gamal Eldin Osman

Introduction: Idiopathic granulomatous mastitis is considered as one of the rare benign breast disease. It can be misdiagnosed as breast carcinoma both clinically and radiologically. Tissue biopsy and histopathological assessment is the gold standard for diagnosis. Proper management of Idiopathic granulomatous mastitis is still controversial. In our study, we aimed to evaluate the addition of corticosteroid therapy to surgical excision in management of idiopathic granulomatous mastitis. *Patients and Methods:* This is a comparative study which was conducted at Ain-Shams University Hospital's breast clinic on patients with idiopathic granulomatous mastitis from August 2015 till September 2018. Thirty patients were divided into 2 groups. Group (A) consisted of participants who received surgical management only. Group (B) includes patients who received corticosteroid therapy according to the severity of the cases then surgical Excision was done for the residual lesion. Follow up of the cases was done up to 1-2 years to document the recurrence rate and to assess the cosmetic outcome of both groups. Informed consent was obtained from all the cases included in the study. *Results:* The mean age of the affected women was 38.80 and 33.13 in group (A) and group (B), respectively and it wasn't statistically different (p value = 0.099). The most common presenting symptom was a palpable mass in the breast (66.7% and 93.3%) in group (A) and group (B) respectively. Recurrence rate was higher in group (A) (40%) with no recurrence documented in group (B) however 2 cases were omitted from the study due to steroid noncompliance and complications. Cosmetic outcome was found to be excellent in 76.9% of group (B) and good in 53.3% of group (A). *Conclusion:* Systemic steroid with surgical resection is recommended as a treatment strategy for IGM as it shows less recurrence rate and less post- surgical scarring. Further larger studies are recommended for better awareness of IGM to improve its management in our country.

Medical Science, 2021, 25(110), 836-845

Traumatic extravasation of blood in gingiva and floor of mouth associated with vitamin K deficiency in a patient of oral submucous fibrosis- A case report

Ramhari Sathawane, Runal Bansod, Rakhi Chandak, Ashish Lanjekar, Romita Gaikwad, Dhiran Talatule, Kshtija Bhakte, Vidyarjan Sukhadeve

Vitamin K, a fat soluble vitamin, is an essential factor for the activation and synthesis of coagulation factors II, VII, IX, X and protein C and S. Vitamin K deficiency can easily develop in patients having chronic debilitating mouth disease such as oral submucous fibrosis (OSMF) due to poor nutritious food intake. We present a case of a 45 years old male patient having grade II OSMF reporting with intermittent bleeding and swollen gingiva with extravasation of blood in gingiva and floor of mouth secondary to local trauma. Patient's prothrombin time, activated partial prothrombin time and platelets were increased leading to inadequate activity of coagulant factors such as factors resulting in intermittent spontaneous bleeding and extravasation of blood in gingiva and floor of mouth. Patient was treated with injectable Vit K. There was complete resolution of extravasated bleed and edematous gingiva with stoppage of intermittent spontaneous bleeding. Periodontal surgery took care of localised periodontitis.

Medical Science, 2021, 25(110), 846-852

ANALYSIS

Obesity as a threshold of elevating insulin and leptin: A population based cross sectional study

Samananda L, Govindaraj Y, Kanan W

Obesity is often thought to be the result of excessive calorie intake and lack of energy expenditure that leads to negative health impacts such as type 2 diabetes, cardiovascular problems, cancers and other metabolic disorders. Study aimed to evaluate the levels of insulin and leptin in non-obese and obese and its relationships. A total of 331 individuals, age 18 to 65 years (female 212 and male 119) were involved in the study which was conducted in the department of Physiology, Regional Institute of Medical Sciences, Imphal, Manipur, India. Collected blood samples were estimated insulin and leptin levels. All data were calculated the correlations between insulin and leptin. Present study showed significant changes of insulin and leptin levels ($P < 0.01$) among non-obese and obese. Males were found significant increase ($P < 0.01$) in insulin levels as compared to female non-obese and obese group. In contrast, female showed higher leptin levels significantly than male groups of non-obese and obese. Data presents positive correlations between BMI and insulin ($P < 0.05$) as well as between BMI and leptin ($P < 0.01$). Insulin levels had positive relationships with leptin levels ($P < 0.05$) in the obese group. We conclude that with increasing insulin and leptin levels in obese, probability to prone prediabetic and other metabolic disorders might high.

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Clinical and radiological manifestations of Covid 2019 patients admitted to al-karak governmental hospital in south Jordan

Mahmoud Khasawneh, Mohammad Alsbou, Ana'am Mohammed, Samir S Mahgoub, Yazeed Bagain, Hamza Al Majali, Anas Rawashdeh, Hani Al-shagahin

Background: Coronavirus disease 2019 (COVID-19) pandemic has emerged as an unprecedented health care crisis. There is limited research investigating the clinical and radiological features of COVID-19 patients in Jordan. *Aim:* To describe the clinical and radiological characteristics of COVID-19 patients. *Patients and Methods:* This retrospective observational study was conducted using the data of 145 COVID-19 confirmed patients admitted to Al-Karak Governmental Hospital between December 2020 to February 2021. Epidemiological, clinical, and radiological features of patients were obtained from the hospital electronic records. *Results:* Men were more affected than women, The majority of patients (61.4%) had moderate symptoms and radiological findings of pneumonia, (20%) of patients had mild symptoms such as fever, dry cough, arthralgia, and (18.6%) of patients admitted with severe symptoms. The most common clinical symptoms were shortness of breath (14.9%), cough (12.4%), chest pain (6.2%), and fever (4.8%). The most common underlying comorbidities were hypertension (47%), diabetes mellitus (19.3%), and heart diseases (4.1%). The predominant pattern of abnormality observed were ground-glass opacities (GGOs) (69.7%) and consolidation (23.2%), peripheral (23.3%) and bilateral (95.3%) distribution, which mainly involved the lower lobes (30.2%). *Conclusion:* Our study demonstrates similar clinical and radiological characteristics of COVID-19 patients in previously reported studies in other countries. Chest radiography and CT scan are important tools for diagnosis and follow up of pulmonary diseases associated with COVID-19. Chest radiography could be used as a tool for identifying COVID-19 pneumonia but is less sensitive than CT scan.

Medical Science, 2021, 25(110), 859-867

Prevalence and determinants of stress among medical residents in ministry of National Guard, Saudi Arabia

Moteab Sayer Alotaybi, Hani Saad Al-Mugti, Majed Naif Alosaimi, Abdulmalik Mohammed Alsabban, Abdullah F Al Otaibi, Osama Abdulmajeed A Bugis

Background: The residency programs are essential part of post-graduation program in Saudi Arabia. Medical trainee is subjected to stressful environment including high workload, intensive emotional events, high expectations, and increased risk of workplace violence. This study aims to conduct assessment of the prevalence and determinants among medical residents in the ministry of

National Guard, Saudi Arabia. *Subject and Methods:* The participants were selected randomly from the list of the residents in each specialty using systematic random sampling. The study started February 2020 and terminated at January 2021. The study was designed as a cross-sectional design. Self-administered questionnaires are used to collect data about study variables. The questionnaire consists of 41 questions. *Results:* A sample of 250 participants was analyzed. When using PS scale, 70.8% of participants were regarded as 'normal' while 29.2% of them recorded abnormal stress. Those who slept less than 6 hours had had abnormal PSS than normal ones. Second, average number of patients being seen either in ED or outpatient clinic were higher in normal category rather than abnormal category. A multivariate regression analysis showed increased number of consultations per day, doctor-doctor relationships and nature of medical job as stressors were statistically significant and considered as causes of stress in our study. *Conclusion:* Despite equal rate of perceived stress records in our study to previous literatures, no stress management tools or plans were designed. This should be available with collaboration of psychiatric department in any national health trust.

Medical Science, 2021, 25(110), 868-881

The association between Folate metabolism, C677T and A1298C Polymorphisms of Methylene tetrahydrofolate reductase Gene and the genetic susceptibility of Preeclampsia among a sample of Jordanian pregnant women

Samir S Mahgoub, Omar A Azzam, Abufraijeh SM, Al-Kharabsheh AM, Heba M Abd El Kareem

Background: Preeclampsia (PE) is a pregnancy disorder causes uteroplacental dysfunction resulting in fetal growth restriction. *Aim:* This study aimed to evaluate the association between C677T and A1298C polymorphisms of methylene tetrahydrofolate reductase (MTHFR) gene and PE susceptibility in a sample of Jordanian women. *Methodology:* The analysis of MTHFR C677T and A1298C polymorphisms was done by Polymerase Chain Reaction-Restriction Fragment Length Polymorphism (PCR-RFLP). PCR-RFLP products were digested with *hinfI* and *MbolI* enzymes. The digestion products were electrophoresed on 2% agarose gel, stained and visualized under UV light. The levels of homocysteine, folic acid, and B12 were assayed using ELISA. *Results:* The study revealed a significant difference in plasma levels of homocysteine in PE patients versus the controls. TT, CT polymorphisms, AC polymorphism, mutant T, C alleles of MTHFR C677T and A1298C polymorphisms, respectively, also, combined polymorphisms 677CT/1298CC, 677CT/1298AA and 677TT/1298AA were shown to be associated with increased PE susceptibility. *Conclusion:* Our data suggest that MTHFR C677T and A1298C polymorphisms are most likely to be risk factors for developing PE among Jordanian pregnant women. Also, the two types of polymorphisms may synergize to increase the risk of PE.

Medical Science, 2021, 25(110), 882-890

Endometrial biopsy in females with abnormal uterine bleeding: Clinical and histopathological patterns

Mohamed EA Elhussiny, Nasser Omar, Kamaleldin Abdalla Rageh, Mohamed Hussain Ali, Sherif Fayad, Moustafa A Elnawasany, Ahmed Maher Khalifa, Mohammed Ezzelarab

Background: Abnormal uterine bleeding (AUB) is a common presenting symptom in the gynecology practice setting all over the world, however the etiology and patterns could vary from one region to another. This study aims to identify the clinical patterns and histopathological different diagnoses encountered in patients of various age groups presenting at a tertiary hospital in one of the biggest countries in the Middle East region. *Materials and Methods:* This is a retrospective study assessing a total number of 210 endometrial biopsies obtained by the gynecologists using three sampling tools; dilation and curettage, endometrial pipelle biopsy, or hysteroscopy endometrial biopsy. The cases were retrieved to identify the different histology patterns of AUB and assess the performed maneuvers endometrial biopsy in the histopathology, gynecology, radiology and anesthesia departments. *Results:* The most frequent recorded bleeding type is the menorrhagia which is presented in 40% of the patients, followed by the menometrorrhagia. According to histological patterns; the normal menstrual pattern accounts 25.5% of cases and malignant cases are 13/210 (6.2%). The clinico-histological agreement for diagnosis of the endometrial pathology is 80%. *Conclusion:* Postmenopausal age group carries the higher risk of malignancy, however, malignancy and atypical endometrial carcinoma are also seen in the reproductive age group. Clinical and radiological examination may fail to reach out the final diagnosis, then proper biopsy taking and careful histopathology examination is mandatory.

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Public awareness towards disk herniation in Ha'il region, Saudi Arabia: A cross-sectional study

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Introduction: Disc herniation is quite common condition with an incidence that ranges between 40 to 50 per 100,000 people. *Material & methods:* A cross sectional study aimed to measure the level of awareness by online questionnaire about Disc herniation among Hail community. The questionnaire hosted by Google form, and distributed between July - August 2020. *Results:* A total of 519 participants have completed the survey. The studied population age range between 15 and 76 years old with a mean age of 31.08±1.08. However, regarding disc herniation awareness, 67.1% knew what disc herniation is, while only 6.7% have visited an awareness activity about disc herniation. *Conclusion:* The study revealed that there is good awareness only in half of the population in Ha'il region, Saudi Arabia. Ha'il community without a doubt needs comprehensive awareness campaigns.

Medical Science, 2021, 25(110), 900-906

Practical value of 3D modeling method of experimental wound channel during forensic examination of stab wound

Pavlo Kyshkan, Ivan Savka

The study aimed at examination of the possibilities of using photogrammetry methods followed by 3D modeling of the wound channel and acute traumatic object during forensic medical examinations of stab wounds of soft tissues and parenchymal organs. The study was conducted on a series of 15 experimental and practical cases of stab wounds. Experimental wound channels were manufactured using alginate imprint mass with rubber-like effect "Hydrogum 5" ("Zhermack", Italy) and barbed tool with the one-sided sharpening of the blade. During the program investigation of 3D models of experimental wound channels, the linear dimensions of individual morphological parts of the wound channel were obtained with an accuracy of 0.001 cm, which allowed us to identify the instrument which caused the injury with a high probability. Taking into account the reliable results obtained in the experiment, this technique was used during the forensic medical examination of stab kidney wound, which allowed identifying the instrument of injury from among the provided ones by the investigating authorities for forensic examination of razor-barbed tools.

Medical Science, 2021, 25(110), 907-916

Total corneal astigmatism values for toric intraocular lens power calculation: Devices comparison

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Purpose: To compare the prediction error of three toric intraocular lens calculators including total cornea astigmatism mode of the Bausch and Lomb enVista toric calculator, Barrett toric calculator, and Panacea toric intraocular lens calculator. *Methods:* Thirty-six patients were included in this study who underwent cataract surgery on their 48 individual eyes by implantation of a toric Intraocular Lens (IOL). The actual residual astigmatism was compared to the predicted errors of the enVista toric calculator, the Panacea toric intraocular lens calculator, the Barrett toric calculator, using total cornea astigmatism mode. Prediction error was calculated using vector subtraction of predicted post-op astigmatism in each calculator from an actual refractive outcome. *Results:* The mean \pm standard deviation (SD) of patients' ages was 69.97 ± 10.65 (ranging from 28 to 85 years). This study was completed on 26 patient right eyes (54.2%), and 22 left eyes (45.8%). The mean actual residual astigmatic error was 0.98 ± 0.84 diopters (D). The correlation between actual postoperative astigmatism and the Panacea, Barrett and enVista toric astigmatism predictions were -0.065 ($p = 0.659$), 0.088 ($p = 0.550$), and -0.170 ($p = 0.247$). *Conclusion:* The Bausch and Lomb enVista toric calculator, Barrett toric calculator, and the Panacea toric intraocular lens calculator using total cornea astigmatism mode, are not significantly different in predicting the residual astigmatic outcome after implanting toric IOLs in cataract surgery; however, the Barrett toric calculator formula seems to predict postoperative astigmatism better than the other two formulas.

Medical Science, 2021, 25(110), 917-923

Awareness of polycystic ovarian syndrome and effect of lifestyle modification on its management among female medical students at Hail University

Nuzhat Parveen, Atheer Mohammed Alanizy, Ghadah Fayyadh Alrowiliy, Haifa Owayed Alshammari

Objective: To find awareness of Polycystic Ovarian Syndrome (PCOS) and effect of lifestyle modification on its management among female medical students at Hail University. *Material & methods:* Cross-sectional study performed at college of medicine/ University of Hail, from Nov. 2020 to Jan. 2021. Female Saudi medical students ($n=203$) included in the study. *Results:* Young Saudi medical students from 20 to 40 years of age participated in the study. Maximum contribution was from 20-25 years aged group students. All academic year students participated but 2nd, 3rd and 4th academic grade students participated more. Awareness of some aspects of the polycystic ovarian syndrome was good like for menstrual abnormalities, it came as 85.7%, for multiple ovarian cysts 52.7%, hirsutism 43.3%, and for some wasn't adequate like weight gain 35%, acne 28.6%, and subfertility 24.1%. All students agreed that physical activity is good to control the symptoms, 56.7% mentioned regular exercise can help while 80.7% consider moderate exercise (brisk walking, jogging, cycling or swimming) as good. Similarly, students had good knowledge that physical activity help control obesity, hormonal and metabolic abnormalities and long-term consequences of PCOS like development of type 2 diabetes, hypertension, cardio vascular events and ovarian/endometrial Carcinomas. *Conclusion:* Students have good awareness for various presentations, short and long term consequences and weight reduction as first line non pharmacological intervention that help to improve symptoms as well as long-term sequela of PCOS.

Medical Science, 2021, 25(110), 924-929

Independently associated variables with higher morbidity and mortality: A scientific perspective of a cohort of orthopedic patients with Covid-19

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Background & aims: Riyadh, Saudi Arabia latest center for the 2019 pandemic of Coronavirus (COVID-19). The ethnic populations with a higher incidence of obesity tend to be particularly impacted. Our aims were to evaluate the characteristics and early effects on Orthopedic Patients with COVID-19, and to evaluate Orthopedic Patients with poorer outcomes regardless of age, sex and other comorbidities. *Methods:* The first 200 Orthopedic Patients admitted to a tertiary medical center with COVID-19 were included. At least three weeks after admission, electronic patient reports were analyzed. Mortality in hospitals was the main endpoint. *Results:*

200 Orthopedic Patients (female sex: 102) were included. The average BMI was 30 kg / m². The middle age was 64. The three most prevalent comorbidities were hypertension (76 percent), hyperlipidemia (46.2 percent), and diabetes (39.5 percent). A multi-variate study reveals that BMIs was indigenously correlated with a higher in patient mortality of 35 kg / m² (reference: BMI 25–34 kg / m²; OR: 3.78; 95 percent CI: 1.45–9.63; p = 0.006; p = 0.061) and age rises (analyzed in quartiles; OR: 1.73; 95 percent CI: 1.13–2.63; p = 0.011). *Conclusions:* This cohort of hospitalized Orthopedic Patients with COVID-19 in the majority minority group is individually related to greater in-hospital mortality and overall poorer in-hospital results with extreme obesity, rising age and male sex.

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Comparative analysis of incidence, prevalence and mortality from tuberculosis among the population of Europe and Ukraine

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Background: One of the most pressing socio-political and medical problems of society today is tuberculosis (TB), which today remains one of the main threats to humanity, being the leading cause of death from infectious diseases worldwide. TB is a highly contagious chronic disease that affects 10 million people each year and kills nearly 2 million people worldwide. *Methods:* Using statistical and medico-epidemiological methods, the analysis of the database of the National Registry "Tuberculosis in Ukraine" and report of Global Tuberculosis 2012-2020. *Results:* The dynamics of prevalence, morbidity and mortality from tuberculosis by sex and age in Ukraine, the WHO European Region and Chernivtsi region for the last seven years is analyzed. *Conclusion:* During the COVID-19 pandemic, all countries of the world need to join forces in the fight against tuberculosis, which is possible with the implementation of the 10 priority UN recommendations necessary to achieve the targets and reduce the colossal human and social losses from tuberculosis.

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CASE REPORT

Megacystis microcolon intestinal hypoperistalsis syndrome in two sisters with a rare disease gene

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Introduction: Megacystis microcolon intestinal hypoperistalsis syndrome (MMIHS) is an inherited autosomal recessive condition (AR). MMIHS is a rare disease that is characterized by functional urinary bladder obstruction and functional intestinal obstruction. MMIHS is a fatal congenital disease with a poor prognosis. *Case presentation:* We report the cases of two MMIHS patients who were referred to us due to esophageal perforation in the first patient and prenatal distended urinary bladder and stomach and abdominal wall weakness in the second patient. *Conclusion:* MMIHS is a rare inheritance syndrome that is associated with morbidity and mortality, and patients usually die within the first year of life.

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Krukenburg Tumour presenting as Pseudo Meig's Syndrome

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Meigs' syndrome is defined as a hydrothorax with ascites and a pelvic tumor, the condition resolves by itself with the removal of the mass. Pseudo Meig's Syndrome refers to secondary metastasis to ovary presenting with hydrothorax. Diagnosis a case of pseudo meig's is challenging as well as rewarding because removal of tumour not only gives symptomatic relief to the patient but may also prolong the survival time. A krukenburg tumour is an ovarian metastasis from gastrointestinal adenocarcinoma and it usually is suggestive of terminal disease. We present a case report from our Acharya Vinoba Bhave Rural Hospital, Datta Meghe Institute of Medical Sciences and Research which presented as pain abdomen since a year and upon investigations turned out to be a rare case of Pseudo Meig's Syndrome due to Krukenburg Tumour with Ascites and Hydrothorax.

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ANALYSIS

Psychological impact of COVID-19 pandemic on University Students: A cross-sectional study

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Objectives: This study is an attempt to detect the psychological impact of (COVID-19) among Taif University students. *Methods:* A cross-sectional survey was conducted among Taif University students using Google Forms questionnaire in the period from May to December 2020. The questionnaire was designed to assess psychological impact of the COVID-19 pandemic at the time of the lockdown and curfew. 619 participants age ranged from 18-30 years were eligible to participate in this study. This study was carried out using well-structured electronic questionnaire contain socio-demographic characteristics and psychological health parameters (Depression, Anxiety and Stress Scale-21 (DASS-21)). *Results:* This study revealed a significant correlation between age and depression; age 18-21 years old showed higher frequency of mild to moderate and severe to very severe depression than age 22-30

years old ($p > 0.003$). Similarly, there was a significant correlation between age and stress among participants; age 18-21 years old, showed higher frequency of severe to very severe stress and anxiety compared to aged 22-30 years ($p > 0.05$). On the other hand, there was no significant correlation between gender, nationality and marital status. Regarding the type of education, there was a significant correlation between medical students and depression ($p > 0.06$). *Conclusion:* According to the obtained results, it can be concluded that there was a significant association between age, depression and stress and non-significant relation between gender, nationality and marital status, while there was a significant correlation between medical students and depression.

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RESEARCH

Awareness about passive smoking among Jazan University students, Saudi Arabia

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Background: Passive smoking is a dangerous result of active smokings which have harmful effects on the heart and blood vessels and increase the risk of lung cancer, this study conducted to identify the awareness about passive smoking among Jazan University students. *Methodology:* A descriptive cross-sectional study was conducted using online questionnaire. The survey includes demographic information and other data like the prevalence of Knowledge about passive smoking, prevalence of Knowledge about effects of passive smoking and the sources of Information about it. *Result:* The sample size was 478 (46.0%) males and (54.0%) females. According to the college, participants were distributed in almost equal manner in which faculty of Medicine (33.4%), faculty of Science (34.6%), and faculty of computer science (32%). About (77.6%) of the participants agreed that passive smoking is a contact with a smoker during smoking while (3.6%) disagreed. On the other hand (76.2%) of the participants agreed that passive smoker is exposed to smoking harms as an active smoker. About (72.8%) of the participants believed that passive smoking increases the lung cancer incidence while (4.2%) didn't. Medical student showed best knowledge and practice than other students. *Conclusion:* Current study identified that medical students have background knowledge about smoking better than other student at JU, but their attitude and practice toward avoiding passive smoking is not related to their level of knowledge, which necessitate development of extra-curriculum awareness programs to increase their awareness and change their passive attitude and practice.

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ANALYSIS

Peculiarities of the course of coronavirus disease COVID-19 in children of various ages in certain regions of Ukraine

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The research aimed to conduct a generalized analysis of clinical information of diagnosis and treatment of coronavirus disease COVID-19 in children of different ages. The study involved 699 pediatric patients with coronavirus disease COVID-19 divided into four clinical groups – 67 infants under 2 months of age (group I), 320 children at the age from 60 days to 6 years (group II), 127 children of junior and middle school age (group III) and 155 patients at the age over 12 (group IV). A complex examination of patients included the study of the clinical, laboratory and instrumental markers, as well as analysis of the extent and duration of therapy. It was found, that coronavirus infection COVID-19 was characterized in children of different ages by lesions of the upper respiratory tract (70.1%), lower respiratory tract (54.7%), gastrointestinal symptoms (9.2%), neurological changes (17.8%). Affliction of the lung parenchyma with an appropriate clinical-radiological manifestation as a sign of COVID-19 was determined with occurrence from 23.9% to 25.9% of children with a reliable increase of chances to develop pneumonia (OR=7.5) at the juvenile age. The most frequent changes in additional methods were leukocytosis (18.8% of cases), thrombocytosis (14.5% of people), leukopenia (11.1% of people) and increase of C-reactive protein in 43.7% of children. Elevated content of platelets was mainly found in group I (38.3% of cases), and it increases significantly during the period of inpatient treatment, which coincides with the tendencies to increasing occurrence of C-reactive protein content in this age cohort (OR=5.0).

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The distribution of Duffy alleles and genotypes in a Western Saudi cohort

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Background and Objective: The Duffy blood group is clinically significant in transfusion medicine, and is based on the presence of glycoproteins known as Fy antigens on the surface of red blood cells. In Saudi Arabia, serological studies on blood groups, including Fy antigens have been undertaken, however the population distribution of FY alleles and genotypes requires further elucidation. Therefore, we analysed samples from random Western Saudis blood donors to establish the frequency of FY alleles and genotypes in this cohort. *Materials and Methods:* Touchdown PCR and DNA sequencing was used to analyse the following single nucleotide polymorphisms, c.125G>A, c.1-67T>C and c.256C>T, in 349 random blood donors from Jeddah and Makkah. The

c.298G>A polymorphism was used to determine the allele designation of weak *FY* alleles. *Results:* Our investigation showed no significant differences between Makkah and Jeddah blood donors, except for the c.125G>A polymorphism, where the A allele was significantly higher in Jeddah donors (odds ratio (OR) = 1.56 (1.09–2.24)). Most donors (39%) had the homozygous *FY*02N.01/FY*02N.01* genotype, similar to African populations. Seven individuals had the *FY*01N.01/FY*02N.01* genotype. Five had the predicted genotypes of *FY*02/FY*02W.01*, *FY*01/FY*02W.01*, *FY*01/ FY*01W.02* and *FY*02W.01/FY*02N.01*. The remaining donors had predicted genotypes that expressed Fy antigens on the erythrocyte surface. *Conclusion:* The molecular genetic background of Western Saudis is similar to African populations, however in terms of allele and genotype frequencies, Western Saudi Arabia contains a unique genetic pool, distinct to other populations.

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Barriers to managing COVID-19 pandemic: Attitude towards vaccination and implications for public health

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Background: In order to achieve long-term optimum public health response, herd immunity is required, and this may happen if general populations willingly offered the COVID-19 vaccine. The current study aimed to explore the attitudes toward COVID-19 vaccine, and to outline the common barriers interfering with vaccination among Egyptian population. A cross-sectional study has been carried out among 1282 participants utilizing a self-administered questionnaire. *Results:* Negative attitude was associated with low trust in the capability of the country instructions to combat COVID-19 (OR=5.97, CI95%: 3.37-10.57), unsatisfactory knowledge (OR=15.73 CI95%: 9.54-25.92), being worried about adverse effects (OR=2.97, CI95%: 1.96-4.52), being not committed to protection measures like PPE, HH and social isolation (OR=2.16, CI95%: 1.42-3.25), not working (OR=3.04, CI95%: 2.11-4.36), low education (OR=10.12, CI95%: 7.11-14.40), don't know deep experienced trials of vaccines (OR=1.76, CI95%: 1.45-2.13), being female (OR=3.09, CI95%: 2.17-4.39), increase age (OR=1.03, CI95%: 1.01-1.06) and depression symptoms (OR=1.64, CI95%: 1.12-2.41). *Conclusion:* The main barriers of negative attitude toward vaccine include worrying about vaccine side effects, poor knowledge regarding COVID-19 and mistrusting the country's ability to combat it.

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