Entamoeba histolytica is belonging to the family of Entamoebidae and phylum Amoeboza. There are two forms of E. histolytica – trophozite and cyst. It is 10 to 50µm in diameter. Trophozoites ingest erythrocytes and destruct the tissue; cyst forms ulcers in the colon. E. histolytica causes amoebiasis commonly in travellers, recent immigrants, homosexual men, and pregnant women. It is found in the tropical and subtropical area and around 1 lakh people die due to amoebiasis all over the world. In India, the infection is present in most of the rural places, where the poor sanitation presents. Case presentation: A case of amoebiasis is found in pregnant women residing in villages of district nearby Wardha, in Maharashtra. Enrolled pregnant women complained about bloody diarrhea, vomiting, fever, etc. The purpose of this study is to be aware of amoebiasis infection in pregnancy due to the consumption of unhealthy water and food. In the primary level, microscopy of a patient stool sample is very useful for the diagnosis of disease caused by E. histolytica parasite. Conclusion: In this study, we mainly focus on molecular diagnostic method i.e. Real-time PCR. It affects people other than pregnant women, but it is severe in the pregnant woman because preterm delivery occurs due to amoebiasis. Due to immunodeficiency in pregnancy time, amoebiasis becomes severe in pregnant women. (Ref: Priti Karadbhajne, Anil Tambekar, Abhay Gaidhane, Zahiruddin Quazi Syed, Shilpa Gaidhane, Manoj Patil. Amoebiasis in pregnant woman: A case report. Medical Science, 2020, 24(104), 1814-1817), (Image: EikoOjala).
Amoebiasis in pregnant woman: A case report
Priti Karadbhajne, Anil Tambekar, Abhay Gaidhane, Zahiruddin Quazi Syed, Shilpa Gaidhane, Manoj Patil

Introduction: *Entamoeba histolytica* is belonging to the family of *Entamoebidae* and phylum *Amoebozoa*. There are two forms of *E. histolytica* – trophozite and cyst. It is 10 to 50µm in diameter. Trophozoites ingest erythrocytes and destruct the tissue; cyst forms ulcers in the colon. *E. histolytica* causes amoebiasis commonly in travellers, recent immigrants, homosexual men, and pregnant women. It is found in the tropical and subtropical area and around 1 lakh people die due to amoebiasis all over the world. In India, the infection is present in most of the rural places, where the poor sanitation presents. Case presentation: A case of amoebiasis is found in pregnant women residing in villages of district nearby Wardha, in Maharashtra. Enrolled pregnant women complained about bloody diarrhea, vomiting, fever, etc. The purpose of this study is to be aware of amoebiasis infection in pregnancy due to the consumption of unhealthy water and food. In the primary level, microscopy of a patient stool sample is very useful for the diagnosis of disease caused by *E. histolytica* parasite. Conclusion: In this study, we mainly focus on molecular diagnostic method i.e. Real-time PCR. It affects people other than pregnant women, but it is severe in the pregnant woman because preterm delivery occurs due to amoebiasis. Due to immunodeficiency in pregnancy time, amoebiasis becomes severe in pregnant women.

*Medical Science, 2020, 24(104), 1814-1817*

Primary systemic amyloidosis with peripheral and autonomic neuropathy presenting as recurrent presyncpe: A case report
Amol Andhale, Sourya Acharya, Samarth Shukla

Amyloidosis may occur as a familial disorder with dominant inheritance or as non-familial variant. Non familial amyloidosis is further divided into primary amyloidosis, which occurs in the absence of other disorders but usually associated with multiple myeloma; and secondary amyloidosis in association with disorders such as chronic infections and rheumatologic diseases. Only primary and familial amyloidosis is commonly associated with a polyneuropathy. We present a case of a fifty-one year old female who presented with recurrent pre syncopal attacks and neuropathy, and later on diagnosed as primary systemic amyloidosis.

*Medical Science, 2020, 24(104), 1818-1821*

Lung aplasia: A rare entity presenting in adulthood
Aishwarya Dubey, Babaji Ghewade, Ajay Lanjewar, Diti Gandhasiri

Pulmonary aplasia is a rare bronchopulmonary foregut anomaly characterized by the presence of a rudimentary main bronchus in the absence of lung and ipsilateral pulmonary artery. From 1762 there have been only 200 documented cases of lung aplasia which is very less as compared to lung agenesis. This disorder is usually diagnosed in the infancy or early childhood but may be delayed until adulthood in asymptomatic individuals or individuals without any associated comorbid anomalies. Here we report a case of a 28-year-old male who presented to us with mild respiratory distress and dry cough with a left radiopaque hemithorax in which the diagnosis of pulmonary aplasia was completed with bronchoscopy and computed tomography scan of thorax.

*Medical Science, 2020, 24(104), 1822-1827*

ANALYSIS

Effect of medication non-adherence on Parkinson’s disease psychosis
Wael Gabr, Osama El-Azouni

Context: medication non-adherence is a common problem among patients with Parkinson's disease, and its effect on the development of non-motor symptoms as Parkinson’s disease related psychosis is not fully investigated. Objective: our study aimed at testing the impact of non-compliance on Parkinson’s disease psychosis development. Methods: A total of 34 patients with medically recognised Parkinson’s disease (26 men and 8 women with an average age of 71.51 ± 6.93 years) were assessed using Parkinson’s Psychosis Rating Scale for psychosis identification. The severity of Parkinson’s disease was also assessed by Modified Hoehn and Yahr Scale. Morisk adherence scale of medication (MMAS-8) was used to measure patient adherence to medication. Results: In this study, 55.9% of patients with Parkinson’s disease were non-adherent to their medication, but non-adherence to medication showed no correlation with the development of Parkinson’s disease psychosis (p value 0.853). Conclusions: Non-adherence to medication is not correlated to Parkinson’s disease related psychosis and cannot be used as a predictor for its incidence.

*Medical Science, 2020, 24(104), 1828-1838*

An assessment of female ovarian cancer patients’ death and survival rates after surgical intervention: Neoadjuvant chemotherapy versus primary debulking surgery
Xuan Minh Ngo, Tro Van Chau

Objective: The main purpose of the study was to determine the survival and death rates of females with ovarian cancer after undergoing surgical operation. These rates were determined by examining the results from two treatment distinct methods used in females suffering from ovarian cancer. Methods: This retroactive study was conducted at Tu Du Hospital, Ho Chi Minh City, Vietnam, from February to September 2018. The study was associated with the data obtained in 2012 and 2017 about treatments for females...
suffering from ovarian cancer. The clinical data obtained during the previous analysis was again studied and revised. Similar knowledge was obtained about the environmental, medical, therapeutic, and pathological aspects of the previous studies. Overall existence of patients was compared with growth free existence. Patients who underwent either debulking surgery or neoadjuvant chemotherapy before surgery were compared. Mathematical identification was performed using SPSS. Results: Total 236 patients were undergone surgical cure. Of the total, 66.1% underwent primary debulking surgery; while the remaining 33.9% received neoadjuvant chemotherapy. The average patient age and tumor antigen level (125) before treatment were the same across all patients. In the debulking group, patients were identified according to two stages. One group had 94.8% of patients with stage 3 carcinoma and 5.1% with stage 4 carcinoma. In other groups, the percentage of patients in stage 3 and 4 were 80% and 20%, respectively. The most favorable occurrence of debulking was 56.8% in the earlier group as compared to 79.4% in the second group. At the time of surgery, the total loss of blood was recorded as 1500 ml. The loss of blood was almost the same in the different exhaustive care unit. In addition to the loss of blood, the rate of urinary swathe, bowel grievance, and bowel reactions were also analogous. The growth-free existence was also comparable in both groups. Conclusion: Equivalent existence rates and peri-operative difficulties can be created by neo-adjuvant chemotherapy followed by intermission debulking.

Medical Science, 2020, 24(104), 1839-1844

Treatment of respiratory distress syndrome in premature infants: A comparison of LISA and INSURE methods in the Vietnamese context

Xuan Minh Ngo, Giang Thi Cam Le

Objectives: To explore the clinical effects of less invasive surfactant administration (LISA) with the INSURE (intubation-surfactant-extubation) procedure on the treatment of respiratory distress syndrome (RDS) in premature infants. Methods: A total of 206 premature infants with RDS aged 26 to 32 weeks since birth were admitted from August 2017 to July 2018 in Vietnam. In the LISA group, 6F gastric tubes were inserted into the trachea through direct laryngoscopy under nasal continuous positive airway pressure (NCPAP), and pulmonary surfactant (PS) was injected. In the INSURE group, PS was injected via tracheal intubation and NCPAP was performed after extubation. The incidence of technical-related adverse events and various complications in the two groups were observed. Results: The mean of gestational age was approximately 29 weeks between the two groups. Infants who were treated with the LISA method showed better indicators, such as change in FiO2 and SpO2, as well as lower incidence of pneumonia or death. The less invasive surfactant pump group had a shorter hospital stay than the INSURE group. Conclusion: LISA is currently the most suitable method of surfactant administration and should be the first choice in spontaneously breathing infants considering its favorable effects on respiratory morbidities in preterm infants with RDS.

Medical Science, 2020, 24(104), 1845-1852

An assessment of abnormal lipid profiles (dyslipidemia) among cirrhotic patients and its association with age and gender

Xuan Minh Ngo, Tro Van Chau

Objective: The purpose of this research was to study patients with liver cirrhosis who presented an abnormal lipid profile at Tay Nguyen General Hospital, Daklak province, Vietnam. Material and Methods: Our cross-sectional research was conducted at Tay Nguyen General Hospital (Medicine Department), Daklak province, Vietnam. The research was conducted over eight months from February to September of 2017. In the course of our research, we studied the lipid profiles of 110 patients with liver cirrhosis. Results: The patients in the study ranged in age from 15 to 65 years, with a mean age of 39.77±12.84 years. Of the total, 60 (54.55%) were 15-40 years old, and 50 (45.45%) were 41-65 years old. Both the age group of 15-40 years and 41-65 years included 88 and 43 patients with dyslipidemia. Of the total, 80% of the patients aged 15-40 had dyslipidemia and 86% of the patients aged 41-65 had dyslipidemia. There was a significant statistical correlation between dyslipidemia and age (P=0.2310) and between dyslipidemia and gender (P=0.6255). Conclusion: Our research concluded that there was a higher occurrence of dyslipidemia in patients with liver cirrhosis. Whereas, an insignificant correlation of dyslipidemia was present between gender and age of the patients.

Medical Science, 2020, 24(104), 1853-1856

Factors related to satisfaction of the in-patients at 7A Military Hospital in 2019

Bao Toan Dang, Thanh Tam Vu, Quang Tri Le, Long Hai Le, Quoc Dang Quan, Xuan Da Pham

Background: Patient perception of medical services has been accepted as an important indicator of healthcare quality worldwide, including Vietnam. Researches on the satisfaction rate of the patients and factors influence it is necessary to devise better strategy of medical services and treatment. Objectives: This study aimed to describe the satisfaction rate of in-patient treated in the 7A Military Hospital (Ho Chi Minh City, Viet Nam) from April 2019 to Dec 2019 and evaluate the factors associated with patient satisfaction. Materials and methods: The study was performed on 600 in-patients treated at 7A Military Hospital using a descriptive, cross-sectional approach. Patient data was collected via an interview with a questionnaire based on the instruction of the Ministry of Health. Satisfaction score was based on Likert scale. The related factors were determined by univariate logistical regression analysis. Results: Satisfaction rate was 84.2% amongst the investigated patients. Aged over 60 and non-insured patients were significantly less satisfied than other groups (p < 0.05). Satisfaction was not significantly different between genders, marital status, incomes, number of visits to the hospital, and education levels (p > 0.05). Discussion: Satisfaction rate was high in comparison with average level in Vietnam and some other facilities aboard. Assessments of satisfaction associated factors were varied between studies and might be related to patient’s perception of satisfaction concept and the study background. Conclusion: Patient satisfaction rate was
satisfactory but could be and should be further improved. Historical and cultural background, experiences, gender-related traits and health status of the patients required more attention to better understand the underlying mechanism and devise suitable approach for each patient.

*Medical Science, 2020, 24(104), 1857-1863*

**The prevalence of obesity and the awareness of its complications among adolescent in Hail city Saudi Arabia**

Meshari Yousef Aljamani, Abdulrazaq Yousef Aljamani, Ibrahim Ginawi, Ibrahim Algharbi, Marwa M. Abdelsamed, Hussain Gadelkarim Ahmed

**Background:** Obesity is the accumulation of excess fat in the body and represents a public health problem globally, including Saudi Arabia. Therefore, this study aimed to estimate the prevalence of obesity among adolescents at intermediate and secondary schools in Hail city and to determine the level of awareness about its complications. **Methods:** A descriptive cross-sectional study has been conducted between 19 March 2019 and 18 April 2019. **Results:** The study included 400 students; the ratio of male to female was 1:1 with a mean age ±SD of 16±1.6 years. Approximately, 59.8% of participants were found to be aware of obesity and its complications. The main source of information was social media indicated by 67.4% of individuals. The factors that significantly affected the awareness of students were age (P=0.0001), gender (P=0.0001), weight (P=0.0001), BMI (P=0.0001), waist circumference (P=0.0001), mood (P=0.0001) and school achievements (P=0.0001). **Conclusions:** The prevalence rates of obesity and overweight presented one-third of the participants in this study and the level of awareness among students regarding obesity complications was indicated in two-thirds of participants, and the social media derived as the first source of awareness.

*Medical Science, 2020, 24(104), 1864-1869*

**Knowledge of the medical nurses and assistants on solid medical waste management in departments and units of 7A Military Hospital in 2019**

Long-Hai Le, Bao-Toan Dang, Thanh-Tam Vu, Quoc-Dang Quan, Xuan-Da Pham, Quang-Tri Le

**Background:** Medical waste regulation is an important issue due to its hazardous and infectious nature. The knowledge and skills of the healthcare staffs are important and studies in this matter is necessary for development of management and training strategy. **Objectives:** This study aimed to make a description and evaluation of the knowledge amongst nurses and assistants on solid medical waste management in the 7A Military Hospital from April to December 2019. **Material and methods:** This study employed a descriptive, cross-sectional approach. The quantify survey was done by interview with a questionnaire on 205 nurses and assistants. The qualify survey was done by depth interview with 13 selected personnel. Data was processed by Epidata and SPSS software. **Results:** Qualified knowledge of waste classification, collection, transportation and storage was 74.6%, 66.3%, 84.9%, and 77.6%, respectively. Poor knowledge was observed in number and name waste categories, collection and transportation patterns, and storage time at the central store house. **Discussion:** The general knowledge of the surveyed staff is high, but both the interviews revealed significant shortcomings and misconducts in several aspects. The study was restricted in solid waste management of nurses and assistants in three blocks and two centers of the Hospital due to limitation of fund and time. **Conclusion:** Improvement in training and education, and encouragement of mutual cooperation between staffs and units is necessary to maximize the management effectiveness. Further studies are beneficial for a more comprehensive outlook of the problem.

*Medical Science, 2020, 24(104), 1870-1877*

**How are preterm neonates treated in intensive care units? An overview from a central specialized hospital in southern Vietnam**

Xuan Minh Ngo, Trung Nguyen Nhat Le

**Introduction:** Premature births account for more than 10% of infant births worldwide annually. Preterm care and treatment are faced with difficulties given the lack of medical facilities and well-qualified healthcare personnel. This study investigated transferred preterm cases in a pediatric central hospital in Vietnam. **Methods:** This cross-sectional study was conducted at Children’s Hospital Number 2 from June 2017 to May 2018. Preterm infants (aged 26–32 weeks) who were transferred to the hospital within 72 hours after birth and satisfied criteria were included in the research. Cox and logistic regressions were conducted to predict mortality risk among the infants. **Results:** The highest mortality rate was 10.2%, observed among the group aged 26 to 28 weeks (48.3%). From 50 to 80 days after birth, this risk increased to 50%. The factors associated with infant death were ages between 26 and 28 weeks, intracerebral hemorrhage, patent ductus arteriosus, platelet transfusion, and parenteral nutrition >7 and >14 days. **Conclusion:** Low birth age, parenteral nutrition >14 days, and complications due to preterm birth significantly increased the mortality risk of the preterm infants.

*Medical Science, 2020, 24(104), 1878-1886*

**Knowledge and alertness of medical students at clinical phase towards hazards of ionizing radiations in Northern Saudi Arabia**


**Introduction:** Radiations constitute one of the considered hazards in healthcare work. The awareness of students was age (P=0.0001), gender (P=0.0001), weight (P=0.0001), BMI (P=0.0001), mood (P=0.0001) and school achievements (P=0.0001). From 50 to 80 days after birth, this risk increased to 50%. The factors associated with infant death were ages between 26 and 28 weeks, intracerebral hemorrhage, patent ductus arteriosus, platelet transfusion, and parenteral nutrition >7 and >14 days. **Conclusion:** Low birth age, parenteral nutrition >14 days, and complications due to preterm birth significantly increased the mortality risk of the preterm infants.
**Background:** The recent reported increased risks of radiation exposure in association with chronic illnesses have raised the issue of radiation safety. The present study aimed to assess the knowledge and alertness of Medical students at the clinical phase towards the hazards of ionizing rontion in Northern Saudi Arabia. **Methodology:** This descriptive cross-sectional study, included 443 medical students at clinical phases of the study (4th, 5th, and 6th years). The study subjects were randomly selected from three medical colleges in 3 universities (Hail, Jouf, and Tabuk). **Results:** Regarding the prior knowledge of radiation doses, 85/433(19.6%), and 153/433(35.3%), have “No idea”, and “Not confidence”, in this order. On asking “Is it important to know radiation doses” 97/433(22%) answered “Not important”, and 139/433(32%) answered, “May be important”. The application of medical radiology as both diagnostic and therapeutic was indicated by 238/433(55%). **Conclusion:** Medical students in late clinical years have relatively low knowledge and awareness towards ionizing radiation exposure, organ dependent doses, and radiation associated hazards.

*Medical Science, 2020, 24(104), 1887-1894*

**Efficacy of eradication therapy in children with H. Pylori-associated diseases depending on levels of nitric oxide and vitamin D**

Tamila Sorokman, Nadiia Chernei, Snezhana Sokolnyk, Iryna Sokolnyk, Nataliya Popelyuk, Leonid Shvygar

**Introduction:** Nitric oxide (NO) and vitamin D (25(OH)D3) plays a crucial role in many physiological processes in the human body.

**Aim:** To investigate the effect of 25(OH)D3 and NO on the efficacy of eradication therapy in children with H. pylori-associated diseases.

**Methods:** An observational prospective cohort study of 128 children with H. pylori-associated disease (endoscopic examination with verification of H. pylori in mucosal biopsies during primary endoscopy and 4-6 weeks after the end of treatment, the presence of the antigen CagA H. pylori in feces, levels 25(OH)D3 and NO). **Results:** The average of 25(OH)D3 was 25.7 ± 1.4 ng/mL, with H. pylori (+) - 1.6 times lower. In the group of children with vitamin 25(OH)D <20 ng/ml level, the eradication rate of H. pylori infection was 68.3%, while in the group of children with vitamin 25(OH)D>20 ng/ml – 84.6 %. The NO level in the blood plasma of the children was 9.78 ± 1.13 mmol/l, after treatment –11.09 ± 1.2 mmol / l. **Conclusion:** Vitamin D and NO deficiency is associated with worse rates of H. pylori eradication during treatment.

*Medical Science, 2020, 24(104), 1895-1903*

**RESEARCH**

**Can adjuvant supplements of Costus speciosus nanoparticles improve metformin control of hyperglycemia, oxidative stress, and apoptotic changes in Langerhans islets in a rat model of type 2 diabetes?**

Safia M. Bahshwan, Samar O. Abdullah Rabah, Haifa S. Almukadi, Duaa M. Bakhshwin

**Introduction:** Type 2 diabetes is one of the chronic and serious conditions that occur commonly. Metformin (MT) is an essential drug used to control symptoms of type 2 diabetes. It is usually taken in combination with other medications to lower blood sugar levels. Nanoparticles of the plant Costus speciosus (NPC) decreased the concentrations of blood glucose in the sera of experimental animals with diabetes type 2. **Aim:** This study aimed to examine the potential additive antidiabetic impact of oral NPC and their preliminary mechanism of action when added in combination with MT in type 2 diabetic rats, compared to MT monotherapy.

**Methods:** Type 2 diabetes was induced in 30 male Wistar rats using high-fat diet and streptozotocin. The rats were separated into 5 groups and treated orally with MT, NPC, or MT and NPC. **Results:** The results showed that NPC reduced blood sugar levels, increased insulin secretion, decreased lipid peroxidation, downregulated gene expression of caspase-3, and improved the pathology of pancreatic beta cells. The use of the NPC and MT combination showed a marked improvement in body weight and insulin secretion, and a distinct reduction in oxidative stress and beta-cell damage. **Conclusion:** The use of NPC with MT is an effective treatment regimen in managing unfavourable symptoms of experimentally induced diabetes type 2.

*Medical Science, 2020, 24(104), 1904-1914*

**ANALYSIS**

**Impact of corona virus disease outbreak on behaviours of Indian population**

Gulappa Devagappanavar

**Background:** Corona virus disease pandemic caused psychological, economic and social problems among the mankind in worldwide. Outbreak affected the Indian population through health, economy, agricultural production, business, and more importantly Indian social and cultural practices. This study was conducted to assess the behavioral change after the corona pandemic and impact of thermal screening on psychology of population. **Methods:** Across sectional study was conducted in the Gadag district headquarter and peri-urban area from 18th March 2020 to 13th April 2020 using semi-structured interview schedule. Convenient sampling technique method was adopted to obtain the data and data was analyzed using SPSS v20, expressed in frequency and percentage.

**Results:** Out of 246 participants majority (67.8%) of them changed behaviors related to personal and environmental hygiene due to disease outbreak. 24% of them responded that disease outbreak disturbed their mental status. Majority (60.8%) of the participants opined that thermal screening impact on them to come out from psychological fear. **Conclusion:** Study concludes that due to corona virus disease pandemic, people changed their behavioral practices to break the spread of infection. Thermal screening relived their fear about disease.
The antioxidant impact of Saudi sidr honey against acetyl salicylic acid-induced gastric ulcer

Ghadeer Al-Ghamdi, Rasha H. Hussein, Reem Al-azragi

It was mostly known that nonsteroidal anti-inflammatory drugs (NSAIDs) frequently be a main cause of gastric ulcers (GUs). Honey market is reaching a notable advance due to the strong cultural, social and religious relation between people and using honey. This study investigated the protective effects of Saudi sidr honey on aspirin induced gastric ulcer in rats. Rats were divided into three groups, G1. Healthy negative control. G2: Gastric ulcer rats, ulcer was induced by 4 doses of Aspirin taken orally (200 mg/kg b.w) G3: Saudi Sidr Honey group after induction of gastric ulcer, Sidr honey was administered in the dose. Results showed that Aspirin induced oxidative stress in gastric tissues that manifested by decreased levels of superoxide dismutase (SOD), reduced glutathione (GSH), together with increased levels of malondialdehyde (MDA) and xanthine oxidase (XO). Our results showed using Saudi Sidr honey modified the results and reduced oxidative stress. For this reason it posses an antioxidant protective role against gastric ulcer.  

Medical Science, 2020, 24(104), 1923-1929

The role of continuous maintenance therapy with pemetrexed in non-squamous non-small cell advanced lung cancer: A prospective cohort study in Vietnam

Nguyen Thi Thai Hoa, Nguyen Tien Chung, Huynh Quang Huy

Aims: To evaluate overall survival (OS) and progression-free survival (PFS) of patients with advanced - stage non-squamous non-small-cell lung cancer who were treated pemetrexed as maintenance therapy after first-line treatment by pemetrexed-/cisplatin.  
Method: Fifty-one patients with advanced Nonquamous Non-small-cell Lung cancer underwent first-line combination chemotherapy. When initial disease control had been achieved, these patients were received Pemetrexed as continuous maintenance (500mg/m2, on day 1 of the 21-day cycle) at National Cancer Hospital. The primary endpoint of this study was overall survival. Results: Median OS was 16.1 months; Median PFS was 7.8 months. Patients having a partial response to first-line treatment have median OS was 22.8 months, median PFS 9.8 months. Group of patients having a stable disease to first-line treatment has median OS was 13.6 month, median PFS 6.6 months. Conclusion: Our finding shows that pemetrexed maintenance therapy was effective in prolonging OS, PFS in patients with advanced non-squamous non-small-cell lung cancer after treatment pemetrexed- cisplatin.

Medical Science, 2020, 24(104), 1930-1935

Clinical presentations and imaging features of shoulder periarthritis: An observation in a Vietnamese traditional medicine hospital

Pham Hong Van, Nguyen Tien Chung, Huynh Quang Huy, Hoang Huyen Cham, Dau Xuan Canh

Objectives: This study aims to explore the clinical presentation, X-ray features, and ultrasound characteristics of shoulder periarthritis.  
Method: We prospectively analyzed 60 patients in Tue Tinh hospital who were diagnosed periarthritis of the shoulder according to the Boissier 1992 criteria during October 2017 and June 2018. This is a cross-sectional study. The variables include age, sex, time of onset, inflammation position, X-ray finding (shoulder osteoarthritis), ultrasound features (joint effusion/calcification/inflammation). All patients were performed ultrasound and X-ray at the shoulder. Results: Periarthritis was more common in females than males. The sex ratio was female: the male was 2/1. Most of the cases have occurred in patients more than 50 years old. Neer and Hawkins test was positive in most of the cases, while Gerber and Patte test was in the low rate of positive. Ultrasound detects the periarthritis of the shoulder more sensitively than X-ray does. Regardless of the location of inflammation: tibial tendons accounted for the highest proportion, followed by the patient having pain points under the shoulders. Conclusion: Clinical presentation of periarthritis is not specificity for diagnosis. Ultrasound and X-ray play an important role in detecting and follow-up disease progress.

Medical Science, 2020, 24(104), 1936-1941

RESEARCH

Effect of magnetic nanoparticles on Ehrlich solid tumor in mice using thermal ablation

Salim M.A. El Hamidy

Recently, nanotechnology plays a significant role in cancer prohibition and treatment. Various kinds of iron oxide are naturally occurring and may be synthesized under laboratory conditions. This research was intended to estimate the histological and biochemical changes induced by Ehrlich Solid Carcinoma (ESC) in the skeletal muscle of mice treated with Epirubicin, and Fe3O4/MPA NPs with hyperthermia. The experimental animals were equally allocated into 4 groups (50 mice/group). Mice of the first group were benefit as normal control. The second group were intramuscularly injected with ESC. The ESC affected mice of the third and fourth groups were treated with Epirubicin and Fe3O4/MPA NPs with hyperthermia, respectively. The present investigations displayed that treatment of ESC mice with Epirubicin and Fe3O4 NPs/MPA revealed a significant reduce (P ≤ 0.05) in the creatinine kinase (CK), aspartate aminotransferase (AST) and alanine aminotransferase (ALT) activity. The histological changes in the skeletal muscles in the first treated group showed reduction of cancer cells, cirrhosis and destruction of tissue cells, also, the group administrated by Fe3O4/MPA with hyperthermia showed disappearance of a large number of cancer cells compared to the first group of treatment and the return of life to the fabric affected without touching or affecting the normal cells of the tissue. In conclusion, the in vivo
cancer treatment test could cure the cancer tumor, protecting the skeletal muscle tissues and ameliorated CK, AST and ALT enzyme activity.

*Medical Science, 2020, 24(104), 1942-1950*

---

**ANALYSIS**

**Deterrents and predictors of implementation of public private participation in primary health care**

Abbas Moradi Farahani, Soad Mahfoozpour, Somayeh Hessam, Shaghaeyeh Vahdat, Mehdi Jafari

**Objectives:** Public-private partnerships are a new way of thinking about promoting community health, which can lead to increased efficiency, equity, accountability, quality and accessibility throughout the health system. Resource constraints, high costs, and low quality of services have forced health officials and policymakers to reform, including the active participation of the private sector in the provision of primary health care. Therefore, considering the importance of the subject of this study, we aimed to determine the impediments and proponents of the implementation of public private participation in primary health care. *Materials and methods:* This descriptive study was conducted on a sample of 100 managers, policymakers, operational experts in the Ministry of Health, universities of medical sciences, health networks, and managers of private companies in the field of health services. It was done in 2020. Data were collected using a standard questionnaire on a 5-point Likert scale, to determine qualitative and qualitative content validity from the opinions of 10 professors and experts, and quantitative validity was determined with CVI, CVR = 0.95, and reliability of the questionnaire with Cronbach’s alpha = 0.8, respectively. SPSS software version 21 was used for data analysis. *Findings:* The results of this study showed that the average health record of practitioners is 21±6.2 years, 80% have a PhD, 90% are in the public sector and 10% are in the private sector. The average score of inhibitors of public private Participation - sector implementation is 93.18 and the average of the public-private Participation sector implementation factors is 53.62. Health managers view "lack of capacity to define incentives and exemptions in health investment plans, lack of investor confidence in government technical and financial studies, lack of sustained funding to support the purchase of guaranteed primary health care and incorrect device managers" Implementation of legal effects on project outsourcing and fear of consequences of outsourcing “are the most important barriers to participation. Factors such as “reforming the ongoing oversight and follow-up of health projects by the Ministry of Health, modifying the original use / multipurpose of the project with the aim of attracting investors, enabling private sector funding in collaborative contracts, and encouraging and punishing appropriate medical universities based on Performance appraisal in project outsourcing is the most important factor driving the implementation of partnerships with the private sector. *Conclusion:* The results of this study showed that “lack of capacity to define incentives and exemptions in health investment plans, investor uncertainty about government-funded technical and financial studies is the most significant deterrent to participation.” Strengthen surveillance and follow-up of health project assignments. From the Ministry of Health, changing the main user / multipurpose project with the aim of making it attractive to investors is the most important factor driving public-private partnerships.

*Medical Science, 2020, 24(104), 1951-1961*

---

**CASE REPORT**

**A case report on impact of physiotherapy rehabilitation on post coronary artery bypass graft**

Dhanashri Ghordadekar, Waqar M. Naqvi, Arti Sahu

**Introduction:** Peripheral vascular disease (PVD) occludes medium and small size arteries other than heart and brain. It may lead to recurrent fatigue, cramping, intermittent pain sensation, and intermittent claudication. In India, Coronary Artery Disease (CAD) has a prevalence of is 11% for non-diabetic and 21.5% for diabetic population. *Case Description:* A 50 years old male patient with coronary artery bypass graft was referred for physical therapy from post operative day 1 to day 10. Ten sessions of physiotherapy were performed using various exercise programs such as patient education, proper advice, deep diaphragmatic breathing exercises, upper extremity and lower extremity mobility exercises and airway clearance techniques. *Discussion:* The patient reported a decrease in breathlessness and an increase in functional activity following the physical therapy. There was a decrease in rate of perceived exertion score while performing functional activity. We also observed an increase in walking distance in the 6MWT. Monitoring vitals during the exercise is important to look for any abnormal signs and symptoms. *Conclusion:* Patient was reported to have an increase in functional capacity of patient, which led to significant improvement in his quality of life and functional outcome. The positive outcome from this study warrants further studies including large number of patients.

*Medical Science, 2020, 24(104), 1962-1967*

---

**ANALYSIS**

**Effectiveness of traditional medicine “TK1” plus physiotherapy in treating periarthritis of the shoulder**

Pham Hong Van, Nguyen Tien Chung, Huynh Quang Huy, Hoang Huyen Cham, Dau Xuan Canh

**Objectives:** To determine the effectiveness of traditional medicine TK1 plus acupressure points and massage in treatment periarthritis of the shoulder. *Methods:* We prospectively analyzed 60 patients in Tue Tinh hospital who were diagnosed periarthritis of the shoulder according to the Boissier 1992 criteria during October 2017 and June 2018. This is a case-control study. Patients were
enrolled into two groups: the case group, which was treated with TK1 traditional medicine plus acupressure points and massage (n=30); the control group which was treated with acupressure points and massage (n=30). Comparison, the result between 2 groups after 21 days of treatment with the criteria, includes visual analog scale (VAS) pain score, range of joint motion, Constant and Murley points, and inflammatory properties on ultrasound. Results: After 21 days of treatment, the VAS pain score was reduced significantly in the case group and similar to the control group; the range of joint motion was better in the case of the group than those in the control group. Constant & Murley point changed significantly in the case group more than that in the control group. Inflammatory properties on ultrasound were improved more in the case group than in the control group. The overall outcome showed 96.7% cases of good, 3.3% cases of rather good. One patient has abdominal pain on the 6th day, and another patient has nausea symptoms on the 7th day after treatment. However, all symptoms have disappeared when patients get medicine after a meal. Conclusion: Traditional medicine TK1 plus acupressure points and massage is better in treatment periarthritis of the shoulder than in case of using acupressure points and massage only.

Medical Science, 2020, 24(104), 1968-1974

Comparison study between cone beam computed tomography and panoramic radiography in the detection of maxillary sinus disease
Hanadi M Sabban

Background: Maxillary sinuses are related to many dental procedures in the dental clinics now a days and the diagnosis of an infection or a disease in the maxillary sinuses is mandatory by the operator. The purpose of the current paper was to compare the accurate rate between the use of cone beam computerized tomography (CBCT) and panoramic radiography in the detection of maxillary sinuses. Material and Methods: A total of 60 patients were used to collect data for the current study. Each of the patients was assessed using the two measures; CBCT and Panoramic radiography and the results analyzed using STATA Version 13.0. The findings of the study indicate that CBCT was better in analyzing the underlying cause of the patient’s symptoms by looking at Seven variables while the Panoramic radiography measure only analyzed two factors due to its dimensional limitation and superimposition of anatomical structures. Results: Based on CBCT, 53% of the patients had the disease, but the panoramic radiography mechanism shows that 65% of the same group of patients had the disease. CBCT is offering a 3D assessment of maxillofacial structures which allows accurate measurements of the mucosal thickness and disease size and extensions. CBCT is more accurate when it comes to the diagnosis and detection of maxillary sinus disease although there are no statistically significant differences between the examined factors and both imaging modalities. This is explained by the small sample size of this study and the experience of the radiologist with both techniques. Conclusion: Panoramic radiographs would be indicated only as a screening procedure while CBCT should be wholly employed in the dental clinics whenever the assessment of maxillary sinuses is recommended.

Medical Science, 2020, 24(104), 1975-1983

Pemetrexed-Carboplatin as first-line treatment in elderly patients with stage IV adenocarcinoma lung cancer
Nguyen Thi Thai Hoa, Pham Xuan Dung, Huynh Quang Huy

Introduction: In Vietnam, 60-70% of lung cancer is diagnosed at the metastatic stage. Platinum-based doublet chemotherapy plays an important role at this stage. This study aims to describe the clinical, subclinical features and evaluate the overall response rate (ORR), disease control rate (DCR), and side effects of treatment using Pemetrexed-Carboplatin regimen for elderly patients with stage IV adenocarcinoma lung cancer. Methods: A single-arm intervention was conducted on 37 patients in Vietnam National Cancer Hospital from January 2017 to June 2019. All patients were intravenously treated with pemetrexed 500 mg/m² on day 1 followed by intravenously carboplatin area under the curve (AUC) 5 on day 1; every 3 weeks. Results: The mean age was 67 ± 4.1 (60-74); male/female ratio = 2.7/1. The smoking rate was 66.2%; 78% of patients had comorbidity; 56.8% of patients suffered from cardiovascular diseases. The overall response rate (ORR) was 35.1%, and disease control rate (DCR) was 59.5%. The common side effects were at grade 1 or 2, no drug-related death. Conclusion: The Pemetrexed-Carboplatin regimen treating elderly patients with stage IV lung adenocarcinoma has the same response rate and tolerance similar to other age groups.

Medical Science, 2020, 24(104), 1984-1989

Evaluation of solitary pulmonary tumoral lesions in diameter more than 10 mm detected during computed tomography examination and role of computed tomography-guided percutaneous transthoracic biopsy
Pham Hong Duc, Nguyen Thi Thai Hoa, Huynh Quang Huy, Phan Thi Chung

Objectives: To evaluate some radiological characteristics of solitary tumoral lesions in the lung and assess the value of lung biopsy under computed tomography (CT). Methods: A prospective and cross-sectional study was conducted on 68 patients who had a solitary pulmonary tumoral lesion; the patients underwent transthoracic biopsy under the guidance of CT in the Department of Diagnostic Imaging of K hospital and Saint Paul hospital from March 2018 to May 2019. Results: Of 68 patients, 56 and 12 cases found to be malignant and benign lesions, respectively, by biopsy. There was a difference in size between the cancer group and non – cancer group. Lobulation and speculation margin is capable of advanced cancer. The overall complications of the transthoracic biopsy were 47.05%. The incidence of parenchymal hemorrhage and pneumothorax was 36.8% and 10.3%. The incidence of pneumothorax was related to the pleural needle angle (p= 0.001). Conclusions: CT-guided transthoracic needle biopsy is an effective and safe diagnostic method for patients with a solitary pulmonary nodule or mass lesions. Pulmonary hemorrhage is the most common complication after CT-guided percutaneous transthoracic biopsy.
**Evaluation of the hip joint parameters in Vietnamese people with femoral head avascular necrosis by multi-slice computed tomography**

Pham Hong Duc, Nguyen Tien Chung, Huynh Quang Huy, Tran Van Kien

**Background:** The purpose of this study was to evaluate some parameters of the hip by the multi-slice computed tomographic system in Vietnamese patients with avascular necrosis of femoral head indicated total hip arthroplasty, which is not known well before but is important in the hip joint replacement surgery. **Materials and Methods:** Using 32 slice computed tomographic system (MSCT) with reconstructed multiplanar protocol to evaluate parameters of the acetabulum and proximal femur and their relationships in 116 hip joints of 58 patients with avascular necrosis of femoral head. We spat 116 hip joints into three groups: early-stage patients group, stage III patients group, and stage IV patients group. The evaluated parameters for each group, include acetabular inclination angle (A.I), acetabular anteversion angle (A.A), acetabular diameter (A.Di), acetabular depth (A.De), femoral head diameter (F.Di), femoral sharp-neck angle (F.Sn) and femoral medial offset (F.O). **Results:** There were significant difference between early stage, stage III and stage IV groups in AA (p=0.04). There were significant differences between male and female of early stage group in ADi (p=0.02); FDi (p=0.004); of stage IV group in AI (p=0.02); ADi (p=0.00); ADe (p=0.04); FDi (p=0.005); FSn (p=0.01) with the size of acetabular and femoral head in male was significantly higher than female; except that AI in female of stage IV group was significantly higher than male. There is inverse correlation between age with FDi in three groups (Pearson= -0.41; -0.38; -0.04; respectively and p = 0.04; 0.03; 0.002; respectively). **Conclusion:** The study showed that A.A. of stage IV group was significantly smaller than in the early stage. Generally, FSn of Vietnamese was smaller than other races, but their F.O was not higher. The values were within a safe range so that the anatomical index can be applied to determine the location of the artificial hip joint in operation.

*Medical Science, 2020, 24(104), 1995-2000*

**Impact of Vitamin D on Acute Ischemic Stroke Prognosis (IVASTO)**

Mohamed Elsayed Flifel, Osama A. Abdel Salam, Mohamed Ameen, Mohammed Elsherif

**Background and Purpose:** The correlation between acute ischemic stroke (AIS) and Vitamin D (VitD) was reported in many observational studies. This study aimed to investigate this association, the severity, and the short-term outcome of AIS patients with different VitD levels. **Methods:** The patients were assessed at the onset by clinical and severity scores [National Institutes of Health Stroke Scale (NIHSS), modified Rankin Scale (mRS)]. In follow-ups after 3 months they were assessed by mRS and were classified according to VitD levels into control group 1(≥ 30 ng/ml) and abnormal group 2 (VitD < 30 ng/ml). Comparison and correlation of the VitD in AIS, NIHSS, and mRS were calculated between both groups. **Results:** The present single-center prospective cross-sectional study during one-year duration was done on 59 patients with AIS. Vascular risk factors did not show any differences between both groups (P > 0.05). It showed statistically significant differences between both groups regarding VitD level, NIHSS, mRS after 3 months with P-value < 0.001, 0.0035, and 0.0167 respectively. There is a negative correlation between VitD level and NIHSS scores, VitD level and mRS scores at the onset, and after 3 months P < 0.0001, < 0.0001, < 0.00 respectively. **Conclusion:** AIS patients with VitD deficiency showed more stroke severity and poor outcomes. The VitD serum level should be examined as supplementation may have an important role in the guidelines of cerebral stroke treatment.

*Medical Science, 2020, 24(104), 2001-2008*

**CASE REPORT**

**Hypokalemic paralysis in systemic sclerosis - A clinical challenge**

Bimal K Agrawal, Taniya Pruthi, Barinder Kaur

A forty year old female presented with weakness of all the four limbs since two days. On evaluation it was found that she was hypokalemic which she had for last four months. She was further investigated for persistent hypokalemia. On clinical examination she was found to have sclerodactyly which prompted to consider the diagnosis of systemic sclerosis. The diagnosis was further supported by presence of antinuclear antibody and anti Scl 70 antibody. Urinary loss of potassium due to distal renal tubular acidosis was causing hypokalemia. The patient was managed with potassium supplementation.

*Medical Science, 2020, 24(104), 2009-2012*

**RESEARCH**

**Evaluation of hepatoprotective action of Solanum melongena L. peel extract against paracetamol induced liver damage in albino rats**

Jaideep Sarkar, Nitin Kumar, Pankaj Gupta

**Introduction:** Paracetamol or also called as acetaminophen or APAP is known from long time to induce hepatotoxicity in human and as well as experimental animals. Free radical injury and oxidative stress can be accounted for pathogenesis and progression of hepatic toxicity. In this context out of many naturally reported anti-oxidants, *Solanum melongena* is known by many common names; to name a few as egg plant or brinjal was selected due to its high anti-oxidant potential, easy palatability and also potential...
to act as functional food. From ethnobotanical claims, it's reported to cure degenerative ailments through its strong anti-oxidant potential. **Materials and methods:** Extraction of *S. melongena* L. purple fruit peels were conducted in water: ethanolic mixture (1:1) and aqueous media to get SMHA and SMAQ, respectively. Following OECD test guideline 423, acute oral toxicity was conducted in Swiss Webster mice with SMHA and SMAQ at75, 150, 250, 500, 1000, and 2000 mg/kg/bw. There were no signs of evident toxicity in mice. So, 100, 200, and 400 mg/kg of SMHA and SMAQ was selected and orally administered to PC induced hepatotoxic Wistar rats. Serum bio-chemical estimation (fasting sugar, AST, ALT, ALP, TC, TG, and HDL) was conducted after 24 hours post PCM treatment. Tissues were subjected to bio-chemical tests for estimating liversuperoxide dismutase (SOD), glutathione reductase (GSH) level. Microscopical examination was performed on liver cells. **Results:** In rats, serum and liver biomarker enzymes, LDL levels and elevated glucose levels were attenuated in dose dependent manner and were in normal ranges post treatment with SMHA and SMAQ when compared with Silymarin group rats. From histopathological observations, it was established that there was reduced fatty deposits or adipocytes infiltration in hepatocytes. This is a potential marker for recovery of hepatocytes against hepatotoxicity by PCM following lipid peroxidation mechanism. Statically all the findings concerning serum and tissue pathology was at p<0.05. **Conclusion:** The present study established that *S. melongena* L. possess excellent anti-oxidant potential and thereby subsequent hepato-protective activity too by attenuating free radicals and elevated liver biomarker enzymes. From functional food point of view, it can be used as both preventative as well as curative agent in liver compromised people. It evinced future potential for a new drug development for treating liver impairment.

*Medical Science*, 2020, 24(104), 2013-2024

---

**“Modulus of rigidity” as a resistance criterion of the lower limb long bones in case of their traumatic injuries**

Ivan Savka, Svitlana Savka, Viktor Sapielk, Vitalii Shcherbak

The aim of the research was to determine the morphological signs participating in the formation of “modulus of rigidity” of the long tubular bones and affect biochemical processes of their destruction in case of external traumatic impact. The study involved 128 injuries of the long tubular bones of the lower limb: femoral bone – 40 cases,ibia – 46, fibula – 42. Fractures of every bone were assessed by the three thirds: proximal, middle and distal. Examination of morphological signs of the osseous tissue on the micro-level was conducted on 576 specimens of the femoral bone,ibia and fibula (192 specimens of each), removed from dead males and females aged from 24 to 70 (the control group). All the 29 morphological parameters of fracture area and 8 volumetric-massive parameters of structural peculiarities of the examined bones were grouped into separate factors (modules). The following most important morphological signs forming “modulus of rigidity”: the number of cracks (sphenoid from fracture, X-Y cracks, longitudinal ones, and from the medullar canal from the site of compression), length of the biggest sphenoid crack, height of the biggest crest in the fracture zone, number of teeth in the rupture zone, length of plastic deformity zone from the site of compression, and empirical morphological sign – square of the medullar canal.

*Medical Science*, 2020, 24(104), 2025-2031

---

**Computed tomography characteristics of primary retroperitoneal neoplasms in children**

Ngo Minh Xuan, Huynh Quang Huy

**Backgrounds:** Retroperitoneal tumor is a type of tumor that develops in the peritoneal cavity. In which neuroblastoma and renal papillae are the most common. Imaging diagnosis takes an essential role in the detection, diagnosis, follow of tumors, and so does computed tomography. We aim to determine the value of computed tomography in the diagnosis of primary retroperitoneal neoplasms in children. **Methods:** Ninety-six pediatric patients diagnosed with neuroblastoma (49 cases) and Wilms (47 cases) at the Children Hospital 2 Ho Chi Minh City from August 2013 to September 2017. The study designed with prospective analysis. Tools and means of study: CT images were taken by the “CT Light Speed” machine with eight probe ranges of GE incorporation, USA. **Results:** Most tumors are heterogeneous after contrast injection. The calcification rate in neuroblastoma (83.7%) was significantly higher than that in Wilms’ tumor (17%). Necrotic tumors were high, accounting for 77.6% of neuroblastoma and 74.5% of Wilms’ tumor. The incidence of hemorrhage was more elevated in neuroblastoma (77.6%) than in Wilms’ tumor (46.8%). The prevalence of vascular occlusion in the neuroblastoma group was significantly higher in the Wilms’ tumor group (69.4% vs. 2.1%). Vascular pressure in neuroblastoma was 59.2%, and in Wilms’ tumor was 55.3%. Signs of tumors crossing the midline accounted for 57.1% of patients with neuroblastoma and 59.6% of patients Wilms’ tumor. **Conclusions:** CT scan is valuable in the diagnosis of primary retroperitoneal neoplasms in children to distinguish neuroblastoma with Wilms’ tumor. Also, the CT scan helps to choose appropriate therapy and follow up after treatment as well.

*Medical Science*, 2020, 24(104), 2032-2036

---

**The concepts of Saudi population about weight loss measures together with surgical intervention**

Hussain Gadelkarim Ahmed, Abdullah Selmi Suliman Alfarsi, Raed Alasmar Bin Museibb Alenezi, Hani Abdulrhman Zabin Almutairi, Abdulaziz Fahad Saleh alanazi, Ebtehaj Saud Almughais, Fatmiah Fahad Alreshidi, Rasha Mohammed Alarfaaj, Fawaz Saror Alrasheed, Omar abdulrahman alzamil, Fayez Saud Alreshidi

**Background:** Merging of multifarious factors related to obesity/overweight is deemed important to reduce the future burden of obesity-related comorbidities. Therefore, the present study aimed to assess the concepts of the Saudi population about weight loss measures together with surgical intervention.**
measures including together with surgical intervention. **Methodology:** This study involved 317 Saudi participants living in the city of Hail, Northern Saudi Arabia. Data were collected during a cross-sectional survey conducted during the period from October 2019 to Feb 2020. **Results:** Out of the 317 participants, 31/317(9.8%) were obese and 44/317(14%) were overweight. On asking “Do you planning for weight reduction”167/289(58%) answered “Yes”. Out of the 167 respondents, 144/255(56.5%) were males and 33/34(97%) were females. On asking “Reduce weight by physical activities” 158/304(52%) answered “Yes”. Out of the 158 respondents, 138/270(51%) were males and 20/34(59%) were females. **Conclusion:** The concept of the Saudi population is relatively poor towards means of weight loss, particularly bariatric surgeries. Women were more protuberant to incomes of weight loss than men. Still, there is a gap regarding an individual’s body weight determinants, which requires to be addressed at a community level.

**Medical Science, 2020, 24(104), 2037-2044**

**Cranial ultrasonography can predict the neurodevelopmental outcomes in preterm neonates**

Tran Kiem Hao, Ton Nu Van Anh, Nguyen Thi Diem Chi, Nguyen Huu Son, Nguyen Thi Hong Duc, Tran Vinh Phu

**Background:** Preterm birth is correlated with cerebral lesions such as hypoxia-ischaemia and haemorrhage. It is important to fully provide their parents with the potential prognostic information for the neonates, and most do this with the role of some neuroimaging modalities. This study aims to evaluate if it is possible to predict the short-term neurodevelopmental outcomes in preterm infants who develop hemorrhagic, ischemic or other brain lesions that are recognized on routine cranial ultrasound examinations? **Methods:** We prospectively evaluated the correlation of cerebral lesions found by cranial ultrasound and the developmental delays at the age of 6 months in 79 preterm infants (born before the 37th postmenstrual week). Cerebral ultrasound findings were reported as four categories: 1) Intraventricular haemorrhage; 2) Periventricular leukomalacia; 3) Ventricular dilatation; 4) Other lesions such as congenital anomaly, cystic lesion. Developmental evaluation at the age of 6 months was performed by Denver II screening test and during a neurologic examination. **Results:** Of 79 preterm infants, 24.1% had delayed mental or psychomotor development or both. Abnormal ultrasound findings, which were significantly correlated with the developmental delays, consisted of intraventricular haemorrhage (RR=9.6), periventricular leukomalacia (RR=10.3), ventricular dilatation (RR=18), congenital anomaly (RR=18) and cystic lesion (RR=18). Some perinatal factors such as Apgar score < 7 at 5 mins, the disease of hyaline membranes, and mechanical ventilation were each correlated to increased risk of developmental delays. **Conclusion:** Cranial ultrasound is an excellent non-invasive modality for the screening of brain lesions in preterm newborns during hospitalization. Therefore, physicians could predict short-term neurodevelopmental outcomes.

**Medical Science, 2020, 24(104), 2045-2051**

**Refractive stability following uneventful small incision cataract surgery at week one**

Hebah Johary, Catalina David, Pierre-Jean Pisella, Malek Slim, Jean Marie Baudet, Tiphanie Pichard

**Introduction:** Small incision cataract surgery with foldable intraocular lens implantation is the most common surgery performed in France, leading to rapid improvement in visual acuity and early postoperative (Postop) refractive stability. **Aim:** To evaluate refractive and visual stability one-week post-surgery in order to establish the best time frame for lens prescription. **Methods:** This is a retrospective study that included patients who underwent uncomplicated small incision cataract surgery under topical anesthesia and single piece, monofocal intraocular lenses (IOL) implantation. Surgeries were performed in the Ophthalmology Department of the Jacques Coeur Hospital, Bourges, France, between November 2016 and June 2017. Refraction and best-corrected visual acuity were recorded at preoperative (Preop) and Postop (1-week and 3-8 weeks) examination. Statistical analysis was performed using the paired Student’s t-test. **Results:** A total number of 80 eyes of 73 patients aged between 50 and 96 were included in the study, out of whom 30 (41.1%) were male and 43 (58.9%) were female. Forty-two (57.5%) of patients had no comorbidities. Our study finds no statistically significant difference when comparing spherical refraction, cylindrical refraction, and visual acuity between the 1-week Postop check-up and the 3-8 weeks Postop check-up. **Conclusion:** Spherical refraction, cylindrical refraction, and visual acuity are stable at 1-week post-cataract surgery. Therefore, lenses can be prescribed a week after cataract surgery.

**Medical Science, 2020, 24(104), 2052-2058**

**Prediction of macrosomia by fetal biacromial diameter among term neonates**

Fatemeh Azadi, Masoumeh Shafait, Maryam Moshefeghi, Ameneh Abiri, Mamak Shariat, Soghra Khazardoost

**Objectives:** Although clinical and ultrasonographic assessments are implemented to predict fetal macrosomia, there are still lots of controversies regarding to using different predictive parameters. The aim of present study was to compare the mean of biacromial diameters in macrosomic and non-acromic neonates to determine the accuracy of this predictive parameter. **Methods:** A multicenter, cross sectional study was carried out in two Iranian hospitals in 2019. The study population consisted of 37-42 weeks pregnant women attending in labor room for delivery. After admission, a transabdominal ultrasound examination was performed. All fetal parameters including estimated fetal weight, biparietal diameter (BPD), head circumference, chest circumference, abdominal circumference (AC), mid arm diameter, transverse thoracic diameter, femur length, were measured. Fetal biacromial diameter was also determined using formula and recorded. After delivery, the neonates’ birth weights were measured. Based on birth weight, neonates were divided into 2 macrosomic and non-macrosomic groups. The mean of biacromial diameter in macrosomic and non-acromic neonates was compared, sensitivity and specificity associated the biacromial diameter in prediction of fetal macrosomia among term neonates were also determined. **Results:** The mean of biacromial diameter in macrosomic group was significantly higher than counterpart group (18.72±0.94 mm vs. 15.27±1.64 mm; P= 0.0001). Based on ROC curves, Area under curve (AUC) for biacromial
diameter as a significant diagnostic value for macrosomia was 0.979 (p=0.0001, 95% CI: 0.954, 1.000). AUC for abdominal circumference was also 0.857 (p=0.0001, 95% CI: 0.717, 0.998). Conclusion: biacromial diameter index with high sensitivity, specificity values and its significant correlation with birth weight could predict macrosomia. Further studies with larger sample size are strongly suggested.

*Medical Science, 2020, 24(104), 2059-2066*

**Comparative evaluation of microleakage of three different sealers using vertical compaction technique under stereomicroscope: An in vitro study**

Manoj Chandak, Chanchal Rath, Madhulika Chandak, Saurabh Rath, Samrudhi Khatod, Anuja Ikhar

**Introduction:** Complete fluid tight seal is important for successful endodontic treatment. It will be achieved by use of gutta percha with sealer during obturation. **Aim:** Compare and evaluate microleakage of Sealapex, MTA Fillapex and Adseal using stereomicroscope. **Materials and Methods:** Thirty single canaled human teeth were collected. Samples were separated into three groups (n=10). Group I- Sealapex, Group II-MTA Fillapex, Group III- Adseal. Samples were examined under stereomicroscope for sealing ability. Data obtained were statistically checked using One-way ANOVA test. **Results and conclusion:** Least microleakage was found with Sealapex followed by Adseal followed by MTA Fillapex sealer. MTA Fillapex shows highest amount of leakage.

*Medical Science, 2020, 24(104), 2067-2073*

**Quality of life in patients with chronic heart failure in multi-ethnic urban population**

Fayez El Shaer, Abdulaziz S Almasoud, Afnan A Alkharan, Yara A Alzamil, Sarah M Aljasser, Rashed Alfagih, Fakhr Alayoubi, Waleed Alhabeeb

**Background:** Currently, The prevalence of heart failure (HF) is increasing, further studies are required to compare the quality of life (QOL) amongst diverse groups of patients with HF classified regarding ejection fraction (EF) according to the European society of cardiology (ESC) HF guidelines into either patients with reduced ejection fraction (HFrEF), mid-range EF (HFrEF) or preserved EF (HFrEF) in Saudi Arabia managed with guideline directed medical therapy (GDMT) in heart function clinics (HFCs). **Objectives:** The aim of this paper is to review information on QOL in patients with HF. **Methods:** 420 patients responded to the QOL Minnesota Living with Heart Failure Questionnaire (MLHFQ) were classified into three group according to their ejection fraction less than 40%, from 40 to 49% and more than or equal 50%. The estimated QOL scores were classified according to cutoffs < 24 represents a good QOL, a score between 24 and 45 represents an intermediate QOL, and a score > 45 represents a poor QoL. **Results:** Participants had a mean age of 59 ± 15, 38% were women, 85% were Saudi nationality, 17% were smoking, 63% were diabetic, 73 % were hypertensive, 47% were anemic, 30% were with renal impairment, 11% were hypothyroid, 4% had history of cerebrovascular stroke, 3% were with chronic obstructive pulmonary disease (COPD), history of malignancies were in 3%. The QOLfor the whole cohort had a mean of 31, median of 27 with minimum of 0 and maximum of 87.20. QOL score found to be good (less than 24) in 44%, intermediate (ranging from 24-45) in 33%, and poor (more than 45) in 23 %. According to the ESC heart failure guideline classifications of HF subgroups, there were no statistically significant differences regarding QOL patients followed in HFCs whether HFrEF (EF less than 40%), HFrEF (EF from 40-49%) or HFrEF (EF more than or equal 50%). **Conclusion:** No statistically significant differences regarding quality of life in HF patients followed in HFCs irrespective of their EF either HFrEF, HFrEF or HFrEF groups. In spite of, therapeutic advances in management of HFrEF their QOL still inferior with no statistically significant difference when compared to HFrEF patients whom well-defined therapy is still lacking.

*Medical Science, 2020, 24(104), 2074-2083*

**CASE REPORT**

**High posterior take-off origin right coronary artery in coronary angiography; A case report**

Hossein Sheibani, Amirhessam Kheirieh, Elham Azmoodeh

A 75-year-old woman previously healthy female nonsmoker was admitted with a chief complaint of burning chest pain (unstable angina) and dyspnea on exertion. Because of unstable angina, Coronary angiography was done immediately and revealed RCA arose about 3.7 centimeters above sinotubular junction and originated from the posterior surface of the ascending aorta. She was undertreated by prophylactic treatment. PCI was not performed because the patient was not satisfied and discharged with shortness of breath and chest pain. “High take-off” alludes to an unusual high origin coronary artery from junctional zone; between its sinus and the tubular part. The main subject is decreased coronary perfusion and Angiography-based imaging for scrutinized evaluation of anomalous vessels is important. Cardiologists and treatment staff should be updated, because it can have significant impact on the patient’s prognosis and clinical outcome of patient. Prophylactic drug therapy may prevent the potential complications of this anomaly in the future.

*Medical Science, 2020, 24(104), 2084-2088*

**RESEARCH**

The study of enalapril effect on the functional-metabolic parameters of the cerebral mitochondria in rats with type 2 diabetes mellitus
The results of experimental and clinical studies do not exclude interrelations between diabetes mellitus and local renin-angiotensin system of the brain. Considering an important role of the system in development of neurodegenerative processes we have become interested in the issue concerning enalapril effect on the mitochondrial state of the cerebral cortex and hippocampus in experimental simulation of type 2 diabetes mellitus. Objective of the study is to learn enalapril effect on the functional-metabolic parameters of mitochondria in the cerebral cortex and hippocampus of rats under neurodegeneration conditions stipulated by type 2 diabetes mellitus. The experiments were conducted on laboratory nonlinear albino male rats with the body weight 0.18-0.20 kg. Type 2 diabetes is modeled on streptozotocin and a high-fat diet. Enalapril was administered intraperitoneally at a dose of 1 mg/kg, once daily for 14 days. The administration of 14 days of enalapril was found in the dose of 1 mg/kg during 14 days produces a positive effect on the functional-metabolic state of the mitochondria in the cerebral cortex and hippocampus in rats with type 2 diabetes mellitus, which is indicative of decreased relative rate of mitochondrial swelling and increased intensity of light dispersion, and increased activity of α-ketoglutarate dehydrogenase and succinate dehydrogenase. The use of enalapril rats with type 2 diabetes improves the state of the prooxidant-antioxidant system in the cerebral cortex and hippocampus by the degree of reduced markers of protein and lipid modification oxidation (reduced content of carboxyl phenylhydrazine and products reacting with 2-thiobarbituric acid) and increased catalase activity. The data obtained present experimental substantiation of enalapril protective effects in case of mitochondrial dysfunction in the cerebral cortex and hippocampus of rats induced by type 2 diabetes mellitus.

Medical Science, 2020, 24(104), 2089-2095

CASE REPORT

A Tri-Laminated Splint for management of Anterior Disk Displacement

Zynul Ali Sirsmith John, Sunita S Shrivastav

There has been increase in the number of cases reporting to the clinic with complain of TMJ pain. The common reasons for increasing cases of Temporo mandibular disorders are stress and occlusal factors that act as potential risk factors. According to DC/TMD criterion, disk displacement is one of the common forms of TMDs. Occlusal splints are one of the common modalities for management of disk displacement. The purpose of this case report is to present an innovative chairside approach to manage cases having anterior disk displacement and severe pain with splint therapy. Also, it explains how helpful MRI is as a diagnostic tool to manage such cases. It also identifies role of malocclusion as an etiological factor for development of TMDs and any treatment in such cases must be done after treatment of the temporomandibular dysfunction. Helkimo index was taken to categorize the case and was subjected to MRI for evaluating articular disk position in A-P and Coronal plane. A modified splint fabricated with Essix retainer, Memosil 2 (Kulzer) and Cold cure acrylic was delivered.

Medical Science, 2020, 24(104), 2096-2102

ANALYSIS

Lung ultrasound features of complicated pneumonia in children

Ngo Minh Xuan

Purpose: The aim of this study is to describe lung ultrasound findings of complicated pneumonia in children. Methods: We prospectively and prospectively analyzed patients under 16 years of age with complicated pneumonia evaluated at Children’s Hospital I - Ho Chi Minh City from September 2018 to July 2019. At baseline and 48 hours after the beginning of treatment, history, clinical examination, laboratory testing, chest X-ray, and lung ultrasound were performed. Results: One hundred fifty children were enrolled in the study (20 with complicated pneumonia). The rate of complications of pneumonia on ultrasound: Lung collapse, pleural effusion, necrotic pneumonia are the most common complications in patients with pneumonia, with respectively 62.9%, 57.1 %, and 40%. Mean while only 11.4% of patients with pneumothorax complications and no patients with pneumonia with pulmonary abscess complication detected on lung ultrasound. Conclusions: Our study highlights that lung ultrasound is a good modality to evaluate of complicated pneumonia in children.

Medical Science, 2020, 24(104), 2103-2109

Psychoeducational Intervention Program for Women with Breast Cancer: A Systematic review and Meta-analysis

Murad Abdul Raheem Younis, Azizah Othman, Bachok Norsa’adah

Most patients with breast cancer receive psycho-educational procedures. The feasibility of these interventions has not yet been established, however. We performed a systematic review and meta-analysis to identify the psycho-social (psychoeducational and other) supporting experimental studies with breast cancer patients. Articles have been searched in electronic scientific databases. Independently assessed and collected data from eligible studies by two review authors. Discussion resolved any disagreement. The data extracted included participant information, methods, intervention and outcome. Twelve papers that meet the inclusion criteria are subjected to review. The research included a total of 1834 breast cancer participants. Significant improvement was reported after psychoeducational intervention in multiple psycho-social factors. Meta-analysis found that a significant amount of heterogeneity with high evidence -3.96 (95% CI: -4.39 to -3.83; P = <0.00001; I2 = 92%; Chi2 test P < 0.00001). Our study strengthens the evidence
of psychosocial support's efficacy in improving symptoms of breast cancer and psychoeducational intervention in promoting psychological well-being.

*Medical Science, 2020, 24(104), 2110-2118*

**Outcomes of preterm infants 26 – 34 week’s gestation at a Vietnamese children hospital**

Ngo Minh Xuan

**Objective:** This study aims to explore the rates of complications related to preterm infants; characteristics of treatment, and the mortality of preterm infants 26 – 34 weeks gestation in Children hospital 2 (Vietnam). **Methods:** We retrospectively enrolled 215 preterm infants 26 – 34 weeks gestation entered Neonatology and Neonatal Resuscitation within 72 hours after birth. The complications related to preterm infants, characteristics of treatment, and the mortality was analyzed. **Results:** The incidence of complications related to preterm infants: respiratory distress syndrome (80%), chronic lung disease (9.3%), symptomatic patent ductus arteriosus (14.4%), late-onset sepsis (58.6%), late-onset pneumonia (40.5%), necrotizing enterocolitis (7%), retinopathy of prematurity treated by diode laser photocoagulation (1.4%), intraventricular/periventricular haemorrhage (5.6%). The incidence of intervention related to preterm: mechanical ventilation (44.2%), respiratory support with CPAP (90.7%), surfactant therapy (39.1%). Rates of mortality (10.2%), rates of mortality based on gestational age were 48.3%, 8.1%, and 1% at 26 – 28 weeks, 29 – 31 weeks, and 32 – 34 weeks, respectively. Over time from 50 – 80 days, mortality risk of preterm age group 29 – 31 weeks increased 10% while the age group 26 – 28 weeks increased by 50%. **Conclusion:** The high rate of preterm infants hospitalized with a diagnosis of respiratory distress syndrome. High rates of complications related to prematurity, such as late-onset sepsis, nosocomial pneumonia. High mortality rates and high mortality risk over time of preterm age group 26 – 28 weeks gestation.

*Medical Science, 2020, 24(104), 2119-2125*

**CASE REPORT**

**Pyogenic liver abscess with reactive thrombocytosis- A rare case report**

Amol Andhale, Sourya Acharya, Yash Gupte, Vidyasheer Hulkoti

Pyogenic liver abscess is an uncommon entity which usually affects the elderly. Clinical signs and symptoms vary, leading to delay in diagnosis and, higher rate of complications. Reactive thrombocytosis is a phenomenon which usually occurs secondary to infections, inflammations, cancer or bleeding. We present a case of a twenty four year old female with hepatic abscess associated with right side plural effusion and reactive thrombocytosis.

*Medical Science, 2020, 24(104), 2126-2130*

**ANALYSIS**

**Early fluid aspiration among cesarean section scar deficiency reduces cancellation rate and increase the clinical pregnancy rate among patients undergoing frozen embryo transfer**

Hoang Thi Diem Tuyet, Huynh Nguyen Khanh Trang, Ngo Minh Xuan

**Background:** Invitro fertility (IVF) has been set up in Vietnam since 1998. Upto now, all over Vietnam, we have 26 centers of IVF with more than 2000 babies per year. Almost all IVF pregnancies have been terminated by Cesarean sections (C section) in Vietnam. Deficient C section scars sometimes make it very difficult for frozen embryo transfer because of both endometrium development and the fluid inside the uterus cavity. This study aims to identify whether early fluid aspiration among C section scar deficiency reduces cancellation rate and increase the clinical pregnancy rate or not among patients undergoing frozen embryo transfer. **Methods:** We analyzed thirty-six cases with C section scar impaired followed endometrium preparation before frozen embryo transfer at Hung Vuong hospital – Ho Chi Minh city- Vietnam, from January 2016 to January 2019. All participants have all the inclusive criteria of the study. **Results:** The average age of participants is 37± two years. 30.5% are residents of Ho Chi Minh City, others living in other provinces of Vietnam from North to South. 15/36 (41.7%) participants have had a C section before going through IVF. 15/36 (41.7%) have C section by obstetric in other provinces. All 36 cases were aspirated early from the 7th day of endometrial preparation, 22/36 (61.1%) were second-hand suction on day 14 of uterine endometriosis, and 5 / 36 (13.9%) smoke the third time on the 21st day of endometrial preparation. In 36 cases participating in the study, 05 cases did not meet the criteria of embryo transfer, so the cycle was canceled, with the rate of cancellation of 5/36 (13.8%) much lower than the previous intervention with Antibiotics and anti-inflammatory (40%). The pregnancy rate is 16/31 (51.6%), and the clinical pregnancy rate is 14/31 (45.2%), which is equivalent to the general pregnancy, and clinical pregnancy rate of embryo transfer at Infertility department of Hung Vuong Hospital. **Conclusion:** Early intrauterine fluid aspiration during endometrial preparation in frozen embryo transfer patients with C section scar failure reduced the cancellation rate and increased pregnancy and clinical pregnancy rates in this patient group but also need more research in the future.

*Medical Science, 2020, 24(104), 2131-2136*

**Prevalence and predictive factors of microscopic colitis in patients with chronic watery non-bloody diarrhea: A tertiary center study**
Microscopic colitis (MC) is increasingly recognized during colonoscopy and biopsy of normal mucosa in chronic watery non-bloody diarrhea (CWND) patients. The prevalence and predictive factors of MC among CWND patients with normal colonoscopy were investigated in this study. 194 patients with CWND of unknown etiology in the period from March 2017 to June 2018 underwent full colonoscopy and biopsy. A total of 88 with normal colonoscopic findings were enrolled in this study and pathology results analyzed. The study showed that 8/88 (9.1%) patients with CWND and normal colonoscopy had MC; all of MC patients had lymphocytic colitis (100%). Predictive factors for MC were the age ≥50 years, frequent diarrhea>7 motions/day, duration of diarrhea ≤6 months, nocturnal diarrhea, abdominal pain, weight loss, current use of PPI and/or H2 receptors blockers and low serum Na and/or K level. We have created a diagnostic scoring system for the prediction of MC, with ranging scores from −1 to +10. A cutoff value >3 recognized MC patients with 100% sensitivity and 91% specificity (AUC, 0.99). With scores >5 and >6, specificity increased to 97% and 100% while the sensitivity decreased to 75% and 62% respectively (AUC, 0.99). Hence, this study concluded that MC is not uncommon in CWND patients and normal colonoscopic findings. A biopsy of normal colonic mucosa is emphasized to reach the definite diagnosis of MC. However, the created scoring system can identify MC patients and lower costs by recognizing unlikely MC patients.

Medical Science, 2020, 24(104), 2137-2146

The effect of motivational corporate interviewing on the self-esteem of the elderly patients with cancer

Mosayeb Mozafari, Hadis Soltani, Arman Azadi

Introduction: cancer is a chronic disease causing pain, limitness, malformation and death in patients and especially in old people with cancer. The self-esteem is a significant source of any person and in patients with cancer may become a stressor. Use of non-pharmacological methods such as motivational interview is effective approach to develop self-care programs that promote patients’ self-esteem and help them cope with cancer. Methods: the aim of this study was to investigate the effect of motivational interview on elderly (60) suffering from cancer at the chemotherapy department of Mostafa hospital, Ilam, 2018. This statistical society is randomly divided in to two groups of intervention and controls. Data were collected using cooper smiths self esteem questionnaire. The measured variables include: independent variable (motivational interview), dependent variable (self-esteem) as well as demographic variables. SPSS 20 was used to analyse data using appropriate statistical tests. Results: According to our findings, mean scores in intervention and controls were 31.63±3.1 and 25.13±1.9, respectively. There was a significant statistical difference between the two groups (p=0.000) indicating positive effect of motivational interview on increasing the mean scores of self-esteem. Conclusions: The use of motivational interview has a positive effect on the level of self-esteem among old people and raising level of self-esteem.

Medical Science, 2020, 24(104), 2147-2152

Public awareness about skin cancer and sun protection assessment in Jeddah

Sahal Samarkandy, Mazen Dajam, Khalid Alsagagf, Fayz Alhamyri, Omar Shaikhomar

Background: Sun exposure remains the major pathogenic factor for skin cancer. Despite this well-known association, the global incidence of skin cancer is continuously increasing. In Saudi Arabia, the risk of skin cancer may be under estimated. Therefore, public awareness and knowledge about such risk and the protective attitudes should be continuously assessed. Objectives: To provide an updated insight into the level of public awareness about skin cancer, and to assess the level of compliance with protective measures. Methods: Between September 2018 and January 2019, a population-based, cross-sectional study was conducted in Jeddah city. A self-administered questionnaire was distributed among 385 participants, including visitors of a commercial mall at the center of Jeddah (250) and attendees of outpatient clinics of the National Guard Hospital (135). Results: According to Fitzpatrick’s skin type classification, 49.6% of the participants had type IIIa 25.5% type IV, and 18.4% type II. Skin pathological history showed sunburn (34.6%), moles or nevi (20.5%), skin growth of lump (17.6%), and personal (0.5%) and family (2.6%) history of skin cancer. Of all respondents, 58.9% correctly identified ultraviolet light exposure as the strongest risk factor for skin cancer, and females were more aware of this correlation (65.5%) than males (53.2%), (p=0.049). More than half the participants reported being exposed to direct sunlight at least ½ hour per day, while only 26.2% reported using sunscreen regularly, and 12.2% and 70.4% often or regularly used an umbrella and covered their head, respectively. Conclusion: The level of awareness about the carcinogenic risk of ultraviolet light exposure is unsatisfactory among Jeddah’s population, which associates a very low level of protective behaviors. More efficient health orientation and educational programs should be conducted to raise public awareness and fight against skin cancer epidemic.

Medical Science, 2020, 24(104), 2153-2161

Ziziphusspina-christi leaves extract alleviate renal toxicity induced by Cyclosporine in Male Rats

Heba A. Sindi

Cyclosporine (CSP) is the drug most commonly used for organ transplants, which has immunosuppressive effect, concomitant with development of renal toxicity. Ziziphusspina-christi leaves extract (ZSCLE) has been tested to be an excellent antioxidant, thereby can play a role in the treatment of renal toxicity. The study was conducted to examine the effect of ZSCLE on CSP-induced kidney damage. Forty male albino rats have been distributed into four groups. Group I (Con); rats received distilled water for 2 weeks then intraperitoneal (i.p) injected with olive oil (vehicle) for 21 days. Group II (CSP); rats received distilled water for 2 weeks then were i.p. injected with CSP at a dose (25 mg/kg b.wt) diluted in olive oil for a period of twenty one days. Group III ZSCLE (300 mg/kg) + CSP.
Group IVZSCL (600 mg/kg)+ CSP. Rats in groups III and IV received ZSCL orally for twenty one days, followed by i.p. injected with CSP. Blood was collected for biochemical analysis. The kidney was also examined histopathologically. The results of the study illustrated that CSP induced significant increase in serum levels of kidneys (serum levels of creatinine (Cr), uric acid (UA) and blood urea nitrogen), serum ionic potassium (K⁺) level and the renal lipid peroxides (MDA), but there were decreased in levels of serum ionic sodium (Na⁺) and renal superoxide dismutase (SOD) compared to Con group. Renal tissues shows congestion, thickening of renal capsule and coagulated necrosis of epithelial lining in the CSP group. Oral administration of ZSCL at doses of three hundred and six hundred mg/kg/day significantly ameliorated CSP- induced renal oxidative stress. It reduced CSP -induced elevation in serum kidney function parameters, as well as the changes in ionic Na⁺ and K⁺levels compared with CSP group. It also protected against CSP-induced histopathological changes.

**Medical Science, 2020, 24(104), 2162-2171**

**Diabetes and lipid profile fluctuations associated with Ramadan fasting among Saudi Stroke’s patients**


**Background:** Stroke is a major health problem in Saudi Arabia, due to an increasing state of its risk factors such as hypertension and obesity. Therefore, the present study aimed to assess diabetes and lipid profile fluctuations associated with Ramadan fasting among Saudi Stroke patients. **Methodology:** In the present study, data denoting to 61 Saudi stroke patients were retrospectively recovered from King Khalid hospital (records), Hail, Northern Saudi Arabia. Data relating to patients attended during the period from April 2019 to June 2019. The sample included two months (Shaban (non-fasting) and Ramadan (fasting)) a full coverage sample. Results: Out of the 61 patients, 35(57%) were non-fasting and 26(43%) were fasting. High glucose level was found in 36/61 (59%) of the patients, of whom 20/35 (57%) were females and 16/26 (62%) were males. Low and high cholesterol levels were seen in 29/42 (69%) (17/35 (49%) females & 12/26 (46%) males) and 8/42 (19%) (6/35 (17%) females & 2/26 (8%) males), respectively. **Conclusion:** Though Ramadan fasting showed a relative decrease in the incidence of stroke, improvement of blood glucose, and lipid profile, none of these factors showed a statistically significant correlation with fasting.

**Medical Science, 2020, 24(104), 2172-2179**

**Compare weight and height of in vitro fertilization-conceived children and spontaneous conceived children**

Ngo Minh Xuan, Le Thi Minh Chau, Vo Minh Tuan

**Objective:** To compare weight and height of in vitro fertilization (IVF) -conceived children and spontaneously conceived children at the stage of 5 to 30 months in Tu Du hospital from 2016 to 2018. **Methods:** This is a prospective, controlled, cohort study. A total of 429 in vitro fertilization -conceived children, were compared with 509 spontaneous conceived children. All children were full-term singletons. The Control group was selected to match the study group for age. Primary end-points were weight and height. **Results:** No significant differences were observed between the IVF children and controls regarding weight (9.7±2.3 vs. 9.5±1.9) and height (74.8±7.7 vs75.0±6.9). The percentage of overweight and obese of IVF conceived children was significantly higher than that of natural children (11% vs. 7.1%, p= 0.037). However, no significant difference was found in the percentage of overweight and obese between the groups of age in the study. **Conclusion:** the study was not found a significant difference between children conceived after IVF treatment and naturally conceived children in terms of weight and height from 5 to 30 months.

**Medical Science, 2020, 24(104), 2180-2185**

**Studies four cases about fibromuscular dysplasia in Kingston General Hospital, Kingston, Ontario, Canada**

Faisal Khaled H Alhomayani

Fibromuscular dysplasia (FMD) is a non-atherosclerotic disorder of medium-sized vessels. FMD has a different presentation as well as clinical complications related to different known mechanisms. The etiology of FMD is unknown however genetic, hormonal, environmental factors may have a relation or overlap with vascular connective tissue diseases is observed. FMD most frequently involved arteries are the renal and internal carotid arteries however it may affect any arterial beds along the body for that all patient with FMD should complete screening of other vascular involvements, especially for central nervous and cardiovascular systems.

**Medical Science, 2020, 24(104), 2186-2194**

**Effective evaluation of using ultrasound-guided renal access for percutaneous nephrolithotomy**

Pham Hong Duc, Tran Vinh Hung, Hung Quang Huy, Nguyen Thuy Linh, Bui Van Giang

**Purposes:** To evaluate the effectiveness of using ultrasound-guided renal access for percutaneous nephrolithotomy (PCNL). **Methods:** Between January 2016 and April 2017, at Saint Paul hospital, 130 patients were treated, 88 men and 42 women, with a mean age of 52.4 ± 11.5 years and a mean stone size of 30.82 ± 11.47mm. All stones were located in the renal pelvis with mild to moderate hydronephrosis seen on ultrasound or uroscanner. A ureteral catheter was inserted cystoscopically, and saline was injected for more localization of the pelvicalyceal system (PCS) if needed. Puncture of the PCS was performed with an 18-gauge nephrostomy needle through the calyx, and all the stages, including dilatation, were performed under ultrasonography guidance. **Results:** Pyelocaliceal access: 95% of the lower caliceal group, 5% of the middle caliceal group, no case in the upper caliceal group. The intervention time was 12.4 ± 3.7minutes. The average number of punctures was 1.25 ± 32. There was a correlation between the number of punctures and the patient’s BMI with p = 0.016. Complications: 13 cases (10%) significant bleeding have to blood transfusions, 10 cases (7.7%)
postoperative fever, one case (0.8%) pseudo-aneurysm after seven days, and one case (0.8%) perirenal fluid collection. Conclusion: ultrasound guidance for renal access and tract dilation in PCNL is a useful technique and fewer complications; however, more experience is needed.

Medical Science, 2020, 24(104), 2195-2199

RESEARCH

Anatomical variations of extra-parenchymal renal arteries in Vietnamese adults
Tran Vinh Hung, Duong Van Hai, Huynh Quang Huy

Background: The anatomy of renal arteries has great significance in specific urology therapies. This study characterized the morphology of the extra-parenchymal renal artery, verified whether the main renal artery has a predominant branching pattern. Materials and methods: Forty kidneys from 20 cadavers were obtained. The kidneys were removed from the body and micro-dissected the parenchyma to reveal the renal artery. Results: The majority of kidneys have one main renal artery (90%). The upper and lower renal aberrant renal artery, which arises from the abdominal aorta, appears in 5% and 2.5% of the observed kidneys, respectively. The renal artery often branches outside the renal sinus (77.78%). The renal artery can be classified into three groups: group I (the main renal artery separates into two divisions – anterior and posterior division, 52.78%), group II (the main renal artery gives “early” lateral branches before dividing into two end divisions, 25.00%), group III (the main renal artery separates into more than two primary divisions – trifurcating, quad-furcating, 22.22%). In group I, the anterior division has four branching patterns: bifurcating (47.37%), trifurcating (26.32%), quad-furcating (10.53%) and ladder-like dividing (15.79%); the posterior division has two branching patterns: ladder-like dividing (78.95%) and bifurcating (21.05%). Overall, the anterior division supplies blood to a broader area than the posterior division does. Conclusions: The branching of the human renal artery is diverse, and the division into five segmental arteries becomes inappropriate in a large proportion of cases.

Medical Science, 2020, 24(104), 2200-2210

ANALYSIS

Transperineal ultrasound technique for evaluating angle of progression and predicting vagina delivery in Hung Vuong hospital, Vietnam
Hoang Thi Diem Tuyet, Huynh Nguyen Khanh Trang, Tran Thi Thanh Thuy, Ngo Minh Xuan, Huynh Quang Huy

Objective: To evaluate the sensitivity and specificity of a transperineal ultrasound technique for assessment of the angle of progression during labor. Methods: We carried out a diagnostic test study. Transperineal ultrasound in 375 pregnant women with an uncomplicated pregnancy, singleton, crown, a full month in the second stage of labor in Hung Vuong Hospital. Results: The angle of progression was more significant than or equal to 120 degrees on the transperineal ultrasound with sensitivity (96.5%), specificity (17.5%), PPV of 0.86, NPV of 0.47. The vaginal birth rate of ≥ 120 degrees is 96.2%. Correlation between transperineal ultrasonography on the pelvic floor of the uterus, mononuclear maturation, maturation, and crown with birth outcomes: progressive angle ≥ 120 degrees, has 1.66 times higher in vaginal delivery than the angle of progression was <120 degree, 95% CI [1.09 - 2.49]. The optimal progressive angle was 152 degrees with sensitivity, specificity for vaginal delivery was 50%, and 87.7% (Youden score). Conclusion: Transperineal ultrasound can help clinicians to evaluate the fetus head position during labor. More research is needed on this issue in the future.

Medical Science, 2020, 24(104), 2211-2216

The effect of educational program on care burden of informal caregivers of elderly people with type 2 diabetes in Ilam in 2016-2017
Masoume Otaghi, Homa Jamalaldin, Arman Azadi, Kourosh Sayemiri

Introduction: Diabetes is one of the most common chronic diseases in old age. The informal caregivers of these patients undergo heavy care. The aim of this study was to determine the effect of the educational program on care burden of informal caregivers of elderly with type II diabetes in 2016-2017. Materials and Methods: The present study was carried out according to the experimental purpose. In this study 80 out of 120 informal caregivers of elderly with diabetes who were referred to the Shahid Mostafa Khomeini Hospital in Ilam were selected by convenience sampling method and then randomly were placed in experiment and control groups. The experiment group received 8 sessions with 2 hours duration (face to face teaching and telephone follow-up) as intervention. The data were collected using two questionnaires: demographic and Zarit’s Care before and after intervention. The collected data were analyzed by using statistical software SPSS 22 and descriptive and inferential statistical tests (covariance) at the significant level of 0.05. Results: The results showed that there was not a significant difference between the level of care burden of the experimental and control groups before intervention. Also, there was a significant difference between the care burden of the experimental group before and after the intervention (p=0.001). There was no significant difference between care burden of control group before and after intervention (p=0.2). Conclusion: According to the results, it can be concluded that the care burden of informal caregivers of elderly people with type II diabetes, after training intervention was significantly reduced. Therefore, this interventional program can be used to reduce the care burden of informal caregivers in this group of patients.
**CASE REPORT**

**Parotid duct sialolithiasis - A case report**

Surbhi Juneja, Suwanna Dangore, Khasbage, Rahul R Bhowate

Sialoliths are calcified masses present in salivary glands which vary in size and are mostly found in submandibular gland compared to parotid gland. Sialoliths can be symptomatic or asymptomatic depending on severity of obstruction and secondary infection. Symptoms may be present as pain and swelling. Parotid gland stones are usually small, unilateral and are more radiolucent due to low mineral content in its secretion compared to stones present in other glands that are radiopaque. The present case describes the presentation of sialolith in a 45 year old female in left stensen’s duct which was expelled during chair side examination.

**Medical Science, 2020, 24(104), 2217-2223**

---

**ANALYSIS**

**Role of echocardiography in evaluation of congenital coronary artery fistular in children**

Ngo Minh Xuan

**Objective:** Comparison of the similarities between echocardiography and coronary artery catheterization in subjects with congenital coronary artery fistular. **Methods:** The study of describing a series of 20 cases of coronary artery fistular diagnosed by echocardiography, coronary catheterization, and intervention of coronary artery fistular blockage by cutaneous at Children’s Hospital 2, Ho Chi Minh City from 4/2010 – 9/2019. **Results:** There was no similarity in the diagnosis of the number of holes in coronary artery fistular for both echocardiography and cardiac catheterization (p<0.05). Echocardiography and cardiac catheterization have similar findings on parameters of coronary artery fistular, fistulous location, coronary artery size, aneurysm size, and PAPs in patients with congenital coronary artery fistular. **Conclusion:** Echocardiography and coronary angiography have similar findings on coronary arterial parameters; fistular track location, coronary artery size, aneurysm size, and PAPs in patients with congenital coronary artery fistular.

**Medical Science, 2020, 24(104), 2224-2228**

---

**RESEARCH**

**Connections between tooth loss and adequate nutrition**

Beáta Bolerázska, Richard Krotký, Janka Kluknavská, Silvia Timková, Janka Vašková

**Background:** There is increasing evidence of the relationship between oral and general. Central to this role are the detrimental effects of tooth loss, particularly the associated change in diet. **Objective:** The aim of the work was to evaluate and compare nutritional status in elderly patients, over 60 years of age, for selected parameters, with the aim of preserving the state of teeth and prosthetic treatment. **Results:** We found that university-educated people were more concerned about the condition of their oral cavity; the loss of teeth was not as extensive as for subjects with less education and were mainly treated with fixed prostheses. When evaluating the responses of the nutritional questionnaire, there were more significant differences between the male and female groups, namely: two fifths of the examined men and three fifths of women achieved a score of 28 and below thus indicating for treatment for malnutrition. Correlation between score values and selected nutritional status assessment parameters was not confirmed, nor was the relationship with BMI. There were, however, statistically significant differences when differentiated by subjects’ level of education, confirming that educational attainment has an impact on dietary choices. One significant confirmation is also the association of the number of occluding pairs (NOP) of teeth in patients not reporting difficulties or restrictions in the choice of meals. **Conclusions:** Nutrition is known to be a key factor in the development of various diseases. Confirmed connections are directly applicable in dentistry to make patients aware of the consequences of decisions on maintaining the state of their teeth.

**Medical Science, 2020, 24(104), 2234-2244**

---

**ANALYSIS**

**Bismuth quadruple therapy versus levofloxacin triple therapy for first-line helicobacter pylori eradication treatment: multicenter study**

Tran Thi Khanh Tuong, Huynh Quang Huy, Tong Nguyen Diem Hong, Nguyen Thi Anh Dao, Ngo Thi Thanh Quyt

**Background:** Bismuth-containing quadruple regimen and levofloxacin-based triple therapy are recommended as first-line therapy in areas with high clarithromycin and metronidazole resistance. However, increasing resistance to levofloxacin in Vietnam can affect the success rate of levofloxacin-based triple therapy. There have been few studies comparing the efficacy of bismuth-based quadruple therapy with levofloxacin-based triple therapy for the first-line treatment of H. pylori infection in our country. **Patients and Methods:** We included 658 patients with H.pylori infection. However, there were 167 patients lost to follow-up. Four hundred ninety-one
patients were randomly assigned either to the bismuth-containing quadruple regimen (Group RBMT, N=252) or to levofloxacin triple (Group RAL, N=239). Both groups treated for 14 days. Eradication of H. pylori was assessed by 13C-urea breath test or Closet 4-8 weeks after therapy. Results: The H. pylori eradication rates of Group RBMT and Group RAL on the intention to treat analysis (ITT) were 84.1% in Group RBMT and 77.4% in Group RAL (P<0.05). The per-protocol eradication rates were 95.9% and 80.1%, respectively (p<0.05). Side effects were significantly higher in the Group RBMT 73.3% than Group RAL 36.4% (p<0.05). The compliance rate of more than 90% of Group RBMT and Group RAL were 78.6% and 88.3% (p<0.05), respectively. Conclusions: A 14-day course of levofloxacin triple therapy appeared to be more productive and better tolerated than a 10-day bismuth-based quadruple therapy in the treatment of persistent H. pylori infection. However, the bismuth-containing quadruple regimen had more adverse effects and lower medication adherence than that of levofloxacin-based triple therapy.

*Medical Science, 2020, 24(104), 2245-2250*

**COVID-19 clinical characteristics and outcomes in 60 hospitalized Iraqi patients - Case series**

Fadil Agla Bonyan, Laith G. Shareef, Assad Al-waily, Abdulrazaq Abdulfatah Abdulrazaq, Wathik Abduljabar Al-Rubayee

*Background:* since December 2019, China and in particularly Wuhan, faced an unprecedented an outbreak challenge of coronavirus disease 2019 caused by the severe acute respiratory syndrome coronavirus 2. Clinical characteristics of Iraqi patients with COVID-19 and risk factors for mortality needed to be shared with the health care providers to improve the overall disease experience. *Methods:* prospective, single-center study recruited patients with confirmed SARS-CoV-2 infection who were admitted to Al-Shifaa Isolation Center / Baghdad Medical City between the mid of March and the end of April 2020 until had been discharged or had died. Demographic data, information on clinical signs, symptoms, at presentation, treatment, have been collected from patient records and a research questioner. *Result:* a total of 60 patients with confirmed COVID-19 infection have been included (mean age, 47 years [range, 12-80 years]; 72% male. Comorbidities were identified in 32 cases (53 %) including respiratory disease, cardiovascular disease, hypertension, and diabetes mellitus. Fever and headache were reported in 27 (45%) and 15 (25%) of the cases respectively. Respiratory manifestations recorded as wheezing observed in 3 (5%), rhinorrhea 12 (20%), cracks 3 (5%) sore throat 22 (36%), bronchial breathing 23 (38.3%) with the most of the patients experienced cough 41 (68.3%) and shortness of breath (SOB) 38 (63.3%). Cyanosis is recognized in 3 (5%), convulsion 4 (6.7%), malaise 41 (68.3%). Gastrointestinal manifestations were diarrhea 8 (13.3%), vomiting 12 (20%). Overall mortality was higher in male gender 8 (18.6%) and the overall average age of the died cases was 60.5 years. *Conclusion:* the infection with COVID-19 is more likely to infect older men with hypertension, diabetes, cardiovascular disease, and respiratory disease as significant risk factors for COVID-19 patients. The understanding of these factors can enhance defining those COVID-19 patients at higher risk, and allow a more targeted and approach to prevent those deaths.

*Medical Science, 2020, 24(104), 2251-2258*

**Profile of viral skin infections encountered among Albaha King Fahd Hospital attendants: A hospital-based study**

Hasan S. Al-Ghamdi, Abuobaida E.E. Abukhelaif, Ihab Shafek Atta

*Background:* Viral infections of the skin are widespread, highly contagious, and often recurring, though the most life-threatening are preventable with vaccinations. The frequently encountered causes for the viral skin diseases are like herpes simplex, herpes zoster (shingles), warts, and molluscum contagiosum. The present study aimed to describe viral skin infections and to characterise their epidemiology, clinical features and diagnosis, seen at the dermatologist's clinic tertiary hospital at area of Albaha; Saudi Arabia. *Methodology:* our study was an observational, retrospective cross-sectional study in which archives of records of three years (i.e. January, 2017 to December, 2019) 963 records of referred patients to dermatologist’s clinic of King Fahd Hospital (KFH), Albaha, KSA; were revised to extrapolate clinically diagnosed cases of viral skin diseases over the study period. *Results:* Regarding the type of viral skin lesions, encountered among our study population our study revealed that the viral wart was the most common type (62.6%), followed by herpes zoster (20.8%), Molluscum contagiosum (8.6%), Chickenpox (5.4%) and Herpes simplex (2.6%). *Conclusion:* Further studies are needed to consider in more details the possible causes of the increasing viral disease. Again, it is very important to raise alertness among healthcare providers regarding the importance of the reports.

*Medical Science, 2020, 24(104), 2259-2266*

**Evaluation of magnetic resonance lymphangiography for patient’s undergoing pre and post microsurgery**

Abdullah Almujally, Fabrizio Calliada

MR lymphangiography using dynamic contrast-enhanced images is useful in providing high quality images to diagnose many clinical conditions. However, this procedure cannot be used for traumatic patients or patients with severe side effect of using contrast media. Thus the only option available is to develop a protocol for lymphedema without contrast agents in order to reduce the contra indication of the procedure and to extract diagnostic information without contrast medium. The objectives of this study are to evaluate the role of MR-lymphographic for the assessment of lymphedema before and after lymph node self-transplantation. This study was conducted at IRCCS Policlinico San Matteo (PV), Pavia, Italy. A total of 17 patients were investigated for lymphedema evaluation due to primary or secondary lymphedema. All procedures were performed due to justified clinical conditions according to the ethical guidelines. All procedures were performed using two MRI machines: Siemens Symphony 1.5 T and Philips MRI (ingenia) 3.0 T. Early Lymphedema stages diagnosis represents great challenges. Non contrast MRL is used to diagnose accurately the lymphatic system disorder. From studies, the researchers have found non contrast MRL is as a promising methodology in the diagnosis of lymphatic system disorders with accuracy up to 90%. The study revealed that non-contrast MRL imaging technique can
Comparing serum leptin levels between pregnant women with preeclampsia and normal pregnant women

Narjes Noori, Maryam Nurzadeh, Taraneh Arbabzadeh, Asma Narouii, Mahnaz Shahrakipour, Marzieh Ghasemi

Objective: Serum leptin, the product of the obesity gene, correlates with adiposity and increases fat utilization. Maternal serum leptin, triglyceride and free fatty acids are elevated in healthy pregnancy, and are increased further in preeclampsia. This study has compared serum leptin levels in pregnant women with preeclampsia and normal pregnant women. Materials and Method: This case-control study was done in 2018 on eighty pregnant women of a hospital in Zahedan city, Iran. Forty of the chosen women had preeclampsia (case group) and the rest were normal (control group). Serum leptin level was measured by enzyme-linked immunosorbent assay test and analyzed using the t-test. Results: The leptin levels were 1985 pg/mL and 2595 pg/mL in case and control groups which was significantly different (P = 0.016). Leptin level had no significant correlation with age, preeclampsia history or blood pressure (P > 0.05). Also, leptin levels increased with increase of body mass index in pregnant women with preeclampsia (P = 0.029). Conclusion: We found that the blood leptin levels were significantly lower in the preeclampsia group compared with the normal pregnant women. Measuring blood leptin levels, BMI and Systolic blood pressure in pregnancy may be helpful as early tests in the early detection of high risk individuals.

Medical Science, 2020, 24(104), 2273-2279

Head lice prevalence and associated factors in primary schools in Karun County, Khuzestan Province, Iran

Hamid Kassiri, Mahmood Mehraghaei, Masoud Lotfi, Rozhin Kasiri

Head lice infection is one of the most common diseases of all ages and has a global spread. The disease is more common in areas with high population density and lack of public health. Population growth and poor health are factors that exacerbate this infestation. It is transmitted through two main mechanisms; direct contact from one host to another, or through objects, of course, the main way of transmission is through head-to-head contact. Studies of children around the world show that the prevalence of head lice infection is less than 10%, sometimes as high as 40% or more. According to the World Health Organization, Iran is one of the most infested regions in the world. Due to the fact that the prevalence of pediculosis capitals in primary schools in the county of Karun (southwestern Iran) has not been studied so far and due to the health importance of this disease, the need for this study was felt. For this purpose, a study was conducted to determine the rate of head lice infection in primary school pupils in this county and the factors influencing it in 2017. In this descriptive-analytical study, 751 male and female pupils were examined. Pupils were selected by a stratified cluster random sampling. Using the questionnaire, information about pupils' personal and family characteristics and other related information were completed. The hair on the head, back of the neck, and around the students' ears was examined to find out nits or live lice. Analysis was done by Chi-square test using SPSS software, version 18. A P-value of less than 0.05 was considered to be significant. At the time of the study, 217 pupils (28.9%) were infested with head lice. The prevalence of infestation in girls (37.6%) was significantly higher than in boys (20.3%). The rate of nit infestation was 61.3%, and in 38.7% of cases both live lice and nits were found. In this study, 37.2% of pupils reported itching in the head and statistically, there was a significant relationship between Pediculosis capitis and itching in the head. Furthermore, this significant relationship was observed between head lice infestation and each of these factors: gender, pupil grade in all schools, grade in all-girls schools, father's educational level and occupation, family size, connection to piped water, presence of a hygienic bathroom at home, number of showers per week, co-sleeping, awareness of head lice infestation, presence of a health educator at school, infestation in the family, previous history of infestation, access to healthcare services, appearance of pupils with respect to hygiene, use of a shared comb, frequency of combing per day, use of a shared towel or of a shared scarf, type, length, density and color of hair, dandruff and head itching. The relatively high prevalence of head lice among students in Karun County requires inter-population cooperation between the Department of Education and health service centers. It seems necessary to teach health education to students in various fields of health, especially personal hygiene in order to physically fight the spread of this infestation.

Medical Science, 2020, 24(104), 2280-2290

Outcomes of congenital coronary artery fistula at Children’s Hospital 2

Ngo Minh Xuan

Objective: To evaluate the outcomes of congenital coronary artery fistula by cardiac catheterization at Children’s Hospital 2. Object and method: The study of describing a series of 20 cases of coronary artery fistula diagnosed by echocardiography, coronary catheterization, and intervention of coronary artery fistula blockage by cutaneous at Children’s Hospital 2, Ho Chi Minh City from 4/2010 – 9/2019. Results: Existent fistula after one month accounts for 45%, after one year of 15%. Cardiac catheterization in children is an effective treatment with a high success rate. Long-term progress monitoring has good results.

Medical Science, 2020, 24(104), 2291-2294

Laser hemorrhiodoplasity versus circumferential stapler hemorrhoidopexy: The early and mid-term results

Tran Vinh Hung, Duong Van Hai, Huynh Quang Huy
Laser hemorrhoidoplasty (LHP) is a minimally-invasive, less, or nearly no pain treatment for symptomatic hemorrhoids with short operative time and hospitalization. The purpose of this study was to compare this procedure with Circumferential Stapler Hemorrhoidopexy (CSH). Methods: Patients with symptomatic hemorrhoids in grade II to grade IV were selected according to the selection criteria and the sample size. The two techniques were evaluated concerning the operative time, postoperative pain, complications, and hospitalization. Results: There were 204 patients treated with LHP with 1470 nm wavelength diode laser, and 200 ones underwent Circumferential Hemorrhoidopexy. Grade III hemorrhoids were more common (77.5% in the LHP group and 94% in CSH group). The mean operative time between the two groups was similar. Postoperative pain was significantly less in the LHP group only on the day of operation. Mean hospital stay had not much different (1.33 days in LHP group and 1.66 days, p < 0.001). The overall incidence of complications in the LHP group was significantly lower than in the CSH group (8.8% and 15.5%, p = 0.040). The minimum follow-up was four months; the maximum follow – up was 38 months. Conclusions: LHP is safe, minimally invasive, and has an equivalent effect with CSH with fewer overall complications, especially anal stenosis.

Medical Science, 2020, 24(104), 2295-2301

RESEARCH

The efficacy of using oral doxycycline along with intravitreal bevacizumab injection in diabetic patients with clinically significant macular edema

Ali Kasiri, Fereydoun Farrahi, Sadegh Farivar, Mostafa Feghhi, Mohammad Sadegh Mirdehghan, Niusha Kasiri

Diabetic retinopathy is one of the further most common reasons of visual loss. It mainly caused by neovascularization, macular edema and ischemic macular changes. Due to the limitations of conventional therapies for macular edema, the propensity for other therapies, such as intravitreal injection of triamcinolone and anti-VEGF agents, has increased. Tetracyclines have recently suggested as complementary drugs in the treatment of clinically significant macular edema (CSME). In addition to the known bacteriostatic properties of tetracyclines, especially doxycycline and minocycline, these drugs can influence the regulation of inflammation, immunization, cell proliferation, and angiogenesis. Accordingly we have aimed to evaluate the efficacy of using oral Doxycycline on the number of intravitreal Bevacizumab injection in diabetic patients with CSME. In this clinical trial pilot study, 60 patients with CSME, referred to the ophthalmology clinic of Imam Khomeini Hospital in Ahvaz, were studied. Patients were randomly divided into two equal groups; Group A receiving 1.25 mg bevacizumab intra vitreal (IV) injection and group B receiving 1.25 mg IV injection bevacizumab in combination with 200 mg per day doxycycline for 4 months. Pre and post-treatment variations in evaluated parameters including best corrected visual acuity (BCVA) and optical coherence tomography (OCT) were assessed. Results showed that the mean age of patients was 67.7 years, ranging from 49 to 72 years. The demographic characteristics of patients included age (p=0.35) and gender (p=0.43) were parallel among the two groups. Number of bevacizumab IV injection was not different in study groups. It was shown that central macular thickness (CMT) and macular volume decreased significantly in both groups. However, the percentage of reduction was higher in patients receiving doxycycline. BCVA in both groups showed a significant improvement which was more in doxycycline group. In conclusion the findings of this study, in line with previous studies, showed that the use of doxycycline in addition to intravitreal injection of bevacizumab significantly increased visual acuity and reduced the macular thickness, and volume. We suggest further studies with more patients in study groups and more detailed evaluation of changes using new diagnostic modalities and longer duration of follow up.

Medical Science, 2020, 24(104), 2302-2308

ANALYSIS

Evaluation of concurrent ectopic calcifications in panoramic radiography in patients attending Jundishapur Ahvaz School of Dentistry

Mahshid Razavi, Ali Ghasemi Koosk Mola, Zohre Roozbahani

Introduction: Soft tissue opacities are relatively common cases seen in panoramic radiography. The purpose of this study was to evaluate the frequency of these opacities in panoramic radiographs and their differential diagnosis, as well as their concurrent incidence. Materials and Methods: In this descriptive-analytical study, panoramic radiographs of 384 patients attending Oral and Maxillofacial Radiology Clinic of the Jundishapur School of Dentistry. Prevalence of types of radiopacity, their location and some related factors such as age, gender and incidence were assessed. The data was then analyzed by SPSS software version 22 using Chi-square and Mann-Whitney tests. Results: Frequency of soft tissue radiopacities was as follows: tonsilloliths 3.9%, carotid artery arteriosclerosis calcification 21.8%, thyroid calcification 19%, antrolith 0.5%, pulp stone 9.9%, and stylohyoid ligament ossification 48%. The results of Chi-square test showed a significant relationship between the incidence of calcified atherosclerotic plaque and stylohyoid ligament ossification (P = 0.001) as well as a significant relationship between thyroid calcification and stylohyoid ligament ossification (P = 0.002). There was a significant difference between different age groups in terms of frequency of stylohyoid ligament ossification, calcified atherosclerotic plaque, thyroid cartilage calcification (p<0.001). Conclusion: Due to panoramic radiography prescribed by most dentists, it is important to consider soft tissue calcifications and ectopic calcifications. By observing these calculations, the dentists can introduce the patients to relevant specialist for further follow-up examinations.

Medical Science, 2020, 24(104), 2309-2319
**Adherence to surgical site infection prevention practices in 7A Military Hospital in 2019**

Thanh- Tam Vu, Quang-Tri Le

**Background:** Surgical site infection (SSI) is a common nosocomial one results in many negative effects. Issues in compliance with SSI prevention guides are reported worldwide and need to be assessed for improvement in practices. **Objectives:** The study aimed to make a description and evaluation of the compliance with surgical site infection control practices amongst the medical staffs in 7A Military Hospital from March to September 2019. **Material and methods:** The sampling of investigated staffs was done by convenience with the sample size estimated as 240 people. The data of surveyed staffs was collected by monitoring and recording by specialized personnel with a predesigned survey form. The correct practice percentage was calculated as the ratio of correct practice instances to total observed practice instances and the Likert scale was used to assess the adherence level. The data was input by EpiData 3.1. Software and processed by Stata 13. Chi-square test was used to test the difference between the percentages (p < 0.001). **Results:** Compliance rate was at “very good” and “good” level in most aspect except the proper use of surgical hand brush (54.6%). Compliance of hand antiseptic and wound was significantly different between professions and Departments, respectively. Discipline rate was 100% for hand antiseptic and wound dressing in nurse in training and in the Department of Odontostomatolgy, Otorhinolaryngology and Ophthalmology, respectively, but the sample size in these groups was too small. Compliance in doctors and in Department of Intensive Care took the second place in their corresponding aspects. **Discussion:** Compliance rate was high in comparison with other studies. Poor adherence in use of hand brush was due to misidentification and was solvable by implementation of more visible signs. Studies in larger scale of the abovementioned under populated professions and units are advisable. **Conclusion:** Discipline amongst the medical staff in surgical site infection control is satisfactory, nonetheless it is necessary to improve the intervention measures and perform further studies for maintaining the quality of practices. Active participation from the patients is useful in SSI control.

*Medical Science, 2020, 24(104), 2320-2328*

**Role of computed tomography in post-chemotherapy evaluation of neuroblastoma in children**

Pham Xuan Dung, Nguyen Thi Phuong, Huynh Quang Huy, Nguyen Huu Chi, Nguyen Thanh Hiep

**Background:** Neuroblastoma is the most common type of cancer that accounts for 15% of all mortality in children. Imaging diagnosis takes an essential role in the detection, diagnosis, follow of tumors, and so does Computer tomography. This study determines the value of Computer tomographic in the evaluation of neuroblastoma in children after chemotherapy. **Methods:** 49 pediatric patients were diagnosed neuroblastoma at the Children Hospital 2 Ho Chi Minh City from February 2015 to January 2017. The patients were treated with chemotherapy. The study was designed with proseductive analysis. **Tools and means of study:** CT images were taken by the “CT Light Speed” machine with eight probe ranges of GE incorporation, USA. **Results:** 49 cases of neuroblastoma, of which 22 had follow-up by Computer tomographic after chemotherapy. The rate of under-five children is 89.9%. Boys are more likely than girls with a rate of 1.33/1. Tumor at stage III, IV accounted for 71.5%. Histopathology is characterized by non-differentiated disease (87%). Computer tomography has been shown to play an important role in evaluating tumor size, crossing the middle line, blood vessels, pushing organs, invading neighboring neurons before and after chemotherapy. **Conclusion:**Computed tomographic study is useful to evaluate the neuroblastoma after chemotherapy.

*Medical Science, 2020, 24(104), 2329-2334*

**Hospital acquired infection and related factors in 7A Military Hospital in 2019**

Thanh-Tam Vu, Quang-Tri Le

**Background:** Hospital acquired infection (HAI) is a notable issue in the medical facilities which can threaten patient health and exacerbate financial burden. HAI can be effectively prevented by proper control hence a good understanding of the situation is essential. **Objectives:** This study described and evaluated the HAI rate amongst the units of the 7A Military Hospital, together with its distributional characteristics and related factors, and the pathogens responsible for infection and antibiotics treatment practices in the 7A Military Hospital in June and July 2019. **Material and methods:** The study employed a descriptive, cross-sectional approach. The surveyed data of infection rate, related factors, pathogens and antibiotic therapy was collected by specialists in two days of investigation. The data was processed by Stata 8.0. **Results:** The general HAI rate was 2.8% (15/527 cases), mostly respiratory infection (40.0%). Intensive care department had the highest HAI rate. There was significant relationship between HAI and length of stay, ages, intervention techniques, and surgery (p < 0.05) and marginally significant relationship between HAI and intervention invasiveness (p = 0.067). The most frequent pathogens were *Staphylococcus aureus* and ESBL strain *Klebsiella pneumonia* (33.3% each) and the most common antibiotics treatment were two drugs combo (57.1%) and only a single drug (26.9%). **Discussion:** HAI rate was low in comparison with other studies worldwide. High HAI in intensive care unit and risk factors of invasive treatments, surgery, prolonged hospitalization, underlying conditions, and old ages were within literary expectation. **Conclusion:** HAI prevention and control in the hospital was satisfactory. The mentioned risk factors should be paid attention at, and further investigation of microbial pathogens, antibiotics and drug resistance is advisable.

*Medical Science, 2020, 24(104), 2335-2341*

**CASE REPORT**

**Arachnoid cyst in a case of Neurofibromatosis type 1**
Evaluation of quality of vascular access care in hemodialysis patients
Mohamad Karimian, Atieh Okhli, Hosna Saghaei, Ali Gholami, Asma Tarjoman, Milad Borji, Somayeh mahdikhani

Objectives: Nurses have a special role in maintaining the quality and efficiency of vascular access, which is why they need to be effective in caring for these patients. Method: This is a cross-sectional study and available sampling method in which data were collected through observation of nurses’ performance. In this study, 200 caring techniques, in 2019 years were observed for patients undergoing hemodialysis. All observations were made by one nurse. The tool used was a checklist of care techniques, which included two parts: demographic characteristics, and techniques of venipuncture and patient connection to the hemodialysis machine, with 14 questions. Data were analyzed using descriptive statistics after entering the SPSS16 software. Results: According to the findings, the achieved score 64 (59.8%) for nursing function in AVF care, considerate Optimal, 44 (47.3) in CVC care, Moderate and in share items 104 (52.0) was Optimal domain. Conclusion: According to the findings, nurses needed a VAS training in CVC care, suggesting that educational interventions be required. For this reason, it is recommended that appropriate training workshops and interventions be performed for nurses.

Medical Science, 2020, 24(104), 2347–2350

The relationship between Spiritual Well-being and Quality of Life in Patients with Diabetes: a systematic review and meta-analysis
Lida Nouri, Iraj Ahmadi, Gholamreza Ghiasi, Alireza Abdi, Milad Borji, Asma Tarjoman, Somayeh mahdikhani, Ali Gholami

Purpose: Diabetes is one of the chronic diseases that affects the spiritual health and quality of life of these patients. The aim of this study was to determine the level of SH in Iranian patients with diabetes and its relationship with QOL through systematic review and meta-analysis approach. Methods: The present study was conducted in accordance with SR/MS Protocols (PRISMA) and the search process was carried out by 3 members of the research team. The search process was performed in International and Persian databases in articles published between 1999 by the end of 2018. Data was analyzed by comprehensive Meta analyses (CMA) software. Results: There were 11 articles on SH, 5 of which were related to QOL. According to the findings of SH patients based on SWB SH questionnaire was 92.67% (95% CI: 90.09–95.25). It is also showed in Figures 3 and 4 that SH in RH dimension Was 45.64% (95% CI: 37.03–54.26) and Existential SH was 43.36% (95% CI: 35.73–50.99). The patients’ SH score based on Dunning’s questionnaire was 74.25% (95% CI: 60.62–87.87) and the patients’ QOL score is 73.88% (95% CI: 66.08–81.67). There was a significant correlation between SH and QOL is 0.633 (95% CI: 0.60–66). Conclusion: According to the findings, there was a relationship between SH and QOL. For this reason, it is recommended to pay special attention to the spiritual dimension of patients. It is also suggested to design and develop spiritual health promotion models for diabetic patients.

Medical Science, 2020, 24(104), 2351–2361

Relationship between acute kidney injury and some surgical interventions and the effects of medicine in premature infants at Children’s Hospital 1
Ngo Minh Xuan

Objective: Determining the relationship between acute kidney damage and some surgical interventions and the effects of nephrotoxic drugs in premature infants at the Children’s Hospital 1. Object and method: A cross-sectional study describing a series of analyzes involving 20 premature infants with acute kidney injury and 120 premature infants without acute kidney injury met the criteria for joining the department of neonatal resuscitation at the Children’s Hospital 1 from September 2017 to May 2018. Results: PDA surgery and general surgery are not associated with acute kidney damage. The use of antibiotics has the potential to affect kidney function: Amikacin, Vancomycin, and Amphotericin B are all associated with acute kidney damage (p <0.05). The group with acute kidney damage had a higher death rate than the group without acute kidney damage (p <0.001). Conclusion: there is the relationship between acute kidney damage and the effects of antibiotics on premature infants.

Medical Science, 2020, 24(104), 2362–2365

Changes of anterior chamber depth and volume before and after Nd: YAG Laser posterior capsulotomy
Mahmoud Reza Panahi Bazaz, Gholamreza Khataminia, Mohammad Taayeed, Mohammad Sadegh Mirdeghan
One of the major barriers to achieving recovery upon cataract surgery is posterior capsule opacification (PCO). Nd: YAG Laser posterior capsulotomy, the method of choice in the treatment of PCO, can be associated with some adverse effect. The purpose of this study was to determine the relationship between intraocular lens displacements after Nd: YAG Laser posterior capsulotomy in patient with PCO. The observational study was carried out in patients referred to the eye clinic at Imam Khomeini Hospital, Ahvaz, Iran. Visual performance was assessed by visual acuity examination, sensitivity to light source prior to Nd: YAG laser posterior capsulotomy, and contrast sensitivity. Intraocular lens displacement was measured before and after procedure by anterior chamber Optical Coherence Tomography (OCT) and anterior chamber depth changes were measured using Pentacam. In the current study 50 patients including 29 male and 21 female were evaluated. The mean age of patients was 64 ranging, 40 to 88. Anterior chamber depth (ACD) decreased significantly from 4.38 (before) to 4.04 (after). Similarly, anterior chamber volume (ACV) was significantly decreased one month after Nd: YAG laser procedure. Anterior chamber angle (ACA) increased significantly from 38.05 to 42.56. Spherical equivalence (SE) before and after procedure were -0.06 and -1.05, which indicate the significant toward movement of IOL. In conclusion our study has indicated the intraocular lens displacement and its consequently refractive effects one month after Nd: YAG Laser posterior capsulotomy. We recommend future study with more sample size and longer follow up duration in addition to evaluation of other adverse effect of procedure such of cystoid macular edema.

*bMedical Science, 2020, 24(104), 2366-2372*

## RESEARCH

**Wet cupping therapy improved the quality of life in chronic Bell’s palsy patients**

Aysha A Alshareef, Amal Obeid

*Introduction:* Bell’s palsy, also known as idiopathic facial paralysis, is known to be a severe acute impairment of facial motor neurons. The idea of employing adjuvant therapy in managing subjects with Bell’s palsy has been occasionally reported in the published research. *Aim:* This study aimed to assess the effect of wet cupping on the quality of life of patients with Bell’s palsy. *Methods:* This was an interventional study which was conducted on fifteen patients with chronic Bell’s palsy of different aetiologies diagnosed in the Neurology Clinic, King Abdulaziz University Hospital, Jeddah, Saudi Arabia. All patients were undergoing wet cupping in the Cupping Clinic in King Abdulaziz University Hospital, Jeddah, Saudi Arabia. The number of wet cupping therapy was between 2 to 10 sessions. The participants asked to complete the facial disability index (FDI) before (Pre-Cupp) and after cupping (Post-Cupp) therapy. *Results:* Wet cupping improved the physical, social, and combined physical and social scores in Bell’s palsy patients compared with pre-cupping state. Furthermore, the cupping also ameliorated the compound motor action compared with pre-cupping state. On the other hand, the wet cupping did not exert any effect on the distal latency compared with the pre-cupping state. There was no correlation between gender, presence of physiotherapy, number of cupping, age, duration of Bell’s palsy, and family history of Bell’s palsy and post cupping physical score, social score, compound motor action potential, and distal latency. *Conclusion:* Wet cupping may be a hopeful important adjuvant therapy for chronic Bell’s palsy patients.

*bMedical Science, 2020, 24(104), 2373-2381*

**The mathematical model of postoperative mortality in cases of duodenal injuries: A single center review of a 14-year experience**

Boyko VV, Kryvoruchko IA, Riabtsev RS

*Objective:* Traumatic injuries of the duodenum are quite rare, often accompanied by local and systemic postoperative complications, as well as high mortality. Therefore, identifying predictors of early death in this category of patients is an urgent problem. *Materials and methods:* A retrospective study included 72 patients older than 18 years old with traumatic injuries of the duodenum ≥ II degree, according to the criteria of the American Association of Surgery for Trauma, who were operated from 2006 to 2020. Patients were assigned into two groups: the 1st group (survivors, n=58) and the 2nd group (non-survivors, n=14). Different methods of statistical analysis were used to construct the mathematical model. *Results:* Multiple injuries of intra-abdominal and anatomical structures of the retroperitoneal space were in 72.2% patients. Mean RTS, ISS, and APACHE II scores in the deceased and the surviving patients were and 6.89±1.0 and 3.93±0.7; and 12.36±3.9 and 20.6±4.5; 14.05±3.2 and 26.67±4.1, respectively (p=0.000). All indicators were identified whose changes were most different in surviving and deceased patients on admission to the hospital: blood hemoglobin, serum albumin and lactate and the level of systolic blood pressure (area under curve amounted 0.831, 0.934, 0.956, 0.816 respectively, p=0.000). The analysis of the factor structure made it possible to determine the contribution of each indicator to discrimination and to divide patients into groups. It was found that the indicator ‘serum lactate’ played most major role in discrimination (−0.9723) and the following were ‘serum albumin’ (0.5934), ‘systolic blood pressure’ (0.4636) and ‘blood hemoglobin’ (0.4437). Based on the data obtained, the mathematical model was developed for predicting of mortality with sensitivity 86.7% and specificity 100%. *Conclusions:* These research results have shown that the proposed mathematical forecasting model is most suitable for predicting treatment outcomes in the early stages of patients with duodenal injuries with ensures high accuracy. At the same time, the forecasting problem can be solved using the APACHE II and RTS severity scores for these patients, although the forecasting accuracy in this case may be lower.

*bMedical Science, 2020, 24(104), 2382-2392*
**Evaluate the effects of the Duong Cot HV remedy combined with electro-acupuncture on patients with low back pain due to spinal degeneration**

Nguyen Tien Chung, Pham Hong Van, Nguyen Thanh Hiep, Le Thi Tuyet, Nguyen Duy Thuan, Truong Viet Binh

**Objective:** Evaluate the effects of the Duong Cot HV remedy combined with electro acupuncture on patients with low back pain due to spinal degeneration. **Method:** Randomized control trial study. **Results:** Taking Duong Cot HV combined with electric acupuncture is more effective to improve the symptoms of low back pain caused by spinal degeneration: relieve pain on VAS score, increase spinal movement; this effect had tended to be better than the control group with electric acupuncture combined “San bi tang” remedy, but no statistical difference recorded after 20 days of treatment. **Conclusion:** “Duong cot HV” combined with electro-acupuncture work to improve the symptoms of patients with low back pain due to spinal degeneration: reduce pain sensation according to VAS, increase spinal motor skills.

*Medical Science, 2020, 24(104), 2393-2398*

**Visual improvement after skull base tumor surgery in Yemen**

Omar Mohammad-Ayman Abdulkarim Safi, Adnan AL-Awadhi

**Objectives:** To demonstrate the visual improvement after skull base tumor surgery in Yemen; and to evaluate its relation with different related parameters. **Method:** Data were obtained by retrospective chart review for a period of three years (1 January 2017 until 31 December 2019), in Al-Thawrah modern general hospital (TMGH) in Sana’a, Yemen. The data were analyzed using Statistical Package for Social Sciences (SPSS). Significant results were indicated when the p-value was less than 0.05. **Results:** Fifteen patients with visual deficit; ages [1-65 Years (mean=34 years ± 22 years)]; 8 males; 8 different surgical approaches of craniotomies were used (but not endoscopic) for the management of 7 different brain space occupying lesions; 5(33.3%) showed postoperative visual improvement only among Subfrontal approach (40%) and Pterional approach (75%), while 50.0% (1/2) for Suprasellar meningioma after Subfrontal approach and Pterional approach. Five patients (33.3%) had post operative diabetes insipidus and 2 (13.3%) had CSF leak. Visual improvement was directly proportional with the follow-up but inversely proportional with preparative duration. **Conclusion:** The total post operative visual improvement was low (33.33%), but tends to be higher (50%) for suprasellar meningioma after subfrontal approach or pterional approach. The shorter pre-operative duration and longer post operative follow-up, the better the visual improvement. Surgery by craniotomies but not by endoscopy was used.

*Medical Science, 2020, 24(104), 2399-2410*

**Activities of selected antioxidants in saliva and plasma in patients with periodontal diseases - initial results**

Janka Kluknavská, Beáta Bolerázska, Silvia Timková, Janka Vašková

**Background:** Periodontal diseases are very common, beginning with inflammation caused mostly by dental plaque bacteria. Persistent infection can lead to soft tissue damage and tooth loss. Oxidative stress is common in all oral inflammatory diseases and may affect systemic changes. **Methods:** The selected enzymes (superoxide dismutase, glutathione peroxidase and reductase) as well as non-enzyme antioxidant (reduced glutathione) parameters in saliva and plasma from patients with diagnosed gingivitis, a chronic and aggressive form of periodontitis were detected and compared to healthy individuals. **Results:** Initial results of the study come from analyses in a small number of patients, which is likely also the reason for the lack of statistical significance in the differences between parameters obtained in experimental groups and the control group. Even so, it is apparent that oxidative stress is indicative of changes in the activities of antioxidant enzymes (superoxide dismutase, glutathione peroxidase, glutathione reductase) relative to reduced glutathione concentrations. **Conclusions:** There are positive correlations between saliva and plasma superoxide dismutase, glutathione peroxidase and glutathione reductase activities. This would allow for the dissemination of results within research groups in favour of analyses of more readily available biological material from patients.

*Medical Science, 2020, 24(104), 2411-2417*

**CASE REPORT**

**Dry Bite by Common krait: A rare phenomenon & its management; rationale use of antivenom**

Khalid I Khan, Aishwarya Ghule, Sunil Kumar

Snake bite is one of the major health concerns in India especially in rural India. One of the dangerously poisonous neurotoxic snakes is Common krait (Bungarus caeruleus), also known as Indian Krait or blue krait. They are nocturnal in nature and contribute to many cases of snake bite envenomation, mainly people sleeping on the floor. Many a times, the victim doesn’t wake up because of the painless venom. They usually wake up with the symptoms of paralysis or may even die in sleep. Very rarely it causes dry bites. Here we report a case of 40-year-old male who presented with a snake bite at 7.00 pm in the evening, when he went to pick the broom. Snake bite or fang marks were present on his forearm, but no signs and symptoms of envenomation were seen. So, we present a case of “dry bite” which is quite rare in kraits. We kept him under observation for next 72 hours, no deterioration in patient’s health was observed. So, we are hereby elaborating about the case and approach towards a dry snake bite patient & rationale use of antivenom.

*Medical Science, 2020, 24(104), 2418-2423*
Trastuzumab induced cardiomyopathy with cerebellar stroke: Double Trouble
Sourav Chaturvedi, Amrutha Garikapati, Iftekhar Ansari, Charan Bagga, Sunil Kumar
Trastuzumab is routinely used monoclonal antibody in the treatment of several cancers with high effectiveness, but its use is associated with cardiac toxicity which usually responds to cessation of the drug therapy. We present an unusual case in 40 year old female being treated for breast carcinoma with trastuzumab developed acute cardiac toxicity in form of cardiomyopathy without atrial fibrillation, who developed stroke.

Medical Science, 2020, 24(104), 2424-2427

ANALYSIS

Influence of aerobic exercise on some selected physiological parameters with intervention of diet among type 2 diabetes mellitus male adults
Abdulhamheed Al Ameer, Mohammed Hamdan Hashem Mohammed, Kaukab Azeem, Mohammad Hussain Hassan Al Qahtani

Introduction: Studies show that short-term aerobic exercise with diet improves glycemic control and cardiovascular health of patients with type 2 diabetes mellitus (T2DM). Such a study has not been conducted with a diet designed for Saudi residents. The purpose of the study was to find out the influence of aerobic exercise on some selected physiological parameters with intervention of diet among type 2 diabetes mellitus male adults. Method: Twenty patients (mean age (SD) = 41.2 (9.4)) during the year 2019 from the Eastern Province of Saudi Arabia were distributed equally into the intervention and control groups. This was done after excluding patients with chronic diseases, or those who could not come to the study location. The intervention group went through 50-minute exercise sessions (40-90% intensity), three times a week for 12 weeks, and were provided diet recommendations. Control group was not given any specific training. Body mass, body mass index (BMI), total cholesterol, HbA1c, fasting blood glucose and resting heart rate were measured before and after the program. Significant levels were set at 0.05. Result and Discussion: Analysis of results after training programs revealed that experimental group had improved in the following variables, as follows; Body mass index of experimental group from pre to post-test with mean and standard deviation were (from 30.68±4.35 to29.63±4.58, values, P<0.02), respectively. Total cholesterol changes (from 210.1±29.46 to 167.21 ±21.19, values, P<0.00), HbA1c changes (from 8.91±1.28 to 8.08±1.37, values, P<0.00), Fasting blood glucose changes (from 230.4±90.37 to 210.4±81.45, values, P<0.00), Resting heart rate improved (from 82.50±4.97 to 73.90±4.62, values, P<0.00). Moreover, control group had not shown any changes from pre to post-test and all the selected variables were not significant. Conclusion: It is concluded that the aerobic training with diet intervention had shown improved performance among type 2 diabetes mellitus male adults with regard to the selected variables, such as; total cholesterol, HbA1c, fasting blood glucose and resting heart rate.

Medical Science, 2020, 24(104), 2428-2434

CASE REPORT

Tako Tsubo Cardiomyopathy: Case report after attempted suicidal partial hanging
Iftekharahmed Ansari, Charan Singh Bagga, Amrutha Garikapathi, Srinivas Naik, Sunil Kumar
Tako Tsubo cardiomyopathy presents with typical clinical features of acute coronary syndrome such as pain in chest, excessive sweating, difficulty in breathing, arrhythmias or generalized fatigue. Most common risk factors for this are extreme physical and emotional syndrome. This case report highlights about a 47 years old male who came to the emergency department with history of attempted suicidal partial hanging and developed symptoms of acute coronary syndrome which was diagnosed as Tako Tsubo cardiomyopathy on 2D echocardiography.

Medical Science, 2020, 24(104), 2435-2438

ANALYSIS

Awareness, knowledge and attitudes regarding radiofrequency ablation as treatment option for thyroid nodules in Saudi Arabia
Rahaf Albaqawi, Meshael Alreshidi, Adeeb Almuhelb, Fouad Aladel, Ibrahim Alrashidi

Background: Thyroid nodules (TNs) are one of the most common pathologies in Saudi Arabia, and do not need intervention, however, some of them are progressive in growth and have cosmetic affects that require intervention. Radiofrequency ablation (RFA) is one of the relatively new treatment options and has a high success rate with encouraging results. This study aimed to assess the awareness of radiofrequency ablation (RFA) as a treatment option for thyroid nodules among the population in Saudi Arabia. Methodology: A cross-sectional study was conducted using a self-designed random online questionnaire completed by 876 participants from various regions in the Kingdom of Saudi Arabia. Results: A total of 51.4% participants had a family history of thyroid diseases, 45.9% thought that TNs are a common disease, 41.4% did know whether TNs is a cancerous disease, 74.2% had never heard about RFA, and 46.2% did not know if RFA is a simple procedure. Conclusion: The results of the study are expected to contribute in raising the public awareness and understanding of RFA as a treatment option in TNs.
CASE REPORT

Reattaching the fractured fragment in Ellis Class 3, without extraction/removal of that fragment
Saurabh Rathi, Pradnya Nikhade, Pavan Bajaj, Nidhi Motwani, Joyeeta Mahapatra

The dental trauma can be considered as a public health problem. The increased prevalence of anterior tooth fracture warrants a most conservative approach for treatment of complicated tooth fracture. Currently, most common treatment option for partial fracture is to remove the fragment followed by reattachment. The present case report describes a novel therapeutic approach for reattachment of fragment without removing it. This systemic ultraconservative approach is simple and may help in minimal tooth destruction with maximum preservation of original anatomy. The mobile fracture segment is first stabilized using splinting, followed by endodontic treatment. The fracture fragment is reattached by keeping it intact and without extraction/removal. Follow up showed satisfactory result.

Medical Science, 2020, 24(104), 2445-2451

ANALYSIS

Wireless spinal cord stimulation - proposed algorithm before implantation
Griger Martin, Rapčan Róbert, Burianek Miroslav, Kočan Ladislav, Rapčanová Simona, Kočanová Hana, Török Pavol, Vašková Janka

Background: We focus on interventional diagnostics and treatment by spinal cord stimulation (SCS) taking place in our workplace. SCS is a financially demanding therapy, so patient selection is considered important. Methods: We present a brief summary of the diagnostic interventions used on spinal cord structures that confirm or exclude pain generators in patients with complicated back pain. The indication process also includes psychological, psychiatric, neurological and neurosurgical examinations. Results: Our current algorithm is presented, which includes the use of current procedures in the diagnosis and treatment of back pain. In connection with positive diagnostic results, however, spinal therapeutic interventions are included. Conclusions: Our evaluation of data focused on patients with failed back surgery syndrome with implanted wireless spinal cord stimulator showed significant improvement of clinical state measured by numerical rating scale after 3, 6, and 9 months.

Medical Science, 2020, 24(104), 2452-2459

Clinical evaluation of non-carious cervical lesions in lepromatous and tuberculoid leprosy
Radhika S. Gadge, Pavan S. Bajaj

Leprosy is an infectious disease with a significant number of cases found in India. It not only affects the skin, nerves and respiratory system but also has considerable effects on the oral cavity. The main objective of this study was to evaluate the non-carious cervical lesions found in Lepromatous and Tuberculoid leprosy patients. The study included a total of 200 leprosy patients out of which 110 patients showed the presence of non-carious cervical lesions. There were variations in the percentage of the three distinct non-carious cervical lesions found in the leprosy patients. Early diagnosis and prompt treatment of the lesions may provide a better prognosis of the disease as well as the oral health.

Medical Science, 2020, 24(104), 2460-2466

The effect of apple cider vinegar in the treatment of chronic rhinosinusitis
Amin Ostovar Shirazi, Hesam Jahandideh, Amir Yarahmadi, Maryam Milanifard, Mojtaba Maleki Delarestaghi

Introduction & Objective: Chronic rhinosinusitis is one of the most common chronic diseases which involve 12 to 17 percent of the population. Topical treatments like irrigation and inhalation may have a role in affecting the biofilms and so can be effective in treating chronic infection and chronic rhinosinusitis. The purpose of this study was to determine the effectiveness of using apple cider vinegar in the treatment of patients with chronic rhinosinusis with or without polyposis. Methods: In the present study, 100 patients with chronic rhinosinusitis in the age range of 25 to 54 years with a mean age of 35.3 years were included. They were divided into control and intervention groups. SNOT-22 questionnaire was used to evaluate the complications and symptoms of rhinosinusitis. For grading polyposis Meltzer grading criterion was used collected data were entered into SPSS 20 software and analyzed by Chi square test. The normality of the mean distributions was assessed using Kolmogorov-Smirnov test. Results: There was no significant difference between the age and sex in the two groups and the two groups were homogeneous. In the present study, the results of the chi-square test showed that there was a statistically significant difference between the two groups (P=0.001). In the control group, sinus outcome was more severe. Also the result of independent t-test showed that there was a statistically significant difference between the two groups in the mean score of sinus outcome (P=0.007). The average scores of sinus outcome before and after the intervention were significantly different (P = 0.001). So that the mean score of the sinus outcome after the intervention (45.98) it was lower than before the intervention (53.4). So overall after intervention, severity of outcome and complications of sinusitis in both intervention and control groups decreased. But this decline in the intervention group had more than the control group and this difference been statistically significant. Conclusion: apple cider vinegar may effectively improve the
Level of awareness regarding Thalassemia, Riyadh Saudi Arabia

Mohammed S Sabr, Abdulaziz M Alsluaiman, Ahmed M Alsheikh, Fayez M Alahmari, Sultan M AlDajani, Mohammed M Bakri, Mustafa S Smaisem, Waleed E Abdulmotalib, Yousef M Alfauri, and Fathi Mohamed Khalifa

Background: Thalassemia is one of the most common autosomal recessive and familiar hemoglobin disorders. Objective: This research aims to assess the level of awareness regarding thalassemia in Riyadh. Methodology: Institutional based cross-sectional, conducted in Riyadh PHC centers, including adults, and excluding health care personnel. 260 respondents chosen through systematic random sampling, data collected using a self-administered questionnaire includes information about causes risk factors, clinical picture, management, and prevention developed specifically for the purpose of this study. Statistical Package for Social Science (SPSS) was used to interpret data. Significance was considered if P-Value ≤ 0.05. Results: A significant statistically relation (p-value 0.047) between income and level of awareness regarding the management of thalassemia. (65.8%) of participants had a high level of awareness regarding complications. Risk factors have shown that (47.7%) had moderate awareness. 75% had poor knowledge regarding the clinical picture. There is a significant relationship between the level of education and prevention (p-value 0.008). Conclusion: The level of awareness regarding thalassemia is around moderate, except for the clinical picture which is low. There is a relation between the educational level and the awareness in regards of prevention and risk factor of thalassemia.

Medical Science, 2020, 24(104), 2467-2474

CASE REPORT

Early physiotherapy rehabilitation approach enhances recovery in rare acute tibial osteomyelitis post-operative in a 9 year old child

Pratik Phansopkar, Priya tikhile, Radhika Sawal, Prasad dhage, Devyani Purushe, Waqar M. Naqvi

Introduction: Osteomyelitis is an acute or chronic inflammatory process of bone, bone marrow and its structures secondary to infection with microorganisms. An immediate treatment module of osteomyelitis for preventing bone destruction and deformity is early detection and diagnostic accuracy. Immediate rehabilitation in post-surgical patients has been beneficial for recovery to functional concerns. Patient main concerns were pain, inability to move right knee, painful weight bearing. Diagnosis was confirmed acute right tibial osteomyelitis with necessary investigations X-ray, MRI and blood work and patient underwent surgical treatment followed by IV antibiotics and rehabilitation. Early therapeutic exercises are found to be beneficial in achieving functional goals in the early post-operative phase. Conclusions: The above study concludes that definitive surgical approach and early physiotherapy rehabilitation led to enhancement in functional goals of the patient which stands a major understanding towards a successful recovery.

Medical Science, 2020, 24(104), 2475-2481

ANALYSIS

Risk factors associated with chronic obstructive pulmonary disease in Arar, Saudi Arabia: A case-control study

Basem M M Salama, Abdelrahman M.A. Abukanna, Ahmed M. S. Hegazy

Background: Chronic Obstructive Pulmonary Disease (COPD) is a condition characterized by inflammation and narrowing of the lungs’ airways and damaged air sacs. It is a major preventable and treatable public health problem around the globe. The study aimed to identify risk factors associated with Chronic Obstructive Pulmonary Disease among adults. Subject and methods: A total of 314 participants (157 Cases (COPD) and 157 controls) were randomly selected in a case-control study conducted in Arar City, Northern Border Province, Saudi Arabia in the period from January 2019 to December 2019. Results: Risk factors with significant differences found between COPD and control groups were gender, age, level of education, residence, socioeconomic status, family history, smoking passive smoking, and dusty work (P < 0.05). In multivariable analysis, smoking amount and duration, family history of COPD, history of poorly treated asthma, and age were the only independent factors associated with higher odds of having COPD. Conclusion: The results of this study showed that amount and duration of smoking not just smoking alone were important risk factors of COPD.

Medical Science, 2020, 24(104), 2487-2493

Comparing efficacy of zoledronic acid administration at different intervals regarding quality of life and pain control in the treatment of metastatic bone disease patients

Ebtisam Ragab Qasem, Yousra Taha Dorgham, Seham Mohammed Elhagrasy, and Nashwa Elsayed Nawar

Background: Bone is ranking the third frequent site of metastasis. Bone metastatic disease may strongly harm a patient’s quality of life. Patients receive Zoledronic acid in order to decrease skeletal-related events and pain. Aim: evaluating the efficacy of Zoledronic given every ‘twelve weeks’ regimen versus ‘four weeks’ regimen. It is given every four weeks‘ regimen in management of patient with
bone metastasis. Patients and Methods: The study is a randomized, clinical trial conducted at university of Zagazig hospitals from February 2018 to February 2020. 108 Patients were enrolled in this study to dose Zoledronic (A and B groups=12 and 4 weeks, respectively) for 2 years. Results: Post-treatment skeletal related events had occurred in 18.5% of group A versus 14.8% of group B (p-value=0.935). There was an insignificant difference between group A and group B regarding pre-treatment ECOG performance status, pain severity and analgesia type and opioid dose. There was also an insignificant difference between both groups regarding post-treatment ECOG performance status, pain severity and analgesia type and opioid dose. There was a significant improvement of ECOG performance status after intervention within each group. Pain severity had significantly decreased among both groups with a significant decrease in opioid usage and opioid dose. Conclusion: The Zoledronic regimen given for 3 months was not inferior to the regimen of Zoledronic doses monthly in controlling pain and improving quality of life of patients in prostate, breast cancers and, multiple myeloma.

Medical Science, 2020, 24(104), 2494-2503

REPORT

Fear of childbirth at third trimester in hung vuong hospital, Vietnam

Huynh Nguyen Khanh Trang, Hoang Thi Diem Tuyet, Trieu Thi Ngoc Diep, Ngo Minh Xuan

Fear is a natural and necessary emotion, responding to exogenous factors to protect and bring about a sense of security for each individual. During pregnancy, fear helps pregnant women prepare fully a good birth. However, when fear is uncontrolled, it affects heavily to the physical and mental well-being of women known as “fear of childbirth - FOC”. Objectives: To determine the prevalence of FOC among pregnant women in the third trimester of pregnancy at Hung Vuong hospital and some related factors. Methods: A cross-sectional study of 385 women in the third trimester of antenatal care at Hung Vuong Hospital met the criteria for sample selection from November 1, 2018 to November 30, 2019. Results: The prevalence of FOB was 30.91% 95%CI [26.29 - 35.53]. In which: in comparison group, the nulliparity was 34.57% CI 95% [29.82-39.32] and the multiparity was 28.25% with 95% CI [26.41-35.41]. Some factors related to the fear of childbirth: (1) Living with husband with OR = 0.20; 95% CI [0.15 - 0.48]; p = 0.02; (2) Childbirth with vagina operator with OR = 47.87; 95% CI [16.7-136.8], p <0.001; (3) The increase of gestational age (for every standard deviation increase by 23 days) with OR = 2.3, 95% CI [1.9 - 2.7], p <0.001 ; (4) Refer to information from books and newspapers with OR = 2.5, 95% CI [1.7 - 3.5], p <0.001; (5) Refer to information from health workers with OR = 0.15; 95% confidence interval [0.1 - 0.2], p <0.001. Conclusion: Fear of childbirth is a very important issue in pregnancy examination and management.

Medical Science, 2020, 24(104), 2504-2510

CASE REPORT

Pediatrics Gallstones: A Case Report of Spontaneous disappearance of symptomatic non-hemolytic gallstone in a pediatric patient

Asrar F Mlibari, Tantawi A Muhammad

Biliary system is that part of the digestive tract which can be affected by variety of disorders, considering the most common one is gallstones that medically termed as Choliliithiasis. In pediatrics, chollilitiasis commonly associated with predisposing conditions, such as history of: total parenteral nutrition (TPN), blood type incompatibility, neonatal phototherapy, hemolysis, dehydration, or sepsis.

Medical Science, 2020, 24(104), 2511-2518

Oral manifestations and dental care of epidermolysis bullosa patient: a case report

Abdullah Alqarni

Aim: The aim of this report is to present clinical features of patients with Epidermolysis Bullosa (EB) and describe effective methods of dental management for these individuals. Case Report: Epidermolysis Bullosa (EB) is a rare inherited disorder with skin and oral manifestations. The patient in this report was 25-year-old female, has been diagnosed with Junctional EB at birth, presented to University at Buffalo clinics for a routine dental appointment. Clinical examinations revealed classical mucocutaneous features of EB such as; multiple hemorrhagic bullae with scar tissues, limited mouth opening, dental caries, poor oral hygiene, enamel pitting, and occlusal wear. A proper dental management care was provided. Conclusion: This case report presented clinical features of individuals with Epidermolysis bullosa (EB), focusing on proper methods of dental care for affected patients by this inherited disorder.

Medical Science, 2020, 24(104), 2519-2525

REPORT

Using 75 g OGTT in prediction for antenatal insulin need in gestational diabetes mellitus in hung Vuong hospital, Vietnam

Huynh Nguyen Khanh Trang, Hoang Thi Diem Tuyet, Nguyen Sy Quang, Ngo Minh Xuan

Gestational diabetes mellitus (GDM) is on the rise in the world and Vietnam. Primary intervention was a modest diet; some recent studies have documented the high blood glucose level in 75 grams glucose tolerance testing associated with simple dietary control failure. Objectives: To determine the relationship between the level fasting plasma glucose in 75 grams of glucose tolerance test and
the needs of insulin therapy in gestational diabetes mellitus at the Department of High-Risk pregnancy, Hung Vuong hospital. 

**Methods:** A nested case-control study including 160 pregnant women with GDM treated at the Department of High-Risk pregnancy, Hung Vuong Hospital, HCMC from 11/2017 to 11/2019, were eligible for sampling and consent to participate. **Results:** Fasting plasma glucose, 1 hour after ingestion, and 2 hours after ingestion in the 75 grams glucose test were significantly higher in the gestational diabetes mellitus group with insulin compared with the control group diet. **Conclusion:** Fasting plasma glucose values in the 75-gram glucose test - 2 hours can help predict the need for insulin in pregnant women with GDM.

*Medical Science, 2020, 24(104), 2526-2530*

---

**ANALYSIS**

**Pain relief effect of TT knee remedy on knee osteoporosis**

Nguyen Tien Chung, Pham Hong Van, Nguyen Manh Tri, Le Thi Tuyet, Nguyen Duy Thuan, Truong Viet Binh

**Objective:** Evaluate the analgesic effect of TT knee remedy on patients with knee osteoarthritis. **Method:** prospective clinical trial study, comparing before and after controlled study. **Results:** TT knee remedy has pain relief effect on patients with knee osteoarthritis, this effect appears after seven days (VAS score decreases by 30.19%) and gradually lasts to 28 days (decreases by 76.34%). The analgesic effect of TT knee on patients with osteoarthritis was better than the controlled group using glucosamine 1500mg (p <0.001).

*Medical Science, 2020, 24(104), 2531-2536*

---

**Histopathological profile of Saudi females with breast cancer at Albaha province, KSA: A retrospective study**

Thamer H. Al-Ghamdi, Moataz M. Alhasan, Jiehan M. Hassan, Hala A. Khalafalla, Manal A. Khalaf, Ihab Shafek Atta

**Background:** Breast cancer is the most common cancer worldwide and in King Saudi Arabia as well. This study aimed to determine the demographic characteristics and histopathological profile of females with breast cancer attending King Fahad hospital at Albaha-KSA. **Materials and Methods:** Retrospective descriptive study conducted in King Fahad Hospital at Albaha in the period between Jan 2014 through Dec 2018. We obtained data concerning the demographic and histopathological profile of 80 female patients with breast cancer during the study period. **Results:** 80 patients ranging in age from 28–86 years (mean 52 years) were included in the study with the peak incidence age in the 5th decade. In 54.2% of cases, the tumor was left-sided. Most of the tumors 62 cases; 77.5% were of Infiltrating ductal carcinoma, and mucinous is the least one (2 case; 2.5%). Most of cases were of grade II 40 cases (50%). Ten (12.5%) cases had tumor size ≤2 cm and were considered as (pT1), 33 cases (41.3%) had tumor size of 2–5 cm and were categorized as (pT2), while 7 cases (8.75%) were categorized as pT3 tumor size ≥ 5 cm. Thirty cases (16.25%) of the involved lymph nodes were classified as pN1 (metastases in 1 to 3 regional lymph nodes), 5 cases (6.25%) were categorized as pN2 (metastases in 4 to 9 regional lymph nodes), while 7 cases (8.75%) were described as pN3 (metastases in 10 or more regional lymph nodes). **Conclusion:** Our study showed that the peak incidence age of breast cancer was the 5th decade of life while infiltrating ductal carcinoma (IDC) was the most common histological type.

*Medical Science, 2020, 24(104), 2537-2543*

---

**A new endoscopic and anatomical classification of Deviated Nasal Septum with clinical relevance**

Shraddha Jain, Prajakta Bhalariao, Chandraveer Singh

**Introduction:** The current classifications of deviated nasal septum (DNS) are based on geometry and lack standardization, giving variable results for correlation between Eustachian dysfunction and DNS. Hence, there was a need for anatomic classification of DNS, taking into account the deviation of individual parts of the septum, which is possible now due to advances in endoscopic surgery and imaging. **Objective:** To devise an endoscopic anatomical classification of deviated nasal septum (DNS), for studying their role in causation of Eustachian dysfunction. **Methods:** The present Cross-sectional study was conducted in the Otorhinolaryngology Department of tertiary care teaching hospital of central India on 200 consecutive patients in the age group of 18 to 70 years with nasal and/or ear complaints, diagnosed with DNS and/or chronic otitis media. Diagnostic nasal endoscopy along with Dynamic slow motion video endoscopy and CT scan of paranasal sinuses were done. Endoscopic septoplasty was performed, where indicated. The different types of septal deviations were classified, based on endoscopic, surgical and radiologic findings on CT scan, as per new classification, and correlated with the Eustachian function. **Results:** The new classification (Jain Bhalerao classification) has 10 types, which include the anatomical categories of maxillary crest displacement, vomerine deviation, deviation of perpendicular plate of ethmoid, caudal dislocations, septal spur and C shaped cartilaginous deviation. **Conclusion:** The new classification helps classify all types of DNS and study their role in causation of Eustachian dysfunction.

*Medical Science, 2020, 24(104), 2544-2554*

---

**Prevalence of central venous catheter infections in hemodialysis patients**

Mohamad Karimian, Somayeh Afsharloo, Somayeh Mahdikhani, Ebrahim Salimi, Milad Borj, Asma Tarjoman, Ali Gholami

**Background:** The prevalence of chronic diseases such as Chronic Kidney Disease has increased. Given the complications of infection in hemodialysis patients, the aim of this study was to determine the rate of infection in vascular access of hemodialysis patients in Ilam city. **Material and methods:** This study is a retrospective study that was done by referring to hospital records and the statistics data available in infection control office at Shahid Mostafa Khomeini Hospital in Ilam from 2017 to 2018. Thus, the necessary
Rifampicin for treatment of cutaneous leishmaniasis in Al-Baha region Saudi Arabia

Aziz AlSohaimi

Objectives: The purpose of this research is to analyze the efficacy of antibiotic (rifampicin) in a randomized double-blind and placebo-controlled assessment to treat cutaneous leishmaniasis. Patients and methods: This study is to evaluate the success of oral antibiotic (rifampicin) in a dose of 10mg per kilogram daily that giving orally for 4 weeks, in a cutaneous leishmaniasis in a confirmed cases either by smear or biopsy. The study was conducted from January 2019 through January 2020 at the Department of Dermatology, Prince Mishari Ben Saud Hospital, Baljurashi (Baha region), Saudi Arabia. 53 patients with single or multiple cutaneous leishmaniasis lesions were studied, of which 35 patients were choose for drug administration and 18 patients for control. Results: Of 53 patients receiving rifampicin, a total of 35 were assigned, and 18 for control. Follow-up data for 32 (91.4 percent) and 16 (83.3 percent) patients were available, respectively. After twelve weeks follow-up, 32 out of 35 rifampicin group patients (91.4 percent) and 16 out of 18 placebo group patients (88.9 percent) had complete the full course. Healing rates in the rifampicin and control community were 93.8 percent and 18.8 percent, respectively, according to purpose to treat leishmania in this research. Conclusion: Orally administered rifampicin weekly for one month can be an alternative to other injectable medications. It is easy to use, very effective, and cheap drug for the treatment of cutaneous leishmaniasis. For children where other traditional injectable therapies are not appropriate, practical or may be dangerous, the findings were more promising.

Prevalence and Characterization of Musculoskeletal Disorders among Dental Students, Interns, and Residents in Riyadh, Saudi Arabia


Objectives: This study aimed to investigate the prevalence of work-related musculoskeletal disorders, assess its impact, identify its risk factors, level of awareness of the participants, and to recommend preventive measures based on the study results. Methods: A self-structured self-administered questionnaire consists of 48 questions was distributed to participants from dental colleges at three universities (King Saud University, King Saud bin Abdulaziz University for health sciences, and Riyadh Elm university). A total of (431) participants were invited to answer the questionnaire. Chi-Squared test was performed to evaluate the influence of demographic characteristics (gender and level of education), the prevalence of musculoskeletal pain, and psychological impact. Results: There was a significant difference between genders regarding pain, in which (53%) of females reported having pain, while only (35%) of males did. Periodontal scaling was the most reported cause of pain (51.8%). The psychological effect of pain was significantly higher in females (25%), while it was (12%) in males. Chairside stretching has a significant impact on reducing the presence of pain. Conclusion: The prevalence of work-related musculoskeletal disorders in the dental field is high. In this study, females have a higher percentage of pain. Pain has a negative effect on a person’s psychology. The use of magnification loupes and chairside stretching was found to be a protective factor against musculoskeletal disorders.

Awareness and attitude of patients toward extra-oral examination in dental practice in Riyadh, Saudi Arabia

Ghada Al-Zamel, MAMDouh AlHarbi, Abdullah AlSheraimi, Khalid AlHazmi, Nawaf AlKubedan, Abdulrahman AlEnezi

Aim: to assess and evaluate awareness and attitude of patients who are seeking dental treatment at both governmental and dental private polyclinics in Riyadh city towards Extra-examination (EOE). Methodology: A total of 661 governmental and private dental clinics visitors were participated in this cross-sectional analytical study. The study was conducted using electronic and paper-based surveys. Participants were asked of total 20 questions, including demographics, Patients’ Experience, and Patients’ knowledge and attitude toward the Extra-Oral Examination. Finally, the data was entered using Microsoft excel program then analyzed by SPSS program version 24. Results: There is lack of knowledge about EOE as only 10.9% of participants heard about it. 53.9% do not know about the importance of EOE. 7.9% received EOE in governmental clinics, similarly only 3.4% were examined in private clinics. Vital signs were recorded more often in governmental clinics as 29.2% of participants had their vital signs measured while only 12.2% in private polyclinics. Conclusion: The performance of Extra-Oral Examination was significantly low for both governmental and private dental clinics. Moreover, the awareness of the sample also was low.

Analysis of the effects of some surface preparation methods on the bond strength of orthodontic attachments to amalgam surface

Medical Science, 2020, 24(104), 2555-2559

Medical Science, 2020, 24(104), 2560-2564

Medical Science, 2020, 24(104), 2565-2572

Medical Science, 2020, 24(104), 2573-2578
This in-vitro research was aimed to examine the shear bond strength of metal brackets to silver amalgam using various surface preparation techniques to determine the best method to achieve appropriate bond strength between bracket and amalgam surface. Ninety amalgam blocks were divided into six groups and randomly assigned to one of the following conditioning groups (n=15): group 1 (control): etching with 37% phosphoric acid for 20 seconds, group 2: sand blasting with aluminum oxide (Al2O3), group 3: CO2 laser, group 4: CO2 laser plus sand blast, group 5: Er:YAG laser and group 6:Er:YAG laser plus sandblast. All Bond II was used in all groups and brackets were bonded with Transbond XT. After thermocycling, all samples were tested for shear bond strength by a universal testing machine. Data were analyzed by SPSS-22 software using Kruskal-Wallis and Mann-Whitney tests. The significance level was set at p≤0.05. The results showed the mean shear bond strength was significantly higher in all five experimental groups than in control group (p<0.05). Shear bond strength was significantly higher in CO2 + sandblasting group than in sandblast group, but it was not significantly higher than Er:YAG, Er:YAG + sandblast and CO2 groups. Moreover, the results indicated a significantly higher shear bond strength in Er:YAG group than in sandblast group (p<0.05). Preparation by CO2 + sandblast (with mean shear bond strength of 6.3 Mpa) showed a higher shear bond strength than other methods, so it is considered an acceptable preparation method.

Medical Science, 2020, 24(104), 2579-2585

Lung cytological changes associated with traditional household smoke (Shabbah) in Ha’il Region, Saudi Arabia

Hussain Gadelkarim Ahmed, Emad Abboh Abdallah Abboh, Mohamed Ahmed Babikir Ibraheem Bealy, Naif K Binsaleh, Gamal eldin Mohamed Osman Elhussein, Amel Bakri Mohammed El Hag, Malik Asif Hussain, Hisham Sherfi

Background: Indoor air pollution released by the combustion of smoky coal in recycled unaired results in elevated lung cancer mortality. Methodology: This is a case-control study that investigated 300 Saudi civilians who were selected from Hail city. Household smoke-exposed (Shabbah) individuals (N=250) were ascertained as cases and non-exposed (N=50) were ascertained as controls. Sputum specimen was obtained from each participant and assessed cytologically. Results: Metaplasia was identified in 30/250 (12%) of the cases and 9/50 (18%) of the controls. The risk of lung epithelium metaplasia associated with exposure to Shabbah smoke, the odds ratio (OR), and 95% confidence interval (95% CI) was 1.6312 (0.6016 to 4.3257), P = 0.3420, z statistic = 0.950. Acute inflammatory cell infiltration was identified in 30/250 (12%) of the cases and 9/50 (18%) of the controls. Chronic inflammatory cell infiltration was identified in 51/250 (20.4%) of the cases and 5/50 (10%) of the controls. The risk of lung epithelium chronic inflammation associated with exposure to Shabbah smoke, OR (95%CI) was 2.3065 (0.8710 to 6.1078), P = 0.0925, z statistic = 1.682. Conclusion: Exposure to Shabbah smoke affects the lung epithelial tissue leading to squamous metaplasia and chronic inflammatory cells infiltrate. Chronic inflammatory cells infiltrate significantly increase with the increase of duration of exposure to Shabbah smoke.

Medical Science, 2020, 24(104), 2586-2593

The effect of chitosan and fluoride varnish on Streptococcus mutans count in saliva

Leila Basir, Effat Abbasi Montazeri, Sima Khoshroo, Razieh Meski

Background and Objective: Dental caries is considered as the major oral health problem caused by oral bacteria. The aim of the present study was to compare the effect of chitosan and fluoride varnishes on Streptococcus mutans count in saliva. Materials and methods: A pre-structured questionnaire was prepared to collect data. A total of 90 children without caries or primary caries within the age group of 4-6 years were selected for the study. The subjects were divided in three groups of 30 (n=30) based on the three studied varnishes. Following eating and brushing (1hr), the samples of unstimulated saliva were collected. Group I was treated with 5% chitosan varnish and group II received 3% chitosan varnish and group III was treated with sodium fluoride varnish. Assessment of Streptococcus mutans in saliva was carried out at the baseline and 24h after varnish application. Data were analyzed using t-test, one-way ANOVA, Tukey test, and SPSS ver.15. Results: According the obtained results the number of Streptococcus mutans in saliva was significantly reduced in all three groups (p<0.05). The highest Streptococcus mutans reduction was found in 5% chitosan varnish, 3% chitosan varnish, and sodium fluoride varnish, respectively. The difference between 5% chitosan varnish and sodium fluoride varnish was statistically significant (P<0.05), but no statistically significant difference was found between 3% chitosan varnish and the two other varnish groups (P>0.05). Conclusion: All three varnish groups, 5% chitosan varnish, 3% chitosan varnish, and sodium fluoride varnish can significantly decrease S. mutans count in saliva. 5% chitosan varnish has the satisfactory antimicrobial activity compared the two other varnishes.

Medical Science, 2020, 24(104), 2594-2599

The relationship between vitamin D with breast cancer

Eman Taha Hamdi, Abdulsalam Tawfeeq Alsamarai, Ali Abbas Ali
Objective: Evaluate the association between vitamin D2 with breast cancer (BC). Methods: A case control study department of oncology, Salahaddin Hospital, during the period from July 2019 to January 2020. Data were obtained from 90 participants, 58 women with BC and 30 women as healthy control. The BC women were further subdivided into 20 women with chemotherapy (G1), 14 women received less than 6 doses of chemotherapy (G2), 15 women received more than 6 doses of chemotherapy (G3), 9 women received chemoradiation therapy (G4). Results: Vitamin D in all BC women was significantly lower compared to healthy control (25.36±5.53 ng/L), additionally it was lower in G1 (8.48±1.97 ng/L) compared to G4 (14.29±2.69 ng/L), G3 (9.52±2.59 ng/L) was lower compared to G4, no difference was observed between G1, G2 (10.35±2.83 ng/L), and G3. Conclusions: there is clear inverse association between vitamin D with breast cancer, especially in those with early BC compared to more advance cases.

Medical Science, 2020, 24(104), 2600-2603

CASE REPORT

Gingival Fibroma: Report of two cases with different treatment modalities
Diksha R. Agrawal, Priyanka Jaiswal, Deepika Masurkar

Fibrous gingival overgrowths are the most commonly observed soft tissues conditions. Fibroma commonly term as irritational fibroma which histologically may present with many added features forming a wide range of differential diagnosis. This article addresses the diagnosis, histological features of a case of irritational fibroma, treated with different modalities. Early detection, removal of the irritations and lesion management is of utmost importance. To conclude, electrocautery and scalpel used in the present cases were highly effective, safe, relatively simple and resulted into predictable outcome.

Medical Science, 2020, 24(104), 2604-2609

RESEARCH

Psychological distress impact and associated factors among Jordanian women diagnosed with breast cancer
Murad Abdul Raheem Younis, Bachok Norsa’adah, Azizah Othman, Yazan Shaqarin, Hani Alqudaah, Shaimaa Shamoun

Background: Patients with breast cancer often experience an extremely high psychological distress. Psychological distress includes both depression and anxiety as a specific framework. Existing study in these psychological symptoms (either anxiety or depression) were more strongly associated with the level of pain that is unavailable in breast cancer patients. This research aims to compare the levels of depression and anxiety among patients with different levels of psychological distress. The association between changes in distress at baseline and time of admissions with depression and anxiety was examined. Methods: This is a cross-sectional descriptive study. The study included two hundred female people who are suffering from breast cancer. They were tested using the Hospital Anxiety and Depression Scale (HADS) at the time of diagnosis -Baseline and during admission. The data were collected on age, ethnicity, types of treatment and cancer staging. Results: There is no significant difference of mean anxiety between intervention and control group at baseline (P = 0.361) and admission time (P = 0.385) but various age groups showed a statistically significant difference on their corresponding mean perceived anxiety (P=0.028) with having previous medical insurance (P = 0.050). Also there is no significant difference of mean depression in baseline and admission time. Aged women experience less depression, although there is no significant difference. Women without previous medical insurance have higher level of depression compare with others (P = 0.003). Conclusion: Anxiety and depression are a type of severe psychiatric condition that has attributed to the feelings of apprehension in breast cancer. Finding from this study would support screening for anxiety and depression, early diagnosis, and counselling to improve the psychological well-being of patients with breast cancer. Further research would be required to assess the therapeutic interventions’ efficacy.

Medical Science, 2020, 24(104), 2610-2619

Report of results of surgery on virgin extraocular muscles and manipulated extraocular muscles in treatment of consecutive ET, consecutive XT, residual ET and residual XT
Gholamreza Khataminia, Maryam Hajizadeh, Mohammad Saeed Shakari, Mohammad Sadegh Mirdehghan

The Purpose of study was to report mid-term success of surgery on virginextra ocularmuscles (EOMs) or manipulated EOMs (which have been operated in previous surgery) in the management of residual and consecutive esotropia (ET) and exotropia (XT). Of those who had a history of Bilateral medial rectus muscles (BMR) recession or resection, Bilateral lateral rectus muscles (BLR) recession or resection or “Recession and resection” of horizontal rectus muscles (R&R), more than 6 months ago, and had more than 15 prism diopters (PD) of residual or consecutive deviation, 24 patients who meet inclusion criteria not exclusion ones randomized in “Manipulated “or” Virgin” group. Baseline examination including Visual acuity (VA) using Logarithm of minimum angle of resolution (log MAR) and Best corrected visual acuity (BCVA) (log MAR), Refraction (RFN) and baseline Cyclo-refraction (cyclo-RFN) deviation (Cover-Uncover with Krimsky and Hirschberg test using a prism bar) done for all participants. A total of 24 patients distributed in 2 groups. Mean Age was 28.83±12.47 years (6-51yrs) and 18.25±8.19 years (6-30yrs) in virgin and manipulated study groups respectively. Mean Pre-op Deviation was 15-45 PD in Virgin group and 15-40PD in manipulated group. Mean post operation (Post Op) deviation after 6-month was 0.9±3.01 PD and 2.08±4.98 PD in virgin and manipulated group respectively. Results of the study in post op parameters such as variations in deviation of eyes, BCVA and RFN exhibited generally no significant variance between our
In conclusion, because of insignificant difference between 2 groups, we suggest surgery on manipulated muscles due to less risk of anterior segment ischemia and less conjunctival manipulation that, potentially leads to less dry eye complications.  
*Medical Science, 2020, 24(104), 2620-2627*

**CASE REPORT**

**Revision of total hip replacement surgery in elderly patient and its recovery based on periprosthetic fracture rehabilitation**

Laukik Vaidya, Kiran Kumar, Waqar Naqvi, Simran Narang, Gajanan Pisulkar, Mohit Dadlani  
*Introduction:* Slip and fall accidents are associated with 87% of hip fractures and elderly people (Soangra and Lockhart, 2017). Factors such as muscle weakness, impaired postural control and balance are associated with falls in older people. Falls causes reduced independence, function, mobility, confidence in mobility, and quality of life (Hill et al., 2016). Patients with periprosthetic fractures are typically elderly, frail and have osteoporosis. It has advantages of early mobilization, reduced hospital stay and reduction in complications such as mal-union and nonunion (Marsland and Mears, 2012). Case: A 72-year-old male shopkeeper with right-hand dominance complains that day-to-day tasks such as sitting cross-legged, squatting is difficult. He had a slip and fall back 2 years in the toilet on the left side and sustained injuries to the left arm and hip. Investigations revealed dislocation and losing of prosthesis of left hip, hence revision surgery was done where bipolar prosthesis was removed and cemented total hip arthroplasty was done where a midshaft femur fracture of same side was found. 7 screw plating proved to be insufficient and unstable, and came out of its place. An open reduction internal fixation was done with trochanteric bridge plating, screws and 4 titanium banding cable-2 at the trochanter in April 2020 and was given open knee brace. *Conclusion:* In conclusion, this case report demonstrates that patient with periprosthetic fracture with revision total hip replacement and revision surgery for displaced midshaft implant. Patient was able to resume activates of daily living and grooming on his own.  
*Medical Science, 2020, 24(104), 2628-2638*

**ANALYSIS**

**Patient safety culture and its related factors from the perspective of nurses working in intensive care units**

Somayeh Meshkani, Ali Akbar Abdollahi, Ali Reza Faghani, Zahra Sabzi  
*Introduction:* Improving patient safety is one of the main goals of health systems all around the world. Considering the role of nurses, which is to maintain and enhance patient safety, and taking into account the importance of establishing clinical governance in health system and directing hospitals towards the creation of "patient-friendly hospitals", the present study aimed to review patient safety culture and its related factors from the perspective of nurses working in intensive care units of teaching hospitals of Golestan University of Medical Sciences.  
*Materials and Methods:* This cross-sectional study with descriptive-analytical approach was conducted in Gorgan province in 2019. The study population consisted of nurses working in intensive care units of hospitals affiliated to Golestan University of Medical Sciences. In total, 108 nurses who had the inclusion criteria were selected by stratified method from nurses working in CCUs, ICUs and hemodialysis units of hospitals affiliated to Golestan University of Medical Sciences. Data collection tools included a demographic questionnaire and a standard questionnaire of "Patient Safety Culture in Hospital". Data were analyzed by descriptive statistics and independent t-test, ANOVA and Pearson correlation coefficient at the significance level of 0.05 through SPSS-18 software.  
*Results:* The highest mean score of overall patient safety culture was observed in CCU (147±25.09), according to the nurses working in ICUs and hemodialysis units. Among the 12 aspects of patient safety culture in all three units, the highest mean and standard deviation was related to the aspect of "information transfer and exchange" (16.78 ± 3.28). There was a significant relationship between the overall score of patient safety culture, and gender and ethnicity of nurses working in ICU and hemodialysis unit (P <0.05).  
*Conclusion:* Based on the results, patient safety culture was at moderate level among nurses. Also, patient safety culture appeared to need improvement in some respects to create a safer clinical environment for patients. The punitive culture is also recommended to be replaced by a "non-punitive" culture so that, the healthcare professionals can report their mistakes without worrying about consequences.  
*Medical Science, 2020, 24(104), 2639-2647*

**REPORT**

**Factors related to attitudes and beliefs toward visiting in intensive care unit from the view points of nurses working in ICU**

Alireza Faghani, Ali Akbar Abdollahi, Somayeh Meshkani, Zahra Sabzi  
*Introduction and aim:* Hospitalization in the intensive care unit (ICU) creates acute physical and psychological stress in patients. It is possible to meet the emotional and psychological needs of patients with the participation of families, which is considered one of the important duties of medical staff. Therefore, visiting patient in the intensive care unit is a challenging issue due to severe limitations that are in placed in this regard. No specific guidelines or instructions have been developed for this issue so far. Due to the nature of their work, nurses play an important role in providing a suitable ground for policy change in the field of patient visit in ICUs. Therefore, this study was conducted with the aim of determining the factors related to belief and attitude towards patient visit in the intensive care unit from the perspective of ICU nurses working in teaching hospitals of Golestan University of Medical Sciences in
Methods: This is a cross-sectional study with a descriptive-analytical approach that was conducted as a census. In total, 203 nurses working in ICUs of teaching hospitals affiliated to Golestan University of Medical Sciences, who had the inclusion criteria participated in this study. Data collection tools included a valid and reliable questionnaire of the belief and attitude of ICU nurses towards patient visit in intensive care unit (BAVIQ), and demographic information form. Descriptive statistics, independent t-test, Pearson correlation coefficient, and ANOVA were used in the statistical software of SPSS-16 to analyze the data at the significant level of 0.05. Results: Of the 203 ICU nurses, 52 were males and 151 were females. The mean age of nurses was 31 years and the mean total score of nurses’ beliefs was 34.97 ± 8.25. The mean score of belief with negative direction was 30.03 ± 7.10 and the mean score of belief with positive direction was 13.00 ± 4.26. The mean overall attitude score was 20.78 ± 7.36. The nurses’ belief had a statistically significant relationship (P = 0.001) with the variable of work experience in the ICU. Nurses’ attitudes also had a statistically significant relationship with their employment status (P = 0.01), but did not have a statistically significant relationship with other variables. Conclusion: The results of present study showed that most nurses had a negative belief about free visit policy. This is a major obstacle to changing the visit policy in order to meet the emotional and psychological needs of patients and their families.

Medical Science, 2020, 24(104), 2648-2654

ANALYSIS

In vitro effect of head position on the accuracy of linear measurements of implants at the sites of maxillary lateral incisors and first molars on cone-beam computed tomography scans
Sanaz Sharifi Shoosh, Atefeh Sheikhi

Objectives: This study assessed the effect of head position on the accuracy of linear measurements of implants at the sites of maxillary lateral incisors and first molars. CBCT scans were obtained following tipping of the skulls by +20°, +10°, 0°, -10°, and -20°. The change in height of implants visualized on each CBCT scan was calculated compared with their actual height measured by a caliper. Data were analyzed using ANCOVA and Wilcoxon test. Results: On CBCT scans, the height of posterior implants in +20° (P=0.032) and +10° (P=0.017) tipping positions was significantly higher than the actual value; but no significant difference was noted in other positions. The mean height of anterior implants in the right side on CBCT scans was significantly higher than the left side in -10° (P=0.025) tipping position. The mean implant height in the right side was significantly lower than the left side in +10° (P=0.017) and 0° (P=0.041) tipping positions. In the posterior region, the mean implant height in the right side was significantly lower than the left side in -20° (P=0.025) and +10° (P=0.017) tipping positions. Conclusion: Backward tipping of the head by 20° and 10° affects the implant height on CBCT scans. The possibility of change in linear measurements in the posterior implants is higher than in the anterior implants.

Medical Science, 2020, 24(104), 2655-2662

Is Marriage Solution for Persons with Schizophrenia?
Prakash B Behere, Kiran Verma, Amit B Nagdive, Himanshu Mansharamani, Aniruddh P Behere, Richa Yadav, Rouchelle Fernandes

Context: Marriage is considered as an important life event which not only affects the physical status but also psyche of a person. There is a common belief in our society that marriage can cure mental illness, but this is rather a topic of discussion. Aims: Aims and objectives of the study were to assess the effect of marriage on clinical outcome, severity of illness, quality of life and disability among the married patients with schizophrenia and to compare same with never married with schizophrenia. Setting and Design: It is a retrospective Case Control study, conducted on outpatients and inpatients of Psychiatry dept. at a tertiary health care centre in rural Central India for a period of 12 months in 2018. Methods and Material: A total of 80 subjects (40 cases and 40 controls) by random sampling were included in the study. Assessment was done using Brief Psychiatric Rating Scale (BPRS), Post Graduate Institute (PGI) Quality of Life Scale and Disability Assessment Scale (DAS). Statistical analysis used: Statistical analysis was done by using appropriate tools. Results: Most of the subjects were suffering with paranoid schizophrenia, were having arranged marriage and did partially disclosed information about the illness to in-laws and spouse before marriage. It was found that there is a common belief in society that marriage can cure mental illness. More relapses were seen in married males with low per capita income, education levels and having positive family history of mental illness. Majority of separations were seen within two years of marriage and among female subjects. Subjects suffering with paranoid schizophrenia had less separation rates than subjects suffering with other types of schizophrenia and having a child was protective factor for separation. Conclusions: There is a high need to address the psychological stress due to adjustments in marriage which can be detrimental to the mental health of persons already suffering with a mental illness.

Medical Science, 2020, 24(104), 2663-2674

CASE REPORT

Early physical rehabilitation post-surgery in a complex type 5 Schatzker Tibial plateau fracture improves functional outcomes: A case report
Dushyant Bawiskar, Sapna Dhote, Pratik Phansopkar
Background: Tibia is large, long bone of the lower extremity and the tibial plateau consists of the medial and lateral condyles and the inter-condylar eminence. Fracture of the tibia accounts for about 20 percent in middle aged and 8 percent in elderly populations. Tibial plateau fracture encompasses a wide range of severity, ranging from stable non-displaced fractures with minimal soft tissue injury to highly comminuted unstable fractures with massive soft tissue injury. Prompt physical therapy post-surgery leads to achieve functional goals. 43 years old male patient with a type 5 schatzker classification communicated bi-condylar tibial plateau fracture was diagnosed on x-ray after a road accident, on which open reduction and internal fixation with buttress plates was done. Post-surgery patient’s concerns were reduced mobility of the right leg and unable to walk. Following the surgery patient underwent physiotherapy which comprised of exercises, electrotherapy, proprioception training and gait training for a period of 10 weeks which resulted in improvements in pain, range of motion, functional activities. Conclusion: The case report suggests that classic surgical approach and prompt structured physical rehabilitation led to improving the functional goals progressively and significantly which is a major aspect leading to a successful recovery.

Medical Science, 2020, 24(104), 2675-2682

Implant-supported over denture (maxilla and mandibular RP4) in the patients with a history of radio and chemotherapy: A case report with 3 years’ follow-up
Hovakhti Afagh, Alavi Amin
In prosthodontics, edentulism has been a long-lasting issue. Implant therapy today is to help overcome several limitations of traditional complete denture. In patients who have received chemo and radiotherapy in another region than their neck and head, the success of dental implants is still uncertain. Although some local and systemic factors can be contraindications to dental implant treatment, there are very few absolute medical contraindications to dental implant treatment; however, some conditions can raise the risk of treatment failure or complications. The case report describes the successful survival of dental implants placed in the maxilla and mandible of a patient who has undergone radio and chemotherapy for prostate cancer.

Medical Science, 2020, 24(104), 2683-2690

Intraoperative periprosthetic fracture of femur in a case of revision total hip replacement: A case report
Gajanan Pisulkar, Kiran Saoji, Dhruva U Angachekar, Mohit Dadlani, Priyanshu Pandey
Introduction: The numbers of patients undergoing total hip arthroplasties are continuously increasing and with that so are cases of periprosthetic fractures. They can be either intraoperative or post-operative. Most intraoperative femoral fractures occur during insertion of the femoral stem. Multiple methods are available for fixation but principles of stable fracture fixation should be used while fixing these fractures. Case: A 72 year old male who had undergone left sided bipolar hemiarthroplasty for neck of femur fracture 2 years back presented with pain in the left hip since 1 year. X rays show loosening of bipolar stem in medullary canal with lateralisation of tip of stem. Severe osteoporosis was noted. The patient was taken up for revision total hip arthroplasty. There occurred a Vancouver type B1 fracture during insertion of the femoral stem. Immediate fixation of the fracture was done using a LC-DCP contoured to the desired shape. On 7th post-operative day patient started complaining of pain in left thigh. Repeat X rays showed plate failure with displacement of fracture. Due to corona virus pandemic patient was given skeletal traction and leg put on BB splint. After 6 weeks the patient was managed with open reduction and internal fixation using Trochanteric bridge plate with screws and titanium cables. While passing encirclage wire there was damage to the superficial femoral artery. Patient was started on anticoagulants and started guarded walking on the 7th post-operative day. Conclusion: Vancouver type B periprosthetic femur fractures are unstable and require internal fixation and stabilisation. A long Limited contact plate extending from the greater trochanter to an adequate distance beyond the fracture site gives good structural stability.

Medical Science, 2020, 24(104), 2691-2699

ANALYSIS

Effusion causes and management in a series of patients from Northern Saudi Arabia
Saleh Hadi Alharbi
Background: Management of patients with different forms of effusions represents a major challenge for many health caregivers. The present study aimed to explore the effusion causes and management in a series of patients from Northern Saudi Arabia. Methodology: In this descriptive retrospective study, data referred to 60 patients presented with exudative and trasudative effusions were reclaimed. Effusion was categorized into two types according to Light’s criteria. Results: Exudate effusion was identified in 27/60(45%) of the patients, hence, transudate was revealed in 33/60(55%) patients. The majority of males were identified with transudate 16/22(73%), hence, most females were identified with exudate 21/38(55%). The risk of exude effusion among males and the relative risk (RR), and 95% confidence interval 95%CI) was 1.6257(1.0509 to 2.5149), P = 0.0290, z statistic = 2.183. The risk of transude effusion among females, RR (95%CI) = 2.0263 (0.9669 to 4.2467), P = 0.0614, z statistic = 2.183, 1.871. Conclusion: Transudate effusion is more common and predominantly among males, whereas, exudate is more common among females. The most common causes of effusions in northern Saudi Arabia are cancers.

Medical Science, 2020, 24(104), 2700-2706
Genetic prediction of iron overload in chronic renal failure
Ibraheem Ashankyty, Awdah M Al-hazimi, Hussain Gadelkarim Ahmed

Background: Chronic kidney disease is a common medical problem in Saudi Arabia. This study aimed to screen for HFE gene mutation as a possible risk factor for end-stage CKD. Methodology: Peripheral blood was collected in 4.5 mL ETA tube from 5 patients (all men, mean age 50 years, range 46-62 years) who attended the University of Ha'il's Medical caravan for Kidney failure chair. Applying Histopaque (1.083, Sigma, USA) leukocytes were isolated following the manufacturer’s instructions. Results: The melting temperature depends upon length as well as the G+C of the PCR product contents. The wild type respective Tm is 55.80°C while S65C is 50.70°C and H63D 64.87°C ± 2.5°C. The melting temperature (Mt) is presented by the two samples of the 5 examined were heterozygous for the mutation H63D (patients 3 (yellow) color and patient 2 (green). Conclusion: The findings of the current study suggesting the role of the hereditary hemochromatosis gene in the etiology of Chronic Kidney Failure in the Saudi Population. Further genetic studies with elevated sample size deemed important to confirm the role of the HFE gene mutation in the etiology of CKD, which mostly terminate in chronic renal failure.

Medical Science, 2020, 24(104), 2707-2711

CASE REPORT

Young COVID 19 presenting as fatal subarachnoid hemorrhage: Association or chance?
Wanjari AK, Ayush Dubey, Sourav Chaturvedi, Sunil Kumar

The coronavirus disease due to severe acute respiratory syndrome-Corona virus 2 emerged in Wuhan city, china in December 2019 and rapidly spread more than 200 countries as a global health Pandemic. While its effects on respiratory symptoms are well recognized, neurologic manifestations have been rarer. We report a case of 21-year-old COVID 19 positive female who presented with fatal Sub arachnoid hemorrhage.

Medical Science, 2020, 24(104), 2712-2715

ANALYSIS

Attempts of suicide in the toxicity patient that have referred to Shahid Rahimi hospital in Khorrarambad in the second half of 2018
Ghafar Ali Mahmoudi, Peyman Astaraki, Hedayat Nazari Namaki, Ali Farhadi, Sodabeh Zare, Zahra Afshari Morad

Background: Suicide is one of the psychosocial problems. Therefore, the purpose of this study is to investigate the cause and cause of suicide in order to reduce the number of suicide rates and causes. Materials and Methods: This cross-sectional descriptive study was designed. Referring to Shahid Rahimi Hospital in Khorrarambad, the information of poisoning patients referred to the first half of 2018 was collected through a questionnaire. The questionnaire consisted of 18 demographic and general questions that were used to complete the interview with suicide attempters or first-degree relatives. To determine the validity or validity of the questionnaire, the content validity method was used. Subsequent surveys and discussions were carried out by several of them. On the question of the history of psychiatric illness in the questionnaire, the patient’s illness was confirmed after interviewing the clinical psychologist of the poisoning department. After collecting the data and entering them in SPSS version 21, descriptive indicators such as mean, standard deviation and the percentages and graphs were plotted and we used the Chi-square test to examine the relationships between the variables. Results: Out of 222 patients, 36.5% of the patients were males and 63.5% were females. Age was 25.7% less than 20 years, 46.4% was between 20 to 29 years old, 18% 30-39 years old, 7.2% 40-49 years old and 2.7% 50 years and older. 54.1% of single patients, 42.3% were married, and 3.6% were divorced. The motive for suicidal attempts was 28.7%, the difference with the spouse, 21.7%, the difference with the parents, 22.2%, the love failure, 7 / 15% of the alert to the relatives, 3.5% of the financial problem, 3% of the mental illness, 1.3% of the underlying illness and 0.4% of the educational failure, and 3.5% of the cases were unknown. As shown in Table 18, Chi-square test confirmed the significant relationship between sex with suicidal attempt and suicidal motivation. There was no significant relationship between suicidal attempt and marital status and motivation. There is no meaningful relationship between marital status, employment status, history of addiction in the family, the history of addiction in the individual and the income of patients by suicidal methods. There was a significant relationship between suicide, age, place of residence and education using suicidal methods. There was a significant relationship between suicidal ideation and age and motivation. Conclusion: Based on the results of this study and their comparison with other studies, it is concluded that the suicidal motives of patients with poisoning are mainly differences with their husbands, differences with parents and love failure that are related to age and the sex of these patients is related. Therefore, planning based on these cases is recommended to reduce the prevalence of suicides.

Medical Science, 2020, 24(104), 2716-2726
CASE REPORT

Acute Pulmonary Embolism (PE) with Acute Cor-Pulmonale treated successfully by Catheter Directed Fibrinolysis (CDF)

Swapnil Lahale, Sourya Acharya, Amol Andhale, Prasad Takey

Acute pulmonary embolism (PE) is a variant of venous thromboembolism which in some cases may be fatal if not treated promptly. A high index of suspicion is required to diagnose PE in an appropriate clinical setting. Diagnostic approach usually starts with a quantitative D-Dimer assay. CT pulmonary angiography usually confirms the diagnosis. Treatment modalities for acute pulmonary embolism are ranges from systemic thrombolysis to surgical embolectomy. Now a days, catheter based revascularization procedures are emerging as substitute of systemic thrombolysis/surgical embolectomy in intermediate and high risk cases. Ultrasound-assisted catheter-directed thrombolysis (UACDT) is an emerging and evidence based modality in the treatment of pulmonary embolism. We describe a case of a 40 year old hyperhomocysteinemic male with deep vein thrombosis and submassive PE who presented with acute Cor-Pulmonale and was successfully treated with catheter directed thrombolysis.

*Medical Science, 2020, 24(104), 2727-2731*

ANALYSIS

Experimental evaluation of Enalapril on the antioxidant protection and nitrogen oxide system of the brain in rats with type 2 diabetes mellitus

Olga Kmet, Nataliia Filipets, Taras Kmet, Yuriii Vepriuk, Diana Tymkul

Enalapril effect produced on the antioxidant protection and nitrogen oxide system in the brain of rats with experimental type 2 diabetes mellitus is examined. The experiments were conducted on nonlinear laboratory albino male rats with 0.18-0.20 kg of their body weight and type 2 diabetes mellitus simulated by streptozotocin and high-fat diet. Intensity of lipid peroxide oxidation was evaluated by the content of products reacting with 2-thiobarbituric acid. The state of the antioxidant protection system was evaluated by the activity of superoxide dismutase and catalase. To evaluate the state of NO-system in the cerebral cortex and hippocampus, the content of stable nitrogen monoxide metabolites was determined: nitrite-ions as well as activity of NO-synthase. Under conditions of damaged nervous system induced by type 2 diabetes mellitus the content of products reacting with 2-thiobarbituric acid in the cerebral cortex and hippocampus is found to increase and the activity of catalase and superoxide dismutase is found to decrease; the content of nitrite-ions and NO-synthase activity increases which is indicative of intensification of lipid peroxide oxidation processes and inhibition of the antioxidant protection and nitrogen oxide systems. Under effect of enalapril (14 days) rats with type 2 diabetes mellitus demonstrate the following in both examined structures of the brain: the content of products reacting with 2-thiobarbituric acid decreases, activity of catalase and superoxide dismutase increases in the cerebral cortex, the content of nitrite-ions in both examined structures of brain decreases, and activity of NO-synthase decreases in the hippocampus only. The obtained results are indicative of a correcting effect of enalapril on the prooxidant-antioxidant balance, and moreover, on the indices of NO system in the cerebral cortex and hippocampus of rats with nervous system damage, which evidences its available neuroprotective properties with central genesis complications due to type 2 diabetes mellitus.

*Medical Science, 2020, 24(104), 2732-2738*

Knowledge and behavior of Saudi women regarding osteoporosis prevention based on the health belief model

Sahar Abdel-Latif Abdel-Sattar, Ahlam Elahmady Mohamed Sarhan, Fatma A Eiz-Elregal, Hanan Abd Elwahab El Sayed

Osteoporosis remains a global health problem. An osteoporosis-related fracture associated with significant morbidity, mortality, and health care costs. Bone health is becoming a serious concern in the kingdom as the prevalence of osteoporosis is expected to increase in Saudi Arabia where hereditary background, nutrition, and geographical location have been identified as predisposing factors for osteoporosis, so the health belief model is a useful and effective model that can be also utilized to design intervention programs to improve osteoporosis preventive behaviors. *Aim:* to evaluate the knowledge and preventive behavior of Saudi women regarding osteoporosis in Tabuk city. *Design:* the descriptive design was used to achieve the aim of this study. *Setting:* This study conducted at five colleges of Tabuk University, the female section (science, applied medical sciences, home economics, business administration, sharia and systems). Sample: Simple random sample 25% about (5 colleges) of the total 20 Tabuk University colleges then all working women in the selected college (71) were taken according to inclusion criteria. Two tools of data collection were used; 1) self-administrated questionnaire sheet: It includes socio-demographic data, health history and knowledge assessment 2) modified Likert scale: to assess the health belief model constructs, using a 5-point Likert scale. *Results:* The findings revealed that 69% of the women had unsatisfactory knowledge regarding osteoporosis and the mean scores of cues to preventive action and perceived susceptibility was 25.5 ± 3.37 and 11.91 ± 2.04 respectively, also a significant positive correlation between total scores of knowledge, perceived barriers, cues to preventive action & perceived severity constructs. *Conclusion & recommendation:* Most of the Saudi women in Tabuk city have unsatisfactory knowledge regarding osteoporosis prevention; the study confirms the efficiency of the health belief model in improving preventive behaviors of osteoporosis. Therefore, health education programs based on the health belief model are important for Saudi women in Tabuk city to improve their knowledge & behavior toward the prevention of osteoporosis.

*Medical Science, 2020, 24(104), 2739-2751*
Platelet rich fibrin matrix the cost effective way to treat trophic ulcer in diabetes: A pilot study
Vaibhav Thorat, Imranali M Khan, Sakshi Gaikwad

Trophic ulcers in diabetic patients are major complications leading to morbidity. These non-healing ulcers are troublesome for both patients and treating doctors and reduces quality index of life of the patients. Dressings and plastic surgical corrections of these ulcers is financial and emotional trauma to patients and requires long hospital stay. Platelet Rich Fibrin Matrix (PRFM) is easy, safe, OPD based and cost effective way to treat these ulcers. Therefore treatment of such ulcers with PRFM reduces financial burden of patients and improve quality of life.

Medical Science, 2020, 24(104), 2752-2759

Practice and order effect of 5 alternate forms of Colour Word Stroop Test: A Pilot Study
Shweta Shenoy, Prachi Khandekar, Abhinav Sathe

Introduction: The aim of this study was to evaluate the practice effect of 5 repetitions of alternate forms of Colour Word Stroop test (CWST) and effect of order. This was aimed at determining the number of efforts required to attenuate the practice effect. Material and methods: 5 alternate versions of the CWST were administered to 43 young healthy adult males and female who were divided into 5 different groups randomly on the basis of the sequence of administration of 5 different versions of CWST. Results: Repeated measure ANOVA revealed that practice effect occurred on consecutive administration of the test, but its effect diminished after 4 repetitions. No significant difference between orders of administration of 5 versions was found. Conclusion: Minimum 4 sessions of practice should be given with the alternate forms of CWST to diminish the effect of learning.

Medical Science, 2020, 24(104), 2760-2766