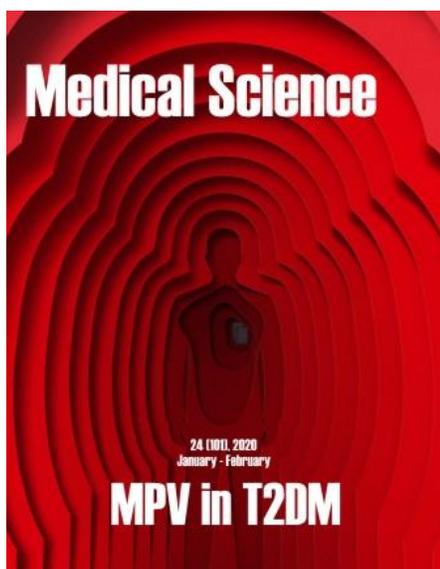


Medical Science

About the Cover



Diabetes is a public health problem. Altered platelet morphology and function have been reported as a cause of microvascular and macrovascular complications in patients with diabetes mellitus. We conducted a cross-sectional study to compare MPV in type 2 diabetics (T2DM) and non-diabetics and study the relationship between MPV and glycemic control (HbA1C) in patients with T2DM in a rural backdrop of central India. Participants were distributed into 2 groups: the study group of patients with T2DM (n = 98) and control group with non-diabetics (n = 98). The study group were further sub-grouped as uncontrolled group (HbA1c > 7%) of diabetic patients and controlled group (HbA1c ≤ 7%) of diabetic patients. MPV was determined by cell counter. Study group and control group were then compared with regards to MPV and HbA1c. We found significantly higher MPV in diabetics as compared to non-diabetics. Also, we found a positive co-relation between MPV and HbA1c. One % increase in Hb1Ac led to an increase in 1.45 fl (1.37-1.52) of MPV. It is hypothesized that platelet hyperactivity in patients with T2DM is related with factors such as hyperglycemia, hyperlipidemia, insulin resistance, and antioxidant and inflammatory conditions. This study can be of help to physicians, consumers and policy-makers to decide whether MPV can be incorporated as a tool to assess and monitor the development of microvascular and macrovascular complications of T2DM. (Ref: Priyal Shrivastava, Mahalaqua Nazli Khatib, Shilpa Gaidhane, Dipti Shrivastava, Abhay M Gaidhane, Quazi Syed Zahiruddin. Assessment of mean platelet volume (MPV) in subjects with Type 2 Diabetes Mellitus (T2DM) in a rural backdrop of central India. *Medical Science*, 2020, 24(101), 12-21), (Image: EikoOjala).

ANALYSIS

Assessment of serum lipid profile in patients with thyroid disorders in a rural backdrop of central India

Anubhuti Dixit, Mahalaqua Nazli Khatib, Shilpa Gaidhane, Abhay M Gaidhane, Quazi Syed Zahiruddin

Thyroid diseases are among the commonest endocrine disorders worldwide. Thyroid dysfunction can result in lipid abnormalities which increase the risk of endothelial dysfunction, hypertension and cardiovascular disease. This cross-sectional study was conducted to determine changes in serum lipid profiles in patients with thyroid disorders in a rural backdrop of central India and to compare this with normal rural population. Participants were divided into two subgroups: study group with hypothyreosis (n = 49) and control group with euthyreosis (n = 42). Fasting of venous blood sample was collected, and lipid profile was estimated. We found a negative association between thyroid levels and body mass index. Mean serum TG, TC, LDL-C and VLDL-C levels were higher in hypothyroid subjects as compared to euthyroid and hyperthyroid subjects. HDL-C levels were higher in hyperthyroid subjects as compared to hypothyroid subjects but lower than the euthyroid subjects. TC/HDL-C was higher in hypothyroid subjects than hyperthyroid and euthyroid subjects. Thyroid levels were correlated positively with serum HDL-C and negatively correlated with TG, TC, LDL-C, VLDL-C and TG/HDL-C ratio. Findings of this study shows that hypothyroidism is associated with altered lipid disorders. Thus; hypothyroid state has a role in increased cholesterol levels which in turn can be responsible for cardiovascular complications. Therefore biochemical screening for lipid profile is of paramount importance in all patients with thyroid dysfunction and underlying lipid abnormalities should be recognized and treated. Also; thyroid dysfunction should be taken into account when evaluating and treating dyslipidemic patients.

Medical Science, 2020, 24(101), 1-11

Assessment of mean platelet volume (MPV) in subjects with Type 2 Diabetes Mellitus (T2DM) in a rural backdrop of central India

Priyaa Shrivastava, Mahalaqua Nazli Khatib, Shilpa Gaidhane, Dipti Shrivastava, Abhay M Gaidhane, Quazi Syed Zahiruddin

Diabetes is a public health problem. Altered platelet morphology and function have been reported as a cause of microvascular and macrovascular complications in patients with diabetes mellitus. We conducted a cross-sectional study to compare MPV in type 2 diabetics (T2DM) and non-diabetics and study the relationship between MPV and glycemic control (HbA1c) in patients with T2DM in a rural backdrop of central India. Participants were distributed into 2 groups: the study group of patients with T2DM (n = 98) and control group with non-diabetics (n = 98). The study group were further sub-grouped as uncontrolled group (HbA1c > 7%) of diabetic patients and controlled group (HbA1c ≤ 7%) of diabetic patients. MPV was determined by cell counter. Study group and control group were then compared with regards to MPV and HbA1c. We found significantly higher MPV in diabetics as compared to non-diabetics. Also, we found a positive co-relation between MPV and HbA1c. One % increase in HbA1c led to an increase in 1.45 fl (1.37-1.52) of MPV. It is hypothesized that platelet hyperactivity in patients with T2DM is related with factors such as hyperglycemia, hyperlipidemia, insulin resistance, and antioxidant and inflammatory conditions. This study can be of help to physicians, consumers and policy-makers to decide whether MPV can be incorporated as a tool to assess and monitor the development of microvascular and macrovascular complications of T2DM.

Medical Science, 2020, 24(101), 12-21

CASE REPORT

Full mouth rehabilitation of a pediatric patient under general anesthesia-A case report

Shreyans Jain, Nilesh Rathi, Nilima Thosar, Sudhindra Baliga, Pooja Bhansali, Kalyani Rathi, Nikita Sharma

Dental caries is the one of the most common chronic childhood disease. In early childhood caries, there is early pulp involvement and gross destruction of the maxillary anterior teeth as well as posterior teeth. This leads to decreased masticatory efficiency, difficulty in speech, compromised esthetics, development of abnormal tongue habits and subsequent malocclusion and psychological problems. The restoration of severely decayed primary incisors is often a procedure that presents a special challenge to dentists, particularly in an uncooperative child. This case report documents the restoration of severely mutilated deciduous teeth in an emotionally immature patient under general anesthesia.

Medical Science, 2020, 24(101), 22-25

RESEARCH

Cardiovascular sympathetic nervous system response to cold pressor test among patients with migraine

Mohamed Saad, Wael Gabr, Osama El-Azouni, Asmaa Farouk Enein

Autonomic nervous system (ANS) dysfunction is one of the main characteristics of migraine; however, the exact relationship between migraine and ANS is not clear. Moreover, researches in this field yielded inconclusive and conflicting results. We tried to evaluate sympathetic autonomic cardiovascular response to cold stress in migraine patients and compare it to control group. Cardiovascular responses to cold pressor test was evaluated in 91 participants, 61 participants were migraineurs (53 females and 8 males, average age 28.42±3.85 years) and 30 subjects were age and sex matched healthy controls (26 females and 4 males, average

ages of 28.79 ± 2.99 years). Patient with migraine showed higher systolic and diastolic blood pressure in response to cold stress compared to controls ($P < 0.05$), there were no differences between migraine patient with and without aura ($P > 0.05$). Also, our data revealed a direct relationship between migraine duration and sympathetic response. Migraineurs have higher sympathetic tone compared to controls; Sympathetic hyperactivity is not significantly different between migraineurs with aura and without aura. A direct relationship between sympathetic over-activity and migraine duration was observed in patients group. Migraineurs have a higher sympathetic tone making patients more vulnerable to cerebrovascular disease (CVD). So, clinicians should take care that some medications used in migraine management may affect cardiovascular system, and should try to prevent the modifiable CVD risk factors among migraineurs.

Medical Science, 2020, 24(101), 26-36

Aortic Isthmus Color Doppler Indices in Intrauterine Growth-Restricted Fetuses (A case control study)

Zahra Fardiazar, Masoumeh Favaedi, Asrin Babahajian, Simin Taghavi, Shamci Abbasalizadeh, Fatemeh Abbasalizadeh, Azadeh Azadi, Neda Shoari

Intrauterine growth restriction (IUGR) refers to a condition in which the fetus is smaller than expected owing to either intrinsic or environmental causes. IUGR monitoring is of great significance for determining the best delivery time and preventing fetal complications. Changes in the nature of blood in the Aortic isthmus (AoI) results in the hemodynamic disorders; the accurate monitoring of its indices conducted by a Doppler is highly useful in the clinical management of IUGR. Thus, the present study was conducted to investigate the color ultrasound indices of AoI Doppler in IUGR. In the present study, as many as 61 pregnant women were divided into two groups; IUGR group (mothers with fetuses weighing less than 10th percentile for gestational age, $n=30$) and control group (mothers with fetuses weighing between 10th percentile to 90th percentile, $n=31$). After recording the demographic information and measuring the gestational age, the color Doppler of umbilical artery, middle cerebral artery, ductus venosus, and isthmus of aorta (including the investigation of criteria such as peak systolic (PSV), end-diastolic (EDV) and time averaged peak (TAPV) velocities, pulsatility index (PI), and resistance index (RI)), and the required comparison was conducted between the groups. In IUGR fetuses, UA color Doppler was non-normal for 13 individuals (43.3%) and MCA color Doppler was non-normal for 8 cases (26.7%) (Two cases of them the DV Doppler was abnormal). There was no significant difference between the IUGR and control groups in terms of values of color Doppler indicators of isthmus of aorta. There was no significant difference between the IUGR and control groups in terms of comparing the color Doppler indicators of isthmus of aorta with the normal and abnormal umbilical artery Doppler. Moreover, no significant difference was observed between healthy fetuses and IUGR ones with normal and abnormal MCA Doppler. The results of the present study indicate that color Doppler sonography of AoI indices were not significantly different for IUGR fetuses and healthy ones. Thus, further studies are required for deciding on the usefulness of this too for the clinical monitoring and management of IUGR fetuses.

Medical Science, 2020, 24(101), 37-46

Risk predictor signs on digital panoramic radiographs associated with mandibular canal compression on CBCT: A single-blinded retrospective comparison study

Ahmed M Jan, Fatma F Badr, Daniah Alhazmi, Ghassan Darwish, Fatima M Jadu

Estimating the risk of inferior alveolar nerve (IAN) injury prior to mandibular third molar extraction is crucial. Whether this estimation should be done using panoramic radiographs or cone beam computed tomography (CBCT) is still controversial. The aim of this study was to compare between the compatibility of digital panoramic radiographs and cone beam computed tomography findings in predicting IAN injury. In a retrospective study design, a chart review was conducted to identify mandibular third molar extraction cases imaged with CBCT and panoramic radiographs. Two calibrated oral and maxillofacial radiologists reviewed the CBCT images for signs of canal compression and two oral and maxillofacial surgeons reviewed the panoramic images for signs that increase the likelihood of IAN injury. Interruption of the mandibular canal cortex as identified on panoramic radiographs was most consistent with CBCT results and predicting IAN injury regardless of age and gender. Narrowing of the roots and bifid roots, however, were least consistent with CBCT findings. Only some of the imaging signs that predict IAN injury in digital panoramic radiographs were consistent with canal compression findings on CBCT images. Further correlation with surgical findings is necessary. These results bring us closer to understanding the difference in diagnostic information provided by digital panoramic radiographs (2D) and CBCT examinations (3D) and the influence of this information on predicting IAN injury prior to mandibular third molar extraction.

Medical Science, 2020, 24(101), 47-56

ANALYSIS

Neonatal Outcomes of Rh Alloimmunization Pregnancy Treated with Intrauterine Transfusion

Shirin Niroomanesh, Salmeh Dadgar, Mahboobeh Shirazi, Fatemeh Rahimi Sharbaf, Fatemeh Golshahi

Fetal anemia is a major problem and cause of neonatal morbidities and mortalities. Maternal Rh allo-immunization has not been eliminated with subsequent erythroblastosis fetalis and hemolytic disease still occasionally occurring. In this study, we evaluated the neonatal outcomes of intra-uterine transfusion (IUT)-treated pregnancies because Rh allo-immunization and fetal anemia. This was a prospective cohort study in which we evaluated pregnancies between 17-35 week gestational ages in Rhesus negative mothers who

referred to perinatology clinic because of fetal anemia, Tehran University of Medical Sciences during May 2016 to April 2018 in Yas Hospital. Anemia was confirmed by Doppler ultrasonography. For all patients, intra-uterine transfusion was performed based on gestational age. Demographic, clinical and para-clinical variables were measured in each case and each time of IUT. There were 33 Rh iso-immunized pregnancies; of which 6 fetuses were hydropic and remaining 27 were non-hydropic. IUT was performed 86 times in these cases. The mean of mother age was 31.24 ± 6.06 years old. The mean hemoglobin after birth was 7.92 ± 2.65 g/dL. The mean of transfused blood in all cases was 92.73 ± 45.14 cc. The survival rate in our study was 75.8% and eight fetuses were died (24.2%). There were significant difference between ACA PSV ($P=0.012$) and MCA PSV ($P=0.015$) with neonatal outcome (mortality or survival) in our study. In our investigation, IUT was shown to be lifesaving and very effective in the management of Rh immunized pregnancies. The results were comparable with other evaluations with high survival rate. We also showed that both ACA PSV and PCA PSV have a same value in diagnosis of fetal anemia. MCA PSV and ACA PSV can significantly predict the mortality of fetus after IUT.

Medical Science, 2020, 24(101), 57-65

RESEARCH

Diagnosis of splenomegaly with one-dimensional diameters in CT scan images in North-East of Iran and constructing a best-fit model for estimation of splenic volume

Masoud Pezeshki Rad, Maryam Salehi, Mohaddeseh Mohammadi, Fatemeh Soati

The purpose of present study was to evaluate the accuracy rate of diagnosis of splenomegaly with one-dimensional diameters in computed tomography (CT) scan images and constructing a best-fit model for estimation of splenic volume from the standardized one-dimensional diameters of the spleen to estimate splenic volume with the prolate ellipsoid and a best-fit model. This cross-sectional study was performed retrospectively on 200 patients' abdominal CT scan images (100 with splenomegaly and 100 without splenomegaly). Six one-dimensional diameters were registered for each abdominal CT scan; splenic length (L), width (W) and four sizes of thickness (T1–T4). The volume of spleen was calculated by the following formula ($\text{volume} = W \times T_3 \times \pi/6$) and also by MITK software. Also the formula for splenic volume was obtained by using linear regression. Sensitivity and specificity values were obtained for the one-dimensional index. Using ROC curve, the highest sensitivity and specificity for splenic length, width and thickness was determined to achieve a cutoff point for definition of splenomegaly uni-dimensionally. In our study the length of 11.33 cm was the most sensitive and specific uni-dimensional parameter to define splenomegaly (sensitivity = 85% and specificity = 89%). The best regression model for predicting splenic volume was calculated $\text{Volume} = 0.4 \times (L \times W \times T_3) + 5$ with $R^2 = 90\%$. We constructed this formula ($0/4 \times (W \times T_3 \times L) + 5$) with less bias for estimation of splenic volume.

Medical Science, 2020, 24(101), 66-74

ANALYSIS

Comparison of BISAP (Bedside Index for Severity of Acute Pancreatitis) versus BALTHAZAR CTSI (Computed Tomography Severity Index) scoring in predicting the severity in acute pancreatitis

Surya Subramanian, Mohanapriya Thyagarajan, Manuneethimaran Thiyagarajan, Nitesh Navrathan, Balaji Singh Krishna

An often encountered surgical emergency is acute pancreatitis and poses a significant therapeutic challenge for the health care providers. It requires high clinical suspicion and careful monitoring to treat patients diagnosed with acute pancreatitis effectively. Bedside Index for Severity in Acute Pancreatitis (BISAP) is a scoring system which is simple and has 5 variables that would precisely predict severity as early as within the first 24 hours of the course of acute pancreatitis. Balthazar et al., introduced a grading system, Computed tomography Severity Index (CTSI) for acute pancreatitis which included the entire estimation of the contour, density and size of pancreas, pancreatic necrosis, peripancreatic collection in computed tomography to assess the prognosis in acute pancreatitis. The present study uses the Bedside Index for Severity in Acute Pancreatitis scoring system for grading the severity of acute pancreatitis in patients within 24 hours of hospital admission compared to Computed tomography Severity Index taken 48 hours after onset of symptoms and categorizes the management plan accordingly.

Medical Science, 2020, 24(101), 75-82

Prevalence, patterns and predictors of diabetes complications among patients with type 2 diabetes at Jazan Diabetic Centre, Saudi Arabia

Osama B Albasheer, Mubarak Sani, Al-baraa Abbas, Muaid Alfaifi, Mothana Najmi, Khalid Hakami, Mustafa Najmi, Yousef Abdali, Ayman Aysawi

The purpose of this study is to determine the prevalence, patterns and predictors of diabetes complications among patients with type 2 diabetes. A cross sectional observational study. Out of total; 214 (53.4%) were male and 187 (46.6%) were female. Mean age of the participants was (54.13 ± 13.523). Neuropathy was the most prevalent complication, found in 20.9% of cases, followed by diabetic retinopathy (16.7%), heart diseases (9.5%), and nephropathy (3.7%). Obesity was found in 51% of the participants and was also significantly associated with the female gender (P value = 0.001). Hypertension, as a comorbid disease, was found in 49% of the

participants and was significantly associated with the female gender (P value = 0.001). Neuropathy was the most prevalent microvascular complication. Hypertension and obesity were very significant predictors of diabetes complications.

Medical Science, 2020, 24(101), 83-89

CASE REPORT

Lingual Lipoma: Rare case reported in Makkah, Kingdom of Saudi Arabia

Abraar Abdrahman, Omar Halabi, Irfan Shaikh

Lipoma is common, asymptomatic, and slow-growing benign tumor of mature fat tissues, but it is very rare occurrence in the oral cavity. Here, there is a case report of a 58-year-old male patient presented to the maxillofacial surgical clinic with lingual lipoma. A clinical, histological description, and treatment are reported of the lingual lipoma.

Medical Science, 2020, 24(101), 90-93

ANALYSIS

Comparison of blood constituents related to metabolic syndrome in different Mizajes (Temperaments)

Asghar Karbord, Marzieh-Beygom Siahpoosh, Mahdi Zahedpanah, Hadise Abbasi Niaraky, Zahra Babashaverdi, Mohadeseh Pournasrollah Zide, Mohammad Reza Sarookhani

According to Canon, illness could be without any established disease and without any manifested changes in measurable parameters. Therefore, it is possible to assume metabolic syndrome as an illness. The aim of this study is to try to answer this question if the blood constituent's profile, within normal limits, related to metabolic syndrome, differs in persons with various normal temperament profiles. A descriptive study performed on 400 healthy subjects of either sex with ranging in age from 20 to 40 years. The participants' mizaj was determined using questionnaire. Measurement was carried out by blood cell counter Sysmex KX21N and auto-analyzer Erba XL 600 using Pars Azmoon Company's Quantitative Detection Kit. SPSS16 was used for data analysis. There was a statistically significant difference in glucose ($p=0.007$) and triglycerides ($p=0.004$) of females with warmness-wetness and warmness-dryness. The highest average values of FBS and cholesterol as well as the lowest average value of HDL-C were in males with coldness-wetness Mizaj. The highest mean of triglycerides was in males with warmness-wetness. Those who sorted into dryness group have an average glucose, triglycerides and cholesterol concentration lower and HDL-C, amylase and lipase concentration higher than wetness individuals. There was a negative correlation between lipase and glucose ($r=-0.25$, $p=0.001$), triglycerides ($r=-0.18$, $p=0.047$). The wetness Mizaj could be a predictable Mizaj of prone to metabolic syndrome.

Medical Science, 2020, 24(101), 94-101

Foldscope assisted microscopy for the examination of Soil Transmitted Helminths (STH)

Anil Tambekar, Nishant Burnase, Abhay Gaidhane, Punit Fulzele, Zahiruddin Quazi Syed

Conventional microscopic examination in the diagnosis of helminth infection is a widely accepted method worldwide (Jain et al., 2019). Though it has been a successful technique for investigating presence of helminth in a stool samples, yet it requires a good laboratory set up (Gondivkar, Bhowate, Gadbaile, Sarode, et al., 2019). It is found that the epidemic of helminth infection is most frequent among the underdeveloped and developing countries which are deficient in basic medical facilities (Pordy et al., n.d.). The current study could be the solution upon this which includes the use of foldscope a kind of portable microscope. The current study was conducted in a community setting in which the study subjects were pregnant women. The targeted parasites include *Ascaris lumbricoides*, *Trichuris trichiura*, *Nectator americans*, *Entamoeba histolytica* and *Giardia spp.* In this study a foldscope was implemented for the microscopic observation of stool samples. The collected stool samples were examined under conventional microscope, to find out the presence of helminth eggs, furthermore positive samples were viewed under foldscope to check its utility in the stool microscopy for the identification of helminth. It was found that the oval shaped structures of helminth eggs can be examined by both conventional microscope as well as by foldscope. The findings of this study meet the expected results thus; it could be concluded that foldscope would be an evolutionary asset for the diagnosis of Soil transmitted helminths.

Medical Science, 2020, 24(101), 102-106

The effect of teaching negotiation styles to parents of female adolescents on parent-child relationship

Sahar Sobhani, Mohammad Reza Mansoorian, Ali Delshad, Yaser Rivandi

Adolescence is one of the important periods of life and transition from childhood to adulthood. Prevalence of many psychological problems such as depression, anxiety, and substance use disorder increases during adolescence. Proper communication between parents and adolescents is conducive to better physical, mental and social maturity in adolescence. This study tended to determine the effect of teaching negotiation styles to parents of adolescent girls on parent-child relationship. This study was a quasi-experimental intervention with pre-test and post-test with control group. The sample was selected using convenience sampling and included 64 parents with moderate to poor negotiation skills and their adolescent girls aged 13 to 18 years. The data collection continued from May to August 2019. Data was collected using a demographic questionnaire, Pierre's negotiation style and skills questionnaire and Fine's parent-child relationship survey. Analysis was done using SPSS 20 software and descriptive statistics, one-

way ANOVA, chi-square, pairwise T and independent T tests. Teaching parenting negotiation style led to a significant increase in parent-child relationship score for adolescent girls ($P < 0.0001$). The mean score of mother-child relationship for adolescent girls before and after the intervention was higher than the father-child relationship score, although this improvement was not statistically significant ($P > 0.05$). This means that teaching parenting negotiation style improves parent-child relationship in both parents and there was no significant difference between mother-child relationship and father-child relationship. Moreover, parent-child relationship score of adolescent girls of intervention group in the mothers and fathers group showed a significant increase ($P < 0.001$). Teaching parenting negotiation styles is effective on parent-child relationship and improves parental relationship with adolescent girls. Therefore, teaching negotiation styles is recommended for adolescent girls to prevent puberty disorders.

Medical Science, 2020, 24(101), 107-112

Assessment of *Spinacia oleracea* extract on the reversal of Edoxaban anticoagulation development in a rabbit model

Feras M. Almarshad

The disadvantage of Edoxaban use is the availability of definitive antidotes with many unfavorable effects. This study was planned to determine whether the leaves of *Spinacia oleracea* ethanol extract can promising the effect of prothrombin complex concentrate (PCC) in the reversal of the anticoagulation development of Edoxaban. Anesthetized rabbits ($n=5$) were divided in to following groups, Group I: Normal Saline (negative control); other groups treated with pretreatment of 01 mg/kg Edoxaban followed by Group II: Normal Saline; Group III: 50 IU kg^{-1} PCC; Group IV: *Spinacia oleracea* leaves ethanol extract test doses of 150 mg/kg + 50 IU kg^{-1} PCC. After a standardized kidney incision, the volume of blood loss and time to hemostasis was determined. Leaves of *Spinacia oleracea* may reduce the prothrombin time and blood loss and potentiate the effect of prothrombin complex concentrate in reversing Edoxaban. The additional probe is warranted.

Medical Science, 2020, 24(101), 113-117

Evaluation of the effect of potassium abnormalities based on the Revised Trauma Score (RTS) in the multiple Trauma

Amin Saberinia, Saeed Safari, Mohammad Mehdi Forouzanfar, Anita Sabzghabaei, Sahar Mirbaha, Elham Gholami Kelishami

A trauma causes changes, which are known as the metabolic responses to an injury. In this regard, extracellular potassium level abnormalities can cause various clinical problems in trauma patients. Here, the main objective of this research was to evaluate the effect of potassium abnormalities on the severity of the trauma (based on RTS scoring system) in multiple trauma patients. In the current study, a total of 311 multiple trauma cases, who were transferred by Emergency Medical Services (EMS) to the emergency ward of Shohadaye Tajrish Hospital in 2017, were examined. The patients were assessed against the exclusion criteria and 203 patients eventually participated in the research. Also, a checklist containing the following information was also completed for each patient: gender, age, trauma type (blunt-penetrating), patient transportation method, arrival Venous blood gases (VBG), and RTS. Thereafter, the therapeutic and surgical considerations were recorded. In this study, blood samples of the patients were collected upon arrival to measure Potassium (K), VBG, Creatinine (Cr), Calcium (CA), Blood urea nitrogen (BUN), and Blood sugar (BS). The severity of the trauma (RTS) varied between 3 and 4 in 12% of the patients. It also varied between 5 and 6 and from 7 to 8 in 30% and 58% of the participants, respectively. As seen, the severity of the trauma in more than half the patients ranged from 7 to 8. Moreover, the average values of the RR, BUN, Cr, VBG, and PR variables were 18.77 ± 6.14 , 21.05 ± 14.72 , 1.06 ± 0.31 , 7.31 ± 0.13 , and 94.25 ± 24.92 , respectively. The Glasgow Coma Scale (GCS) values in 55, 25, and 20 % of the patients ranged from 11 to 15, 6 to 10, and 3 to 5, respectively. The potassium level was normal in 81% of the other patients. There was no statistically significant difference between the trauma severity scores (RTS) using different levels of potassium ($p=0.110$). In addition, there was no significant difference between the different levels of potassium in terms of mortality rates ($p=0.634$). Also, Hypokalemia ($K < 3.5$ mEq/L) and hyperkalemia ($K > 5$ mEq/L) were observed in 15 and 4 % of the patients, respectively. In general, the results from the present research suggest that hypokalemia cannot serve as a prognostic predictor of trauma severity in multiple trauma patients. However, definitive assessments call for more extensive studies.

Medical Science, 2020, 24(101), 118-126

A study of clinicopathological patterns of renal tumors among a Kurdish population in Kermanshah province, Western Iran

Babak Izadi, Somayeh Jalilian, Mazaher Ramezani, Masoud Sadeghi, Sedigheh Khazaei

Renal tumor is a serious public health problem which has been steadily increasing and varies in different regions. We purposed to check the clinicopathological features of renal tumors in Kermanshah (west of Iran). The population under this cross-sectional study consisted of 172 cases of histologically diagnosed renal tumors. Specimens were obtained from Imam Reza hospital in Kermanshah (west of Iran) between March 2008 and March 2017. Histological reports and frequency of different renal tumors were documented. A total of 172 cases of renal tumors were collected that their mean age was 54.3 years. The frequency of renal cell carcinoma as the most common cell type was found to be 89.5%. The frequency of clear cell renal cell carcinoma (RCC), papillary RCC, and chromophobe RCC were 61%, 19.7%, and 8.2%, respectively. Other tumors included oncocytoma (5.8%), malignant lymphoma (2.3%), squamous cell carcinoma, Wilms tumor (1.2% from each), and sarcomatoid RCC (0.6%). The mean tumor size was 5.2 cm. The differences in the prevalence of renal cancer in the world maybe owing to differences in the distribution of risk factors, socioeconomic levels, early detection, and treatment availability. It is necessary to perform etiological studies to explore the risk factors for renal cancer in this region.

Medical Science, 2020, 24(101), 127-134

Evaluation of prevalence and severity of acute respiratory distress syndrome in hospitalized patients due to H1N1 outbreak in Kerman, Iran

Mehdi Ahmadi Nejad, Morteza Hashemian, Hoda Ganjalikhani, Maryam Ahmadipour

Influenza is an acute respiratory viral disease which affects the upper and lower respiratory tract. The main cause of hospitalization was involvement of lower respiratory tract in the form of primary viral pneumonia due to direct invasion of lung tissue by virus. Primary pathological findings suggest extensive alveolar injury of interstitial hemorrhagic pneumonitis along with lymphocytic proliferation and relative neutrophil reduction in this tissue plus ARDS. Considering that there is no record of incidence and severity of ARDS in patients with H1N1 influenza in Iran, particularly in Kerman, this study seems to be necessary as a basic study for further preparation of possible future epidemics. This was a cross-sectional study conducted in the Afzalipour Hospital in Kerman in 2016. The sampling method was census-based; the studied population included patients admitted to the Afzalipour Hospital from March 21, 2015 to March 19, 2016 due to definitive development (PCR of sputum sample of H1N1-infected patients) of H1N1 influenza. After collecting data, data was analyzed by SPSS software, version 20. In patients with mild, moderate and severe ARDS, 18 (58.9%), 16 (76.42%) and 27 (79.41%) had underlying diseases. Frequency of ARDS severity was significantly different in terms of underlying diseases (p -value = 0.012); 22 (70.9%) of patients with mild ARDS, 15 (71.42%) of patients with moderate ARDS, and 24 (70.76%) of patients with severe ARDS were male. Frequency of ARDS severity was not significantly different in terms of gender (p -value = 0.112). The mean age was 51.54 ± 15.575 years in patients with mild ARDS, 53.98 ± 14.652 years in patients with moderate ARDS and 53.64 ± 14.942 years in patients with severe ARDS; no significant difference was observed in terms of age (p -value = 0.062). According to mortality results, there was a significant difference and mortality was significantly higher in patients with ARDS (p -value = 0.035). The results of this study showed that ARDS was higher in patients with underlying diseases and ARDS severity was higher in these patients than in other patients. Mortality rate also had a significant relationship with ARDS; most of mortalities were in these patients.

Medical Science, 2020, 24(101), 135-142

The effectiveness of a water sports program on the level of poly unsaturated fatty acids and the severity of the disease in children with Autism spectrum disorder

Mona Mostafa Abdou Sakoury, Mohammed Nader Shalaby, Ahmed Mohammed Elmaghraby, Israa Mohamed Omar, Mai Mostafa Abdelsadek Tahoun

The current research aims to identify the effectiveness of a recommended water sports program on the concentration levels of poly-unsaturated fatty acids and the effectiveness of the program on the severity of autism. The researchers used the experimental approach on a sample of (5) children with Autism Spectrum Disorder. Cars test (DSM-5) and lab tests were used for gathering data. Results indicated high levels of poly-unsaturated fatty acids in blood samples of participants in addition to improvements on (relations with others – mimicry – emotional response – body use – objects use – activity level – verbal communication – non-verbal communication – visual response – auditory response – mental response) due to the positive effects of the recommended water sports program. The researchers recommended generalizing the application of the recommended program in addition to forming an integrated rehabilitation team to stay with autistic children including a doctor, a psychiatrist, a social worker, a sports specialist and an academic specialist.

Medical Science, 2020, 24(101), 143-164

RESEARCH

Seroprevalence and 16S rRNA gene sequence analysis of *Brucella spp.* among domestic ruminants in Northern Border, Saudi Arabia

Muaz Magzob Abdellatif, Yahia Hassan Ali Osman, Hussam Hassan Arafat, Ahmed Zein Elabdeen Mahmoud

Brucellosis is a worldwide bacterial zoonotic disease. In this study, seroprevalence of *Brucella spp.* among domestic ruminants in Hail, Saudi Arabia was investigated and strains recovered from camels were identified based on 16S rRNA gene sequence analysis. The overall seropositivity was 10.6%, goats had a higher seroprevalence of 12.1% compared to 11.4% in sheep and 6.2% for camels as tested by RBPT. Nucleotide identity of 16S rRNA among Hail camel brucella, strains was 99.9%, while identity with *Brucella* strains recovered from GenBank ranged from 100 to 89.3%. To put an efficient control program in action, further research to identify the strains involved; highlights potential risks that maintain the infection in animals and/or the environment should be done.

Medical Science, 2020, 24(101), 165-173

ANALYSIS

The effect of periodic exercise on the levels of vascular factor and functional index in patients with ischemic stroke

Kadkhodaei Khalafi M, Shakeri N, Ghazalian F, Shojaei M

By reducing or stopping blood flow, a part of the brain suffers from cerebral ischemia with neurological deficits. Angiogenesis can play a role in repairing a damaged brain tissue, as exercise has an inductive role in the prevention of vascular disease. The aim of the

research is to determine the effect of the approach of periodic exercise on the angiogenesis process from the acute phase of stroke on the vascular endothelial growth factor and the cognitive-functional index. 30 participants with ischemic stroke aged 45-65 years were randomly divided into two experimental and control groups (15 persons in each group). The experimental group performed periodic exercises for 3 seconds with 4 to 6 repetitions and 70 to 85% of the maximal oxygen consumption and rest for 4.5 minutes, 3 times a week. Venous blood samples of 5 cc were taken from the patients on admission and at 30th day following admission. The levels of Endothelial growth factor as the primary outcome and the motor and speech performance as the secondary outcome were assessed at the beginning and end of the study by the National Institutes of Health Stroke Scale (NIHSS) and were analyzed by one-way ANOVA and the independent t-test at the alpha level $P \leq 0.05$. The serum levels of the vascular endothelial growth factor were significantly increased at the alpha level ($P = 0.05$) after the aerobic periodic exercise. The secondary outcome, the numerical scale of the motor and speech performance, was also significant after four weeks. Performing periodic exercises during four weeks can play a role in reducing brain damage by altering the levels of angiogenesis-related factor and performance.

Medical Science, 2020, 24(101), 174-182

A comparison of the cytotoxic activity of cisplatin versus L-amino acid oxidase on squamous cell carcinoma cell line

Wael Y. Elias

This study used flowcytometry to compare the cytotoxic effect of cisplatin and L-amino acid oxidases (LAAOs) on the HEP-2 cell line 24- and 48-hours following treatment. This prospective laboratory study was conducted at the Applied Research Unit, Vaccine and Serum Research Institute, Cairo, Egypt and King Abdulaziz University- faculty of dentistry, Jeddah, Saudi Arabia in July 2017. The HEP-2 cell line was cultivated and cisplatin and LAAO were added to the culture medium. Flowcytometry was used to assess the cells 24 and 48 hours following treatment. We found that LAAOs had a greater cytotoxic effect than cisplatin against the HEP-2 cell line, compared to cisplatin. The apoptosis rate was directly proportional to the duration of exposure. Our analyses show that LAAO has a stronger cytotoxic effect on HEP-2 cells than cisplatin, highlighting the potential of LAAO in the treatment of squamous cell carcinoma. Although our findings still need to be validated in other models, our findings strongly suggest that LAAO may cause substantial tissue damage.

Medical Science, 2020, 24(101), 183-189

Factors related with breast self-examination in women: A cross-sectional study in Tehran Province, Iran

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Breast self-examination is one of the primitive methods to diagnosis of breast cancer as one of the health problems in the world. Breast self-examination as a low costs and simple method that can be performed without the need for health personnel, can increase patient's survival chance through primitive diagnose of disease with more accurate diagnostic follow up. Considering the importance of breast self-examination, this study was conducted to determine an effective factor on breast self-examination among Tehranian women in 2018. In this Cross-sectional Study We surveyed a total of 859 women from Tehran that were participated in the study during the autumn 2018 about factors associated with Breast self-examination. Participant ages ranged from 30 to 65 years. Binary Logistic regression model was used to examine the relationship between Breast self-examination and a set of predictive variables. Study result showed that 42.1% of participant performed breast self- examination at least once in their lifetime. associated with self-examination Multivariable model shows that age (OR=1.816; 95%CI=1.084-3.044), home status (OR=.430; 95%CI=.289-.640), ethnicity (OR=.638; 95%CI=.448-.90), birth place (OR=.502; 95%CI=.247-.968), marital status (OR=4.321; 95%CI=1.478-12.629), job status (OR=3.894; 95%CI=1.464-10.363), income (OR=2.023; 95%CI=1.066-3.840), Problem in breast (OR=.161; 95%CI=.110-.237), Preventive behaviors of breast cancer (OR=5.864; 95%CI=2.445-14.062) were predictive behaviors of breast self- examination. Findings suggested the requirement of increasing self - examination and enforcing Preventive behaviors of breast cancer with society-based education. Efforts to enhance literacy level and awareness of breast self-examination through educational interventions, media plans, and academic environments such as school and university should be one of the priorities in the field of breast cancer prevention in metropolitans and societies.

Medical Science, 2020, 24(101), 190-200

RESEARCH

CDK1 and PLK1 are key regulator proteins in human Papilloma virus Type 16-Positive Cervical Cancer: A Network-Based Study

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Human papillomavirus (HPV) is the causative agent of cervical cancer. The purpose of present study was to provide a comprehensive protein-protein interaction (PPI) approach to identify the representative sub-networks for this cancer. Comprehensive gene expression profiling of cervical samples from different stages were collected from Gene Expression Omnibus (GEO-dataset: GSE67522). Among the three clinical stages, we generated two PPIs including, pre-cancerous network (normal-non-malignant) and cancerous network (non-malignant-CC or normal-CC). Subsequently, further bioinformatics analyses were performed. GO analysis

revealed that the majority of differentially expressed genes in reconstructing cancerous networks was obviously involved in cell cycle processes. Serine/threonine kinases Polo-like kinase 1 (PLK1), cyclin-dependent kinase 1 (CDK1), and CDK2 were the most important hub genes in the protein-protein interaction network. These proteins play critical roles in the dysregulation of the cell cycle in cervical cancer development. Also, other cell cycle associated genes including AURKA, BRCA1, and CDC20 were all found highly critical genes in HPV16-infected cervical cancer. CDK1, CDK2 and PLK1 play essential roles in mediating integrative genetic networks involved in the development of cervical cancer. These hub genes might help improve pathogenesis of cervical cancer and may be used for the diagnosis and treatment of this cancer.

Medical Science, 2020, 24(101), 201-214

ANALYSIS

The effect of sharpness and contrast processing filter on the measurement accuracy of endodontic file length

Sanaz Sharifi Shoostari, Mahshid Razavi, Razie Moarrefpour, Zohre Roozbahani

Precise determination of working length can be effective alternative for optimizing endodontic treatment. There are several methods for determining working length, including digital radiography. Image processing filters can improve diagnostic accuracy of digital radiographs. The aim of present study was to compare the effect of sharpness and contrast inversion processing filters on the measurement accuracy of endodontic file length using indirect digital radiography (PSP). In the present *in vitro* study a total of 36 permanent single rooted premolar teeth were selected for the study. Endodontic access cavity was prepared and #15 K-file was inserted into the canal for measurement the actual size as gold standard. The samples were mounted on resin acrylic blocks. Indirect digital radiographic images (PSP) were obtained using parallel technique. The radiographs were processed with sharpen filters and contrast inversion filters using scanora software program version 5.1. Original images without filtration, images processed with sharpen filters, and contrast inversion filters were observed by two blinded observers and the results were compared by golden standard. Data were analyzed using Friedman test, Dunnett's test, SPSS version 23. The difference among original images without filtration, sharpen filters, and contrast inversion filters were significant ($P < 0.05$). There were no significant differences between each group of pictures and actual size. Sharpness filters showed less realistic mean value of working length compared to original images without filtration and contrast inversion filters. Sharpening filters did *not* influence the accuracy of endodontic file length and is not preferred for measurement of endodontic file length. Contrast inversion filters have relative priority compared to original images without filtration, but the difference wasn't statistically significant. There were no statistical significant differences between each group of images and the reality.

Medical Science, 2020, 24(101), 215-222

RESEARCH

Growth kinetic comparison of Human Mesenchymal Stem Cells from Bone Marrow, Adipose Tissue and Decidua

Sepide Kazemi, Kazem Parivar, Nasim Hayati Roudbari, Parichehr Yaghmaei, Behnam Sadeghi

Mesenchymal stromal cells (MSCs) are undifferentiated cells with high proliferation potency. These cells can be characterized by their ability to self-renew and differentiate into specialized cell lineages. Therefore, these cells are considered as an attractive source of stem cells for cell therapy. However, MSCs are slightly different from different sources. The most used stem cell types, in both human and veterinary fields, are MSC derived from bone marrow and adipose tissue. Nowadays, there is a great interest in using stem cells derived from fetal tissues, such as decidua, which can be obtained non-invasively at delivery time and are an unlimited source of stromal cells. In this study, biological characteristics of stromal cells from adipose tissue (AT-MSC), bone marrow (BM_MSCs), and decidua (DSC), such as proliferation capacity, passage capacity, colony formation and cell viability after cryopreservation were compared. Based on our results, population doubling time of DSC in comparison with BM_MSC and AT-MSC is shorter (under 20 hours to passage 10), and these cells possess the highest potential in colony formation and ability of self-renewal. Also, these cells were well-maintained their viability after Cryopreservation up to 80%. DSCs have higher colony-forming ability and long-time passage capacity. Due to the significant proliferation capacity and great viability after cryopreservation, DSCs may be considered as a new source of stromal cells for application in cell-based therapies.

Medical Science, 2020, 24(101), 223-234

ANALYSIS

Prevalence of flat foot in Saudi Arabian primary school children in relation to age, gender, height and obesity: A cross-sectional study

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Flatfoot is a common problem in school age children, many factors may predispose to the development of flatfoot such as overweight, hypo kinesis, or hereditary factors. It is a common cause of pediatric orthopedic visits. This study was conducted to

estimate the prevalence of flatfoot in both genders in the population of 6- to 12-year-old schoolchildren, and to examine the relation of age, sex, weight, and height to flat foot. A total population of 563, in age ranging from 6 year to 12 years in Al-Madinah Al-Munawarah city was chosen. Foot posture was assessed by Foot Posture Index. Flat foot clinical diagnosis was determined by heel valgus position, navicular bone position, and medial arch formation on standing position. Flat foot prevalence in male children was 74.74%, while in female children it was 86.54%. The results showed that there is no significant correlation between flat foot and weight ($r=-0.051$, $p=0.223$). Also, there was no significant correlation between BMI and flat foot ($r=0.003$, $p=0.592$). On the other hand, the results showed that there was significant correlation between age, height and flat foot ($r=-0.086$, $p=0.041$), ($r=-0.094$, $p=0.026$) respectively. Equally, there is significant correlation between sex and flat foot ($r=0.132$, $p=0.002$). The flat foot prevalence in Saudi Arabia children is high compared to other countries. This means that children may require closer monitoring. The study demonstrated that medial arch development was associated with age, gender and height.

Medical Science, 2020, 24(101), 235-242

Impact of Pender model training program on lifestyle of parents of children with Thalassemia Major

Maryam Shahraki, Mohammadreza Firouzkouhi, Abdolghani Abdollahimohammad, Mahin Naderifar

Improving the lifestyle and promoting health are fundamental needs for human beings. Parents of children with thalassemia need to enhance their lifestyles. This study aimed to determine the effect of educational program of Health Promotion Model on lifestyle of parents of children with thalassemia major. This quasi-experimental study was performed on 34 parents of children with thalassemia under treatment in Imam Khomeini Hospital of Zabol, Iran. The participants divided into two groups as intervention and control, randomly. Pender model was used for educational intervention on promoting lifestyle during two 1-hour sessions as single-face-to-face. Data were analyzed by SPSS software version 22 and t-test. Mean and standard deviation changes of parents' lifestyle dimensions scores of children with thalassemia major after training become significant than before ($P < 0.001$). Training program enhances the lifestyle of parents of children with thalassemia major. Therefore, it is suggested that the training program of lifestyle promotion should be considered as an important part of parents' health programs, so that, they can actively participate in caring for their children and succeed in their life and work.

Medical Science, 2020, 24(101), 243-248

RESEARCH

Renoprotective influence of *Teucrium polium* leaf extract on Rats Intoxicated by Cyclophosphamide

Manal MS Mansoury

Teucrium polium leaves extract (TPLE) used as traditional herbal therapy for various diseases. Long term treated with Cyclophosphamide (CD) concomitant with development of renal toxicity. The present study aims to assess the mechanism of renal protective effect of TPLE on rats intoxicated with CD. Forty male rats were separated into 4 groups; control (Cont), CD; rats intraperitoneal (i.p) injected with CD (fifty mg/kg b.wt) for twenty one days, TPLE two hundred mg/kg b.wt +CD and TPLE four hundred mg/kg b.wt +CD; rats received TPLE orally for 21 days, followed by i.p. injected with CD. Following 24 hours of the last dose of CD blood and renal samples were collected for biochemical and histopathological investigations. Renal oxidative stress biomarkers; lipid peroxides (MDA) and superoxide dismutase (SOD), serum anti-inflammatory biomarkers, tumor necrosis factor- α (TNF- α) and interleukin-1 β (IL-1 β), kidney function; serum levels of creatinine (Cr), urea (BUN) and uric acid (UA), as well as serum ionic levels of sodium (Na^+) and potassium (K^+) were determined. The current study demonstrated that injection of CD caused significant increases in renal MDA, serum anti-inflammatory cytokines (TNF- α and IL-1 β), serum kidney function parameters and the serum ionic K^+ levels, with significant decreases in the renal SOD and serum ionic Na^+ against control group. Renal tissues showing congestion and coagulating necrosis of the renal tubules in the CD group. Oral administration of TPLE significantly ameliorated CD-induced renal oxidative stress. It reduced CD-induced elevation in serum anti-inflammatory cytokines, kidney function parameters and the changes in ionic Na^+ and K^+ levels as well as it ameliorate the changes in kidney tissues compared with CD group. Therefore, TPLE ameliorates the effect of CD-induced nephrotoxicity.

Medical Science, 2020, 24(101), 249-258

Evaluation of *Lactobacillus reuteri* probiotic Lozenges intake on Salivary Cariogenic Bacterial Counts in Preschool Children: A Randomized Clinical Trial

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The current study was conducted to assess whether intake of probiotic *L. reuteri* lozenges on a daily basis is beneficial to combat caries-associated salivary bacteria, namely Mutans streptococci and lactobacilli, hence minimizing dental plaque accumulation while keeping the buffer capacity of saliva to optimum levels in a group of otherwise healthy preschool children. The study group comprised of 178 healthy children (aged 3 - 6 years). The *L. reuteri* probiotic lozenges were given to experimental group ($n=90$) while the control group ($n=88$) received placebo lozenges, two times per day for a total duration of 56 days. Chair-side caries risk test sets were used to count salivary amounts of mutans streptococci, lactobacilli and also assess the buffering capacity. Simplified Oral Hygiene index (OHI-S) was employed to qualify dental plaque accumulation once at the start as a baseline and finally after 56 days. The results showed a statistically significant reduction of *S. mutans* and lactobacilli in the experimental group versus baseline

counts and the control group after 56 days ($p=0.000$ and $p=0.035$) respectively. Both the experimental and the control groups also showcased fewer plaque accumulations when compared with their baseline scores. While buffer capacity in experimental group was observed to be more than in the control group, the results reflected no statistically significant difference between the two study groups ($p=0.576$). The compliance was reported to be 80% and no adverse events were observed during the entire duration of the study. The regular intake of probiotic lozenge containing *L. reuteri* significantly lowered caries-associated bacterial counts and hence, probiotics consumption could aid in the reduction or even the prevention of dental caries.

Medical Science, 2020, 24(101), 259-269

ANALYSIS

The effect of chronic diseases on the lifestyle of the elderly people in Baghdad city, Iraq: A cross-sectional study

Sarah Waleed Hashim, Rasha Zaki Shukur, Haider Mohammed Jaafer

The aim of the study is to assess the effect of chronic diseases on the lifestyle of elderly people. A cross sectional study with analytic element was conducted involving 210 participants of elderly people 60 years of age and above, sample from Baghdad. The sample was selected randomly from four different places in Baghdad; those who attended the health institutes (as hospital and primary health care center) and from other institutes like national pension authority, banks, nursing homes-ministry of labor and social affairs, the data collection was done two days per week. The data collection were done at a period of 1st March 2017 to 1st September 2017. Elderly people were interviewed by a tested questionnaire. Socio-demographic, psychological and other life style characteristics were assessed including assessment scales to assess the functional and nutritional conditions. A 49.5% of elderly people were in the age group 60-64 years which were the majority of the studied sample, with a significant association between age groups and some of the chronic diseases especially hypertension and diabetes mellitus. Males were equal to females (50% males, 50% females). More than half of elderly people (57.6%) were married, 61.4% of total elderly people were not exercising routinely and regularly versus (38.6%) of them did, with strong significant association between lack of exercise and the presence of chronic diseases like hypertension, diabetes mellitus and cardiovascular diseases. Most of them were illiterates (35.7%), 47% of them were having good nutritional condition (with no nutritional risks) versus 53% were having nutritional risks (moderate to high risks) with a strong significant association between nutritional risks and presence of chronic disease like hypertension, diabetes mellitus and cardiovascular diseases, 48.1% were previous smokers as well as, 21.9% were active smokers with strong significant association between smoking and some chronic diseases like hypertension, diabetes mellitus and cardiovascular diseases. 86.7% of elderly people suffering from chronic diseases, cardiovascular diseases (65.7%) were the most frequent chronic diseases with highest frequency among the studied sample. In conclusion, this study provides a clear insight into frequency of chronic diseases among older people in Baghdad, given the high frequency of chronic diseases, therefore, a national policy on the health of elderly people is needed that includes strengthen the screening programs and early detection of chronic diseases especially hypertension and diabetes among older people. It also emphasizes the importance of planning programs to increase elderly people's social assistance, and improve medical, health and counseling services for them.

Medical Science, 2020, 24(101), 270-281

The value of left ventricular strain in predicting adverse outcomes after coronary artery bypass surgery

Iman Rashid Al-Obaidi, Walla Lauy Al Falluji, Hayder Adnan Fawzi, Wisam Salih Al-Obaidi, Ali Abdul-Amer Al-Moswee, Azhar Jihad Salman, Ahmed Sameer Alnuaimi

Assess the validity of global LV strain and strain rate (SR) to conventional echo parameters and N-Terminal proBNP (Brain Natriuretic peptide) in patients with CAD (coronary artery disease). The study included patients with CAD and LVEF $\geq 45\%$, with or without mitral valve regurgitation. The study carried out during the period from December 2017 to March 2018. The patients were scheduled for CABG±MVR (mitral valve replacement). Longitudinal and circumferential LV strain and SR were measured in addition to conventional echo parameters. NT-ProBNP and LV End Diastolic Pressure (LVEDP) were additional parameters to evaluate cardiac function. All the measurements were performed within one week prior to surgery. The incidence of early adverse outcome after surgery was 35.6%. The mean LV longitudinal strain was the single best parameter in predicting adverse outcome, while global LV circumferential strain and strain rate followed closely in validity. The mean LV longitudinal, circumferential strain & strain rate provides a valuable tool for selecting candidates for CABG±MVR assuring a plausible outcome after surgery.

Medical Science, 2020, 24(101), 282-289

RESEARCH

Metallothionein induction ameliorates cisplatin-induced hepatotoxicity: Molecular and Cellular Study

Shareefa A. Al Ghamdi, Ahd Y. Al Zamil, Maryam A. Al Ghamdi, Huda F. Al Shaibi, Fahad A. Al-Abbasi

Cisplatin is effective as a chemotherapy treatment, but its toxicity is one of the undesirable effects that limit cisplatin use in cancer patients. The central hypothesis of this study was that cisplatin induces hepatotoxicity by increasing reactive oxygen species (ROS), thus induction of one of the most effective antioxidants metallothionein (MT) within the cells can ameliorate the cytotoxicity induced by cisplatin. An *in vitro* model of hepatocytes, the cell line HepG2, were treated by different concentrations of cisplatin, which

induced a dose dependent significant reduction in cell viability. HepG2 cells were treated with zinc sulphate to induce metallothionein. The MTT results showed enhanced cell viability in HepG2 cells pre-treated with zinc sulphate compared to cells treated with cisplatin alone. Reactive oxygen species (ROS) levels were quantified and resulted in that the HepG2 cells treated with cisplatin displayed a significant higher concentration of ROS than control cells, while cells preincubated with zinc followed by cisplatin show a significant reduction in ROS production. Gene expression data showed a significant increase in the expression of metallothionein 2A (MT2A) in HepG2 cells pretreated with zinc sulphate when compared to cells treated with cisplatin alone. Treating cells with zinc generally produced a protective effect against cisplatin-induced hepatotoxicity. The protective effect of zinc is associated with its antioxidant properties, as it acts as a metallothionein inducer.

Medical Science, 2020, 24(101), 290-300

ANALYSIS

Detecting probable coronary insufficiency in asymptomatic hypercholesterolemic individuals by treadmill exercise electrocardiography

Raed Dheyaa Jaafar

Assessment of the possible presence of silent coronary insufficiency (SMI) in hypercholesterolemic individuals who are not complaining of documented atherosclerotic disorders. A case – control study carried out in the outpatient's clinic, biochemical laboratory, Alexandria University Hospital. All participants undergo ETT (exercise tolerance test). The study based on selection of patients with one major risk factor (serum cholesterol ≥ 250 mg/dl), without any additional risk factors (like DM, hypertension etc.). The study included 70 subjects, and were divided into two groups, group A (diagnosed with hypercholesterolemia) included 50 subjects (22 males, and 28 females), in which serum cholesterol ≥ 250 mg/dL. While group B (normal control), included 20 subjects (11 males, and 9 females) with serum cholesterol ≤ 200 mg/dL. Only three cases (6%) showed positive finding after performing ETT (all were in group A), however, there was no significant difference in ETT between group A and B (p-value = 0.552). The value of exercise tolerance test was limited in assessing silent myocardial ischemia in hypercholesterolemic people, if they are free from multiple major cardiac risk factors and other conventional cardiac complaints. Due to high false positive results of the ETT in cases with a low pretest probability, it is not a reliable procedure to detect SMI in low suspicious cases.

Medical Science, 2020, 24(101), 301-307

Explaining reduced consumption of sweet from the perspective of mothers: A qualitative content analysis

Seyed Saeed Mazloomi Mahmoodabad, Fatemeh Jowzi, Aliakbar Vaezi, Hassan Mozaffari-Khosravi, Hosein Fallahzade

Several studies have shown that there is a significant statistical relationship between sugar consumption and the prevalence of diabetes. Sugar is the most common sweetener used in the world to prepare sweet products. Studies have shown that changing lifestyles, including appropriate nutrition strategies, can prevent or delay the onset of diabetes. The purpose of this study was to explain the experiences of mothers about the determinants of intention to reduce the consumption of sweets based on the Health Action Process Approach. The present work is a content analysis. Data were collected through interviewing individual using a semi-structured interview. 15 mothers who had at least one child aged over 6 months were interviewed. Data analysis was carried out simultaneously with the Lundman's and Graneheim method. In data analysis, after eliminating repeated codes and merging similar cases, finally 55 codes were obtained in 15 subclasses, 6 classes and 3 main themes of "perceived risk", "outcome expectancies", and "task self-efficacy". The present study is qualitative and the findings provide a profound understanding of the determinants of reducing the sweets consumption from the viewpoint of mothers, which can not be achieved in quantitative studies.

Medical Science, 2020, 24(101), 308-316

RESEARCH

Comparison of Kyphoplasty and Vertebroplasty to increasing the height of vertebral body in Osteoporotic VBF

Sahar Farzi, Hesam Abdolhoseinpour, Reza Akhavan Sigari

Introduction & Objective: Vertebroplasty and kyphoplasty are low invasive procedures to strengthen the osteoporotic vertebrae. The aim of the present study was to compare the rate of increasing the postoperative vertebral height with kyphoplasty and vertebroplasty in patients with VBF referred to hospital. *Material Methods:* This descriptive cross-sectional study was performed on patients with acute osteoporotic vertebral body fractures. Patients who underwent vertebroplasty and kyphoplasty were divided into two groups of 28 and met the inclusion criteria. Then, vertebral height, Oswestry Disability Index (ODI) and Visual Analog Scale for Pain (VAS) were measured before surgery, one week and one month after surgery. Finally, relative height was obtained and then compared using height ratios. *Results:* The mean age of the patients was 75.5 ± 9.07 . The mean age of patients in kyphoplasty and vertebroplasty groups were calculated as 74.4 ± 10.25 and 76.6 ± 7.74 years, respectively. In the current study, 80% of the patients were female and the sexual distribution of patients was quite similar in the two surgical methods. In both methods, 80% of the patients were female and the remaining 20% were male. A significant difference in VAS and ODI scores was found between the two groups of kyphoplasty and vertebroplasty, one week and one month after surgery (p <0.001). L1 had the highest frequency of vertebral fractures (40%), while the least fractures belonged to L5 and T11 (3.3%). Mean anterior, middle and posterior height of

fractured vertebrae were found to be significantly different in two groups after surgery ($p < 0.001$). Similarly, the mean ratios of anterior, middle, and posterior height of the fractured vertebra were significantly different in the two surgical groups compared to the normal postoperative vertebral height ($p < 0.001$). *Conclusion:* The results of this study showed that both methods are effective in improving the rate of disability and reducing the severity of pain, but the efficacy of kyphoplasty is greater.

Medical Science, 2020, 24(101), 317-326

ANALYSIS

Prevalence of Seizure between Chronic Renal Failure Patients in hemodialysis center, King Abdulaziz University Hospital

Aysha A. Alshareef, Manal M. Alzahrani, Ahd F. Almarzouki, Khalid S. Alhunaiti, Mawadda A. Bayazeed, Shaza A. Alshahrani

Background and aim: Chronic kidney disease (CKD) is a common co-morbid and a reason behind patient hospitalization in the medical practice in Saudi Arabia. A variety of neurological symptoms and diseases are associated with both acute and chronic renal damage. Seizure is one of the most commonly reported neurological performances. For this purpose, this study is addressing to estimate the prevalence of seizures among CKD patients, as well as the mortality rate among neurological cases compared to non-neurological cases in the hemodialysis center, King Abdulaziz University (KAU) hospital. *Methodology:* This is a retrospective study, including 417 patients with CKD. Electronic medical records of patients who were admitted to the hospital from 2016 to 2017 were reviewed. Detailed medical history was obtained. Seizures type, possible triggers, anti-epileptics and occurrence of status epileptics were also investigated. Additionally, MRI and electroencephalography (EEG) findings were utilized in seizures diagnosis. *Results:* Forty-five patients (11%) of total population ($n=417$) were found to have neurological complications. Eighty percent of CKD neurological convulsion patients were on hemodialysis. Thirty-one percent of the patients were diagnosed with epileptic EEG discharges and 13% with brain MRI. Seizures were the most common neurological complication accounting for 53% while status epilepticus representing 11%. Out of the 24 patients, seizures triggers were identified in 19 patients. Generalized tonic-clonic was more common than partial seizure with 12(50%) and 3(12%), respectively. Other neurological complications were ischemic stroke (38%), hemorrhagic stroke (11%), headache (11%) and peripheral neuropathy (7%). High present of death among neurological patients 24(53%) in comparison to 94 (25%) in patients with non-neurological problems ($n=372$). *Conclusion:* It may be concluded that seizure is the main neurological complication of CKD depending on the results of this research. Electrolyte imbalance was the most common seizure cause. Among neurologically affected types of CKD patients, mortality was elevated.

Medical Science, 2020, 24(101), 327-334

RESEARCH

Seroprevalence of HBV and HCV among chronic liver disease patients

Prasant HA, Lalithambigai J, Prabhusaran N, Uma A

Background: Serological investigation and exact identification procedures are very important to impart the hepatitis infection control in the initial stage itself in order to avoid the major complications including chronic liver damage to successive organ failure. *Objective:* The main objective of the study is to determine the sero-prevalence of HBsAg, anti HCV antibodies, co-infections of HBV and HCV among clinically diagnosed CLD patients. *Methods:* A total of 56 subjects were included and all the serum samples were screened for markers of various hepatitis B and C viruses by using ELISA. The observation made out of the study further helped to know the probable mode of transmission and co-infection, so it was guided to follow the proper preventive measures. *Results:* Out of 56 CLD patients, 21.42% of samples were reactive for HBsAg and 8.92% were reactive for antibodies against HCV. One sample showed reactive for both HBsAg and Anti HCV antibodies. The knowledge of HBV, HCV status of patients provided better status for optimal clinical managements of Chronic liver disease patients to improve the efficacy of therapy, to implement of additional supportive therapy and new drugs, new therapeutic strategies especially vaccination strategies of Hepatitis B. *Conclusion:* It is a single centre study, limited to 56 subjects, indirect evidence of serology by ELISA using biomarkers only attempted, difficulty in establishing relationships of patient and factors and the transversal studies tend to overestimate the long duration of infections and under estimate the short duration infection.

Medical Science, 2020, 24(101), 335-342

Investigation of the effect of L-Carnitine on Mouse Ovarian Transplantation

Fatemeh Shahi Sadrabadi, Hussein Eimani, Kazem Parivar, Abdolhussein Shahverdi

Introduction: L-carnitine (LC) has yielded relevant results on ischaemic/ reperfusion (I/R) injuries in organs such as the intestine, liver, kidney, brain and heart, because of its antioxidant activity. We aimed to evaluate the potential of using L-carnitine to improve the quality of grafted ovarian tissues. *Materials and methods:* The ovaries from 4-6-week old mice were grafted into back muscle site. Transplanted ovaries were divided into four groups. 200 mg/kg LC was injected intraperitoneally one day before surgical operation and repeated until one week after grafting. Follicular morphology and apoptosis were examined in all groups and compared to age-matched non grafted ovaries. Anti- active caspase-3 staining was performed to evaluate apoptosis in all groups. *Results:* group Morphological analysis revealed that the number of follicles decreased in all transplanted groups compared with non-grafted group. The rate of apoptosis in LC- treated group showed no significant differences compared with control. *Conclusion:* LC supplementation

may be a suitable approach for the ovarian graft viability. Further experimental studies are required to clarify the mechanisms of action of L-carnitine, and clinical studies are required to determine optimum dose and treatment duration for decreasing I/ R injuries.

Medical Science, 2020, 24(101), 343-350

ANALYSIS

Dietary habits, eating practices and lifestyle pattern as predictors of increased waist circumference amongst University of Umm Al-Qura female students: A cross-sectional study (Obesity Associated Risk Factors)

Mazen M. Ghaith, Mohammed O. Ibrahim

Objective: Waist circumference (WC) is considered one of the best indicators for assessing abdominal obesity. However, we designed this study to evaluate the association between dietary patterns, eating practices and lifestyle pattern among healthy young age females at Umm Al-Qura University, Makkah, Saudi Arabia, with increased WC. *Methods:* Healthy young adult female students were recruited in this cross-sectional study. Face-to-face interview of 1616 participants was performed with each applicant and a validated closed-questionnaire was used to determine the dietary habits, eating practices and lifestyle pattern. WC, weight, height, and BMI were measured by standard methods. *Results:* This study indicated that the mean BMI and WC for the whole sample were all within the normal level. The percentages of obese and overweight females were 10.9% and 18.1%, respectively. This study observed that no regular physical activity, skipping breakfast, consuming fried foods ≥ 5 times /week, and intake of processed meat for ≥ 5 times /week were the significantly related to increased adiposity. Additionally, drinking soft drinks ≥ 2 times /week was shown to be associated with 2- to 4-fold increase in the risk of adiposity when compared to participants who consumed soft drinks ≤ 1 time /week. *Conclusion:* Increasing the level of knowledge and awareness about the risk factors related to increased WC, such higher intake of some unhealthy foods and drinks and low physical activity, is very crucial to reduce the high prevalence of increased adiposity at this age group and decreasing the adverse health outcomes with age.

Medical Science, 2020, 24(101), 351-359

Primary postpartum hemorrhage: Incidence, risk factors, and outcomes in Al Sader teaching hospital

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Objective: evaluate the incidence, risk factors, causes and outcomes of primary postpartum hemorrhage (PPH). *Methods:* A prospective study carried out at Al Sader teaching hospital/maternity department. Data were obtained for women diagnosed with primary PPH during the period from September 2018 to April 2019. The demographic, clinical, and outcome data were registered. *Results:* The study showed that the incidence of primary PPH was 1.2%. The main cause for this condition was uterine atony with rate of 57%. The main risk factor was a multiparous woman with rate of 86%. The main method of treatment was medical not surgical (80% vs 20%). *Conclusions:* Primary PPH incidence in Al Sader teaching hospital was low; the most identifiable risk factor for primary PPH was multiparity, history of previous PPH and presence of a medical disease. The most common cause of primary PPH was uterine atony.

Medical Science, 2020, 24(101), 360-364

Health related quality of life for geriatrics patients with common chronic diseases among National Guard Population, Jeddah, Saudi Arabia 2018-2019

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Background: Chronic diseases can have a profound impact on the health and quality of life of elder, not to mention the financial burden that is often associated with long-term illness. But specialists in gerontology and the emerging field of anti-aging medicine are quick to point out that while the risk of disease and disability undoubtedly can increase with advancing years, poor health is not an inevitable consequence of aging. According to the Centers for Disease Control (CDC) a lot of the sickness, disability, and even death associated with chronic disease can be avoided through preventive measures older population is expected to be increased in Arab countries including Saudi Arabia in coming decades. On the contrary, Arab countries are not paying attention to this increasing number of elderly people and most of the time; family is responsible for the increased demand of care for the elderly people. *Aim of the study:* To assess the burden of chronic diseases and their effect on the quality of life of these patients and to make suggestions for improving the health conditions among geriatric patients. *Method:* This cross-sectional study was carried out on 362 elderly people with age ≥ 60 years. Quality of life was assessed using the Arabic translation of the WHO Quality of Life-Brief (WHOQOL) questionnaire. Screening of cardiac diseases and depression was done using Framingham and PHQ-2 questionnaires, respectively. *Results:* Overall, The majority of participants (68.78%) were within the age group 60-<70 years, while the female's gender was (55.52%) while Male was (44.48%) of participants. The majority of participants were married (70.99 %), more than half of the participants (58.01%) were Illiterate. The majority of our participants (63.26%) have been diagnosed with Diabetes mellitus (DM), 22.10% with Hypertension (HTN), 8.56% with Hypercholesterolemia whereas, the Cardiovascular diseases (CVD) and Depression were distributed by only 3.04%. *Conclusion:* Many existing interventions for older adults are simply research-based with limited generalizability; as such, further work in this area is warranted. It seems difficult to get a coherent view of the relationship between HRQoL and chronic disease when the conditions are varying as well as the ethnic and cultural background. The estimation of the

relative impact of chronic diseases on HRQoL is necessary to better plan and distribution resources for research, training and health care, to further promote living well with chronic diseases.

Medical Science, 2020, 24(101), 365-375

SURVEY

GATS core survey in a highly urbanized city

Jo Ann Andoy Galvan, Donnabel Tubera-Panes

The Core Adult Tobacco Survey (CATS) was developed from the Philippine Global Adult Tobacco Survey (GATS), which was a nationally representative household survey of all non-institutionalized men and women aged 15 years and older to determine smoking prevalence at the city level. Baguio City has no local baseline data to evaluate effectiveness of its anti smoking programs. We investigated the prevalence of tobacco smoking among the residents of Baguio City in the year 2012. There were 100 households included in the study and 162 individual respondents completed the interview. The overall proportion of cigarette smoking was 27.2%. This was similar with the prevalence of smoking in the country (29.7%) in 2009, however has significantly better tobacco control indicators such as lesser exposure at workplace 19.4%, ($\chi^2 = 8.42$; $p=.002$), higher proportion of smokers receiving brief cessation advice 68% ($\chi^2=10.77$; $p <.001$), lower proportion of respondents seeing tobacco advertising 34% ($\chi^2 = 15.61$; $p<.001$) and tobacco promotions 32.1% ($\chi^2 = 93.70$; $p=<.001$), within the city. This baseline prevalence provides useful information to the policy makers for reviewing policies and program formulation.

Medical Science, 2020, 24(101), 376-385

ANALYSIS

Effect of prophylactic intravenous Dexamethasone and Lidocaine on cough and sore throat after extubation in elective laminectomy surgery

Nazli Karami, Alireza Mahoori, Hamid Aghaei

Context: In spite of advancement in anesthesia and surgery, major operative procedures are accompanied by post-operative complications. Some of them are due to intra-tracheal intubation an inevitable part of anesthesia for patient protection. At the post-operative period, sore throat, cough and hoarseness are more common and distress the patient. *Objectives:* The aim of this study is to compare the effect of prophylactic intravenous Dexamethasone and Lidocaine on cough and post-operative sore throat after elective laminectomy surgery. *Methods and Materials:* In this prospective analytic study, 90 adult patients undergoing elective laminectomy surgery were randomly allocated into three groups. The patients received either intravenous 0.1 mg/kg Dexamethasone (group D, n = 30) or 1.5 mg/kg Lidocaine (group L) or normal saline (group P, n = 30) after anesthesia induction and just before intubation with appropriate size of disposable reinforced endotracheal tubes. Follow up for the prevalence of cough and sore throat and its severity was done at 30 min, 1, 6 and 24 hours after extubation. *Results:* There were no significant differences in demographic data in three groups. In groups D and L, the prevalence of cough and sore throat and it's severity were significantly less than placebo group ($p<0.05$). Regarding the prevalence of cough and sore throat, in comparison of group D with group L, no significant difference was seen ($p>0.05$). *Conclusions:* According to results of our study, we can conclude that both prophylactic intravenous Dexamethasone and Lidocaine can reduce the prevalence of post-operative cough, sore throat and it's severity at the first 24 hours post-extubation period and can be used safely in selective patients.

Medical Science, 2020, 24(101), 386-392

CASE REPORT

Acute organophosphate poisoning presenting with Cerebral Infarction: Association or Chance?

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Common neurological complications of acute organophosphorous poisoning are coma, seizure, and muscle weakness with respiratory failure which occurs due to cholinergic crisis. Report of cerebral infarction associated with acute organophosphorous poisoning has rarely been published. Here we report a case of 46 year old male patient admitted for alleged history of suicidal organophosphorous poisoning presented with acute hemiplegia and his MRI brain revealed acute infarctions in left cerebral hemisphere.

Medical Science, 2020, 24(101), 393-396

ANALYSIS

Attitude of parents and dentists about the restorative materials used in Pediatric Dentistry

Shirin Taravati, Targol Amini, Sahar Mohammadi

Background: This study aimed to assess the attitude of parents and dentists about the restorative materials used in pediatric dentistry. *Methods:* This study was performed on 157 parents of children referred to the dentist and 157 dentists in Iran. A questionnaire was designed containing 8 questions for parents and a questionnaire containing 24 questions for dentists. At the beginning of the questionnaires, questions were about demographic information, and in the next questions, parents' and dentist's attitudes about the restorative materials were evaluated. *Results:* In comparison of restorative materials, composite and amalgam had the highest acceptability among parents, and the most concern was related to the durability of the composite and beauty of the amalgam. Acceptability of stainless crown was less than that of amalgam and composites, and the esthetic of these crowns was the most concerns of parents. Veneered crowns were the least acceptable for parents, and parents' greatest concern was for its cost and durability. The selected material to restoration class II proximal cavities in dentists was amalgam. Only 3% of dentists never used amalgam to restoration primary molars. In dentists' opinion, the greatest concern for parents is durability and cost of the restorative materials. The priorities for choosing the restoration materials for primary molars by dentists were 74% isolation ability, 24% involvement of more than two surfaces of teeth, and 17% child cooperation and cavity size, respectively. *Conclusion:* While composite and amalgam are the most acceptable restoration materials among parents, dentists mostly used amalgam to restore primary molars. The acceptability of restorative materials and concerns about the use of restorative materials were different between parents and dentists. Most dentists did not comply with parents' wishes in the choice of restorative materials.

Medical Science, 2020, 24(101), 397-406

A study of the state of spiritual health and its relation to self-efficacy of nurses

Moradali Zareipour, Zhila Mohammad Rezaei, Farzaneh Jafari, Sheiyda Ghaderzadeh

Introduction and Objective: Spiritual health is an important and prominent aspect of a healthy life that transforms people's lives from material life to spiritual life. According to the importance of spiritual health and its influencing factors, this study aimed to investigate the state of spiritual health and its relation to self-efficacy of nurses. *Methods:* This study is a descriptive-analytical study. Using multi-stage random sampling, 400 nurses were enrolled from public hospitals of Urmia. Spiritual health was assessed using Palutzian-Elison spiritual well-being questionnaire and self-efficacy questionnaire was assessed by using Scherer general self-efficacy questionnaire. Data were analyzed by using SPSS 20 statistical software. Statistics and statistical methods of variance analysis and regression analysis were used to analyze the data. *Results:* the results of this study showed that the intellectual health score of 55.4 % nurses were moderate and 44.6% of them had high spiritual health score. Spiritual health was significantly correlated with gender, age, and economic status. Also, the results showed that there is a significant relationship between spiritual health and mental health ($r=0.76$). Regression results showed that spiritual health ($p < 0.001$) was significantly able to explain 0.64 variance of nurses self-efficacy. *Conclusion:* The results of this study support the importance of spiritual health in predicting the self-efficacy of nurses. Therefore, it seems that the promotion of spiritual health in nurses can lead to an increase in self-efficacy of nurses to make recommendations for improving health and preventing illnesses in hospitalized patients.

Medical Science, 2020, 24(101), 407-414

Assessment of the cardiovascular response of Propranolol and lignocaine to endotracheal intubation

Isra Hamed Saeed, Hayder Adnan Fawzi

Objective: assessment of the effect of propranolol and lignocaine on the cardiovascular response to endotracheal intubation, compared to placebo (IV normal saline). *Methods:* A case – control study included 60 subjects, and were divided into three groups (20 patients each), group A (control group, given normal saline), group B (given propranolol 0.01 mg/kg, slow IV injection for 4 minutes before laryngoscopy and endotracheal intubation). Group C (given lignocaine 1 mg/kg, slow IV injection for 4 minutes before laryngoscopy and endotracheal intubation). *Results:* For all the three groups, blood pressure decreased after induction, with mean changes in MAP from pre-induction to intubation was -34 (-36.6%), -21 (-18.6%), -22 (-24.2%) mmHg for group A, B, and C; respectively. Heart rate was significantly lower in group B compared to group A (from intubation till 5 minutes post-intubation), while group C was significantly lower compared to group A only at intubation and after 1 minute, from 2nd minute till 5 minutes no significant difference were observed. Change in HR from pre-induction to intubation was -40 (-47.1%), -19 (-20.7%), -25 (-28.1%) mmHg for group A, B, and C; respectively. *Conclusion:* No single drug can completely attenuate the cardiovascular response to endotracheal intubation; both lignocaine and propranolol have similar effect on attenuation this response but the adverse effects of lignocaine is less than that of propranolol.

Medical Science, 2020, 24(101), 415-420

Sleep quality among adults and older adult who lives in Residential Care Center - RCC

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Background/objectives: Sleep is an essential neurophysiological process; it integrates health of all parts of the body and restores physiological and psychological functions. There are multi physiological processes affected by sleep as protein synthesis, hormonal release. The studies among older adult in Jeddah Saudi Arabia relatively rare, and most of them did not use PSQI (Pittsburgh Sleep Quality Index). In this study we assess the quality of sleep on adults and older adults here on Residential care centers (RCCs). *Materials and Methods:* A descriptive cross-sectional study was conducted among all adults and older adult live at RHCC in Jeddah, Saudi Arabia from June to July 2018 by using PSQI (Pittsburgh Sleep Quality Index). *Results:* 68.89% of older age has Poor Sleep Quality. Our participants are 259, Female were more than male, the mean of age for our sample are 48.59. We found an obvious

statistical significant relation between sleep quality and (Migraine, DM, anxiety and depression, smoking, pain killer using) P=0.087, P=0.003, P=0.000261, P=0.049, P=0.022 respectively. *Conclusion:* By the end of our study, most of older adult in RHCC has poor sleep quality due to several factors, and this study will recommend having more attention toward RCCs participants and more acceptability to visit primary health care.

Medical Science, 2020, 24(101), 421-428

Satisfaction of patients who underwent a Septorhinoplasty with or without Allergic Rhinitis: A cross-sectional study at a tertiary hospital

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Background: Patients with a nasal obstruction frequently present at the clinic. The obstruction is managed by a septoplasty accompanied by an operation, a septorhinoplasty, to correct the nasal deformity. *Objectives:* The objective of the study was to compare allergic and non-allergic patients in terms of symptomatic improvement and patient satisfaction after a septorhinoplasty. *Methods:* A cross-sectional study was conducted at King Abdulaziz Medical City (KAMC) with patients who had a septorhinoplasty between June 2015 and June 2018. The data was collected using a globally accepted scale, namely the NOSE questionnaire. *Results:* The sample realized as 222 and 73.40% (n=163) were male, the mean age was 30.4 years. Nasal obstruction was the main complaint, which was reported by 78.80% (n=175) of the combined sample. Overall, for the non-allergic subgroup, the proportions of the categories of the NOSE score (normal, mild, moderate, severe and extreme) before and after surgery were: normal (11.90% vs 30.50%), mild (21.5% vs 40.7%), moderate (24.60% vs 21.20%), severe (29.70% vs 6.80%) and extreme (12.70% vs 6.80%). For the allergic subgroup, before and after septorhinoplasty the proportions for the categories were: normal (4.80% vs 20.20%), mild (10.6% vs 36.50%), moderate (23.10% vs 26.90%), severe (29.7% vs 6.8%) and extreme (12.7% vs 6.70%). *Conclusion:* In patients with a septal nasal deformity (SND), with allergic or non-allergic rhinitis, septorhinoplasty results in significant symptomatic improvement.

Medical Science, 2020, 24(101), 429-434
