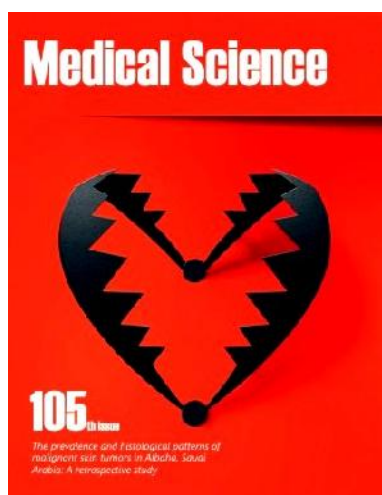


Medical Science

About the Cover



Introduction: The dermatological malignancy has wide varieties in their prevalence all over the world and even within the same country depending on multifactor including environmental as exposure to ultraviolet rays, chemicals and host-related factors such as genetic vulnerability, age, sex, presence of precursor lesions, and pre-existing medical conditions. In Saudi Arabia, several studies have been conducted aimed to investigate the prevalence and histological pattern of malignant dermatological tumors; of these areas Dammam, Qassim, Jeddah, and Asir, but, up to now, there are no studies to investigate both the prevalence and pattern of malignant skin tumors in Albaha province so the aim of this study is to assess the prevalence of skin cancer in Albaha province. *Methods:* This study was done after taking the ethical approval from the ethical committee of Faculty of medicine, Albaha University. A retrospective study was carried out in Albaha province hospitals (Governmental and some private hospitals) following the roles applied for conducting the research. All recorded dermatological cancer cases between January 2010 and December 2019 with both histological diagnoses and their clinical data were obtained. *Results:* A 124 skin cancer cases were obtained and the median age of the patients was 58 years, 91 (73%) patients were males and 33 were female (26.6%). 57 cases (46%) of Basal Cell Carcinoma (BCC), 35 cases (28.2%) for squamous cell carcinoma (SCC), 13 cases (10.5%) for cutaneous T cell lymphoma (CTCL), 7 cases (5.7%) for malignant melanoma, 4 cases (3.2%) for Kaposi's sarcoma (KS), 3 cases (2.4%) for Baso-squamous cell carcinoma (BASOSCC), 2 cases (1.6%) for dermatofibrosarcoma protuberans (DFSP) and 3 cases (2.4%) of metastatic origin. Most cases of SCC were moderate differentiated grade II. 51 BCC cases (89.5%), followed by 29 SCC (82.9%), 3 BASOSCC (100%) and one case of MM (14.3%) were found in head and neck area. In the extremities; 5 cases of BCC (9.8%), 6 cases of SCC (17.1%), 3 cases of CTCL (23%), 5 cases of MM (71.4%), 4 cases of KS (100%) and 1 case of breast metastasis (33.3%) were found. In the trunk region, 1 case of BCC (2%), 10 cases of CTCL (77%), 1 case of melanoma (14.3%), 2 cases (100%) of DFSP and 2 cases (66.7%) of metastases from lung carcinoma. *Conclusion:* The most common skin cancer seen in albaha province is Basal cell carcinoma (46%), followed by Squamous cell carcinoma (28.2%) and Cutaneous T Cell Lymphoma (10.5%), however other tumors such as Malignant Melanoma, Kaposi's sarcoma, Baso-squamous cell carcinoma and Dermatofibrosarcoma Protuberans are encountered, their prevalence did not exceed 10% of the tumors obtained. The most frequent site of primary skin cancer was in the head and neck (67.7%), followed by the extremities and trunk region respectively. Our study findings were compared with some studies in the kingdom of Saudi Arabia and some countries. (Ref: Hasan S. AL-Ghamdi. The prevalence and histological patterns of malignant skin tumors in Albaha, Saudi Arabia: A retrospective study. *Medical Science*, 2020, 24(105), 2767-2774), (Image: EikoOjala).

The prevalence and histological patterns of malignant skin tumors in Albaha, Saudi Arabia: A retrospective study

Hasan S. AL-Ghamdi

Introduction: The dermatological malignancy has wide varieties in their prevalence all over the world and even within the same country depending on multifactor including environmental as exposure to ultraviolet rays, chemicals and host-related factors such as genetic vulnerability, age, sex, presence of precursor lesions, and pre-existing medical conditions. In Saudi Arabia, several studies have been conducted aimed to investigate the prevalence and histological pattern of malignant dermatological tumors; of these areas Dammam, Qassim, Jeddah, and Asir, but, up to now, there are no studies to investigate both the prevalence and pattern of malignant skin tumors in Albaha province so the aim of this study is to assess the prevalence of skin cancer in Albaha province.

Methods: This study was done after taking the ethical approval from the ethical committee of Faculty of medicine, Albaha University. A retrospective study was carried out in Albaha province hospitals (Governmental and some private hospitals) following the roles applied for conducting the research. All recorded dermatological cancer cases between January 2010 and December 2019 with both histological diagnoses and their clinical data were obtained.

Results: A 124 skin cancer cases were obtained and the median age of the patients was 58 years, 91 (73%) patients were males and 33 were female (26.6%). 57 cases (46%) of Basal Cell Carcinoma (BCC), 35 cases (28.2%) for squamous cell carcinoma (SCC), 13 cases (10.5%) for cutaneous T cell lymphoma (CTCL), 7 cases (5.7%) for malignant melanoma, 4 cases (3.2%) for Kaposi's sarcoma (KS), 3 cases (2.4%) for Baso-squamous cell carcinoma (BASOSCC), 2 cases (1.6%) for dermatofibrosarcoma protuberans (DFSP) and 3 cases (2.4%) of metastatic origin. Most cases of SCC were moderate differentiated grade II. 51 BCC cases (89.5%), followed by 29 SCC (82.9%), 3 BASOSCC (100%) and one case of MM (14.3%) were found in head and neck area. In the extremities; 5 cases of BCC (9.8%), 6 cases of SCC (17.1%), 3 cases of CTCL (23%), 5 cases of MM (71.4%), 4 cases of KS (100%) and 1 case of breast metastasis (33.3%) were found. In the trunk region, 1 case of BCC (2%), 10 cases of CTCL (77%), 1 case of melanoma (14.3%), 2 cases (100%) of DFSP and 2 cases (66.7%) of metastases from lung carcinoma.

Conclusion: The most common skin cancer seen in albaha province is Basal cell carcinoma (46%), followed by Squamous cell carcinoma (28.2%) and Cutaneous T Cell Lymphoma (10.5%), however other tumors such as Malignant Melanoma, Kaposi's sarcoma, Baso-squamous cell carcinoma and Dermatofibrosarcoma Protuberans are encountered, their prevalence did not exceed 10% of the tumors obtained. The most frequent site of primary skin cancer was in the head and neck (67.7%), followed by the extremities and trunk region respectively. Our study findings were compared with some studies in the kingdom of Saudi Arabia and some countries.

Medical Science, 2020, 24(105), 2767-2774

Voice and Speech Changes after Obstructive Sleep Apnea Surgery

Hatem Ezzeldin Hassan

Surgical intervention for patients with snoring and sleep apnea may change the voice acoustics and speech resonance. The objectives of current research is to study the changes in the acoustic characteristics of the voice and speech of the patients after surgical correction. This study included 52 adult patients (40 males and 12 females) with snoring and/or OSA syndrome. The patients ranged in age from 22 to 57 years. The patients were classified into three groups. Patients in group 1 had retro-palatal obstruction with redundant soft palate. Ten patients in this group also had large tonsils. Patients in group 2 presented with retro-palatal obstruction and had redundant soft palate. However, group 3 patients had retro-lingual obstruction because of a large tongue base. Group 1: 24 patients underwent uvulopalatopharyngoplasty (UPPP); Group 2: 16 patients underwent laser-assisted uvulopalatoplasty (LAUP) and Group 3: 12 patients underwent tongue base suspension technique (TBS). The patients' voices were subjected to acoustic analysis and Nasometric evaluation preoperatively and three months postoperatively. The results showed Formant changes occurred in patients subjected to TBS and no changes occurred in patients after UPPP and LAUP. We concluded that surgical intervention (UPPP, LAUP, and TBS) in sleep apnea patients results in mild voice and speech changes in some patients detected only by acoustic analysis of the patients' voices.

Medical Science, 2020, 24(105), 2775-2781

Bacterial isolation of human follicular fluid and potential impact on *in vitro* fertilization outcomes

Samah Omar Noor

Infertility is a global reproductive health issue impacting individuals and society and recognized as a cause for concern in Saudi society. It is medically defined as a failure to achieve conception after one year or more of regular unprotected sexual intercourse. Therefore, a lot of couples choose to have *in vitro* fertilization (IVF) procedure. Follicular fluid (FF) is one of the potential sources of microorganisms that may affect *in vitro* fertilization (IVF) outcomes. **Aim:** This study investigated the bacterial isolates within 50 FF samples of women undergoing IVF procedure. **Methodology:** All samples were identified according to morphological features, biochemical tests, and molecular techniques. **Results:** Nine bacterial species belong to five genera were detected within 38% of FF samples and 62% did not show any bacterial growth. The bacterial species were identified as *Bacillus subtilis*, *Corynebacterium freneyi*, *C. amycolatum*, *C. aurimucosum*, *Enterococcus faecalis*, *Streptococcus anginosus*, *S. agalactiae*, *Staphylococcus aureus*, and *S. epidermidis*. The FF microorganisms were not associated with IVF outcomes. **Conclusion:** Follicular fluid is not sterile but have no significant adverse effects of FF microbes on the IVF outcomes. Furthermore, microbiological analysis of FF samples for women undergoing IVF procedure may give an opportunity to initiate antimicrobial treatment prior to the next conception.

Medical Science, 2020, 24(105), 2782-2791

Impact of yoga-walking-pilates, yoga-walking and yoga-pilates training regimens on physical, physiological and psychological elements among males

Ibrahim Syed

Objective: The study's purpose was to compare three methods of training on physical, physiological and psychological variables of sedentary males. *Method:* Eighty males 18-25 years divided into four groups. Yogic-Walking (YW, n = 20), Yogic-Pilates (YP, n = 20), Yogic-Walking-Pilates (YWP, n = 20) and a Control Group (CG, n = 20). The experimental groups trained for 12 weeks, 3 times per week 60 min per session. Tests were assessed before and after training on physical, physiological and psychological variables. ANOVA was used for analysis. *Findings:* In sit & reach, sit ups and BHT, the YWP and YW showed greater mean values than the YP (P < 0.05). All groups reported similar mean values in SBP, DBP and PR (P > 0.05). In self efficacy, the YWP indicated greater mean value than the YP (P < 0.001). In self esteem, the YW had significantly more mean value than the CG (P < 0.05). *Applications:* YWP and YW groups showed a significant training effect in flexibility, muscular endurance and breath holding time. This apart, the combined YWP group had a greater training impact on self efficacy than the YP group.

Medical Science, 2020, 24(105), 2792-2801

Therapeutic marks of the acute coronary syndrome: a single-center familiarity

Hussain Gadelkarim Ahmed, Hamad Fahad Jarallah Aljarallah, Abdulrahman Abdulaziz Abdulrahman Aljarallah, Kheder Mohamed Altayep

Background: Acute coronary syndrome is a major health concern with an increase in the sedentary lifestyle in Saudi Arabia. With the spectrum ACS clinical presentations, choosing an appropriate treatment guideline is a challenge. Therefore, this study aimed to explore the therapeutic marks of ACS in a Single-center acquaintance. *Methodology:* Information regarding 156 ACS patients were re-claimed from King Khalid hospital, Ha'il, Northern Saudi Arabia. All patients were admitted to the hospital during a year period and diagnosed as having ACS. *Results:* Most of the patients in the study were presenting with STEMI followed by NSTEMI and unstable angina, representing 83/156(53%), 43/156(28%), and 30/156(19%), respectively. For males, the most common ACS type was STEMI 69/130(83%) followed by NSTEMI 38/130(29%), whereas, STEMI 17/26(65%) was the most common type in females followed by unstable angina 7/26(27%). The risk of NSTEMI associated with males, the relative risk (RR) and the 95% confidence interval (CI) was; RR (95%CI) = 1.52 (0.6615 to 3.4926), P = 0.3239, z statistic = 0.986. The risk of unstable angina associated with females, the RR (95%CI) = 1.5217 (0.7305 to 3.1699), P = 0.2621, z statistic = 1.121. *Conclusion:* ACS is prevalent in Northern Saudi with the most common types of STEMI followed by NSTEMI and unstable angina. Males are more susceptible to the disease than females. The therapeutic targets involved in the management of patients are in aligned with the globally used guidelines with the expectation of the absence of Ticagrelor and Prasugrel antiplatelet regime.

Medical Science, 2020, 24(105), 2802-2811

Anorexia in acute appendicitis: A non-specific factor with significant accuracy in diagnosis

Aditya Mundada, Vikram Vaidya, Yeshwant Lamture

Background: Acute appendicitis is a common disease. Early diagnosis and treatment may decrease the associated morbidity and mortality associated with it. The availability of advanced imaging techniques such as computed tomography may not be available in a resource limited setting and thus patient's history and clinical symptoms are crucial in diagnosing appendicitis in its acute stage. Most of the patients have anorexia as a symptom and the lack of it reduces the chances of having appendicitis. *Objective:* To determine the outcome of anorexia in patients of appendicitis with reference to its sensitivity, specificity, positive predictive value, negative predictive value and diagnostic accuracy. *Methods:* The patients clinically presenting as acute appendicitis and undergoing operative intervention were recruited in the study. History of anorexia was recorded in all the patients. The presence and absence of anorexia were evaluated and compared with the histopathology of the appendix. Parameters of diagnostic accuracy were measured. *Results:* The diagnostic accuracy of anorexia in our present study was found to be 91.25%. It had high sensitivity and PPV of 95.31% and 93.85%. The specificity and NPV of anorexia was found to be 75% and 80%. *Conclusion:* Anorexia is an important symptom which increases the probability of acute appendicitis.

Medical Science, 2020, 24(105), 2812-2816

RESEARCH

Patterns of oral inflammatory cells infiltrate associated with cigarette smoking

Hussain Gadelkarim Ahmed, Muanera Ali Alqufeye, Ghaida Ali Alsulaiman, Latifah Lafy Alenezi, Reem Khaled Almuslumani, Ghofran Mohammed Alhussain, Ahad Khaled Alenezi, Adwaa Fahad Algharbi, Amjad Eid Alanazi, Noeer Khleef Alshammari

Background: Oral exfoliated cytology is one of the effective screening and diagnostic tools for early detection of oral mucosal diseases. *Methodology:* This was a cross-sectional case-control study conducted in Ha'il city, Northern Saudi Arabia Smoked tobacco users were ascertained as cases and non-tobacco users were ascertained as controls. Oral cytological materials were obtained by brushing of the buccal mucosa. *Results:* Acute inflammatory cells infiltrate were identified in 9 cytological smears, 5 were from the cases, and 4 from controls. Chronic inflammatory cells infiltrate were identified in 10 oral cytological smears 8 were from the cases and 2 from controls. The risk of chronic inflammatory cells infiltrates associated with tobacco smoking, the odds ratio (OR), and 95%

confidence interval (95%CI) was, OR (95%CI) = 2.9565 (0.6084 to 14.3667), P = 0.1790, z statistics = 1.344. Fungal infection was identified in 13 cytological smears, 10 belongs to cases and 3 belongs to controls. The risk of oral fungal infection associated with tobacco smoking, OR (95%CI) was 1.344(0.6573 to 9.3678), P = 0.1799, z statistics = 1.341. *Conclusion:* Exposure to tobacco products can induce inflammatory events in the buccal mucosa, which can be identified by oral exfoliated cytology. Fungal and viral oral infections are common among tobacco users. Further research is needed to explore the hidden causes of inflammation and predict their expected complications.

Medical Science, 2020, 24(105), 2817-2825

PERSPECTIVE

Digital occlusal analysis using T scan: Its role, mechanism, accuracy and application

Arihant Bathiya, Sweta Kale Pisulkar

Occlusal considerations play a vital role for in any treatment success. Occlusion is speciality of interdisciplinary science. It attracts the interest of various specialties like Prosthodontics, Oral surgery, Implantology, Periodontics, Pedodontics, Endodontics. Various method and techniques are available for adjusting occlusion, articulating paper being one of the common and traditionally used methods. But it has certain considerable drawbacks like inability to measure force and time and the sequence of teeth contacts. These inherent shortcomings are totally overcome using T scan. In various field like myofunctional and temporomandibular joint dysfunction, T scan is proven advantageous. The purpose of this review article is to offer an insight on T scan treatment modality, with its mechanism, assemblage, advantages, limitations for better understanding and clinical applications.

Medical Science, 2020, 24(105), 2826-2834

RESEARCH

Polymorphism of matrix metalloproteinase-2 (C⁻¹³⁰⁶→T) and tissue inhibitors of metalloproteinase-2 (G³⁰³→A) genes in patients with enterocutaneous fistula

Voitiv Yaroslav, Usenko Oleksandr, Dosenko Viktor, Dzhemiliev Ali

Aim: To analyze the frequency of polymorphic variants of matrix metalloproteinase-2(C⁻¹³⁰⁶→ T) and tissue inhibitors of metalloproteinase-2(G³⁰³→ A) genes in patient's with enterocutaneous fistula. *Materials and methods:* The object of the study comprises 63 patients with enterocutaneous fistula and connective tissue pathology who were treated in the Shalimov National Institute of Surgery and Transplantology during 2016-2019. Laboratory, genetic, histological studies and statistical analysis were performed. *Results:* As a result of genetic and statistical analysis of the matrix metalloproteinase-2(C⁻¹³⁰⁶→T) and tissue inhibitors of metalloproteinase-2 (G³⁰³→A) gene single nucleotide polymorphisms, genotype variants have been identified that are associated with the risk of enterocutaneous fistula development. All models of inheritance were analyzed and the best model with the lowest Akaike information criterion, which turned out to be a recessive model, has been determined. *Conclusions:* Enterocutaneous fistula is 1,58 times more common in carriers of homozygous GG genotype of the tissue inhibitors of metalloproteinase-2(G³⁰³→A) gene and twice less common in heterozygotes GA (21.1% vs. 40%, p=0.057). Carriers of minor homozygotes of AA genotype in the group with enterocutaneous fistula were not detected, while a similar genotype in the control group was found in 10% of cases. It's statistically significant that in the group of patients with enterocutaneous fistula the single nucleotide polymorphisms of the matrix metalloproteinase-2(C⁻¹³⁰⁶→T) gene's promoter doesn't differ from the control group.

Medical Science, 2020, 24(105), 2835-2843

ANALYSIS

Patterns of the shared symptoms of anxiety among medical students in Saudi Arabia

Saadalnour Abusail Mustafa

Objective: the objective of this study was to assess the patterns of shared symptoms of anxiety among medical students in Saudi Arabia. *Methodology:* This is a cross-sectional study enrolled in 316 Saudi medical students in the faculty of medicine, University of Hail, Northern Saudi Arabia. All participants were selected randomly regardless of level, age, and sex. All medical students in basic years (years 1, 2, and 3) as well as (years 4 and 5) phases of the academic year 2019–2020 were administered the questionnaire. The inclusion of the subjects was voluntary. *Results:* The symptoms of anxiety were found to be prevalent in 30.4% of the medical students. Regarding gender, the present study showed a higher prevalence rate of anxiety symptoms in female medical students (47.1%) than males (25%). For anxiety status, the prevalence of each category was 69.6% (no anxiety), 17.6% (mild anxiety), and 12.8% (moderate anxiety). The most distributed symptoms of anxiety were fear worst which is found in 212(67.1%) of the study population, followed by face flushed 201(63.6%), unable relax 166(52.5%), terrified 149(47.2%), fear losing control 134(42.4), hear pounding 118(37.3%) and scared 99(31.3%) respectively. *Conclusion:* Anxiety symptoms are prevalent among medical students of the University of Hail, faculty administration and academic staff should create a reactive measure to reduce anxiety among medical students and to provide educational counseling and psychological support for students to overcome these problems.

Medical Science, 2020, 24(105), 2844-2851

RESEARCH

Microhardness of early enamel lesions in deciduous teeth treated with an infiltrant resin, a fluoride varnish and GC tooth mousse

Leila Basir, Razieh Meshki, Nadereh Rahbar, Targol Amini

Background and Aim: Early enamel caries in primary dentition are highly prevalent and conservative treatments are needed at this stage. Considering the structural differences between primary and permanent teeth, this study aimed to compare the microhardness of early enamel lesions of deciduous teeth, treated with an infiltrant resin, a fluoride varnish and GC Tooth Mousse. *Materials and Methods:* Thirty six intact primary canines were included in the present in-vitro study. They were immersed in a demineralizing solution and incubated at 37° C for 4 days. The samples were randomly assigned into three study groups (rein infiltrate (group 1), GC Tooth Mousse (group 2) and fluoride varnish (group 3); 12 samples within each) and differently treated. Microhardness was evaluated before and after the remineralization process and after treatments for each specimen using a Vickers hardness testing machine. Data analysis was performed using paired T test on SPSS v22 software. *Results:* In group 2, the microhardness coefficient was increased significantly (P=0.04) from 133.3 to 155.4 (+22.1 V). The microhardness coefficient for group 1 was increased, but not significantly, (P=0.2) from 139.7 to 152.4. In group 3, the microhardness coefficient was significantly (P= 0.001) increased from 138.6 to 178.3 (+39.7 V). *Conclusion:* The resin infiltrate enhanced the surface microhardness, but not significantly. The fluoride varnish and the tooth mousse both increase the surface microhardness of enamel by improving the remineralization process.

Medical Science, 2020, 24(105), 2852-2860

ANALYSIS

Knowledge and attitudes towards the novel coronavirus (Covid-19) among health care college students in Makkah, Saudi Arabia

Mariam Mojally, Yosra Al-Hindi

Background: The COVID-19 flare-up is now a worldwide pandemic. Regulation of the flare-up requires the best of general wellbeing activities and aptitudes. Slips up will happen due to the human instinct of both those contaminated and the wellbeing responders themselves. Significant for all who are giving wellbeing and clinical administrations during this occasion is to perceive the wide effect of such an infection flare-up. It is important to comprehend the worries of the individuals who must help the endeavors to contain the flare-up, including the political, monetary, and social effects of each activity required in the general exertion to help worldwide security corresponding to COVID-19. *Objective:* We aimed to investigate the knowledge and attitude of health care college students towards Covid-19 in Makkah, Saudi Arabia. This analysis of data from that region on student's recognition and aviation to the state of preventing and controlling of (Covid-19) that can be beneficial in implementing awareness and educational programmes about this disease. *Methods:* The study type was a cross-sectional that was conducted on health care college students in Umm Al-Qura University at Makkah. The study design was a questionnaire containing knowledge and attitude items was completed by 750 participants. *Results:* In general, > 90% of the health care students recognised Covid-19 aetiology, mode of transmission, risk factors, and signs and symptoms. Knowledge scores showed that 91% of participants had enough knowledge. Medical and nursing undergraduates had significantly better knowledge compared with other health care college students (p = 0.001). Concerning attitude, > 90% of health care students revealed a positive attitude toward Covid-19. *Conclusion:* Health care college students showed an increased level of knowledge and positive attitude toward Covid-19. There was an observable distinction in knowledge level between different colleges. However, regular informative involvement and expert efforts are up to the present time required.

Medical Science, 2020, 24(105), 2861-2869

Knowledge of hypothyroidism associated disorders and symptoms: A Saudi community-based study

Fayez Saud Alreshidi, Nahlah Fahad Alreshidi

Background: Hypothyroidism is one of the missed diagnosed diseases with high prevalence rates in several geographical regions of Saudi Arabia. The current study aimed to assess the knowledge of hypothyroidism associated disorders and symptoms in a Saudi community-based study. *Methodology:* This was a descriptive cross-sectional study, included 900 Saudi volunteers recruited in Hail Region. The participants were randomly recruited in the current study irrespective of their age, sex, or other demographical characteristics. *Results:* Around 645/900(72%) of the participants were able to define hypothyroidism (117/170(69%) were males and 528/730(72%) were females). Around 475/900(53%) of the participants believed that Hypothyroidism is diagnosed by measuring TSH level in the blood (76/170(45%) were males and 399/730(55%) were females). *Conclusion:* Knowledge towards hypothyroidism symptoms and related disorders is relatively low amongst the Saudi community. Implementation of a sustainable hypothyroidism control program is deemed necessary in Northern Saudi Arabia.

Medical Science, 2020, 24(105), 2870-2876

CASE REPORT

A case series on Mucocele

Pooja Dhole, Lohe V.K, Ravindra P. Kadu, Ayesha Sayyad, Dhiran Talatule

Lips disclose a diversified group of lesions fluctuating from developmental, ulcerative, inflammatory and neoplastic conditions. In the salivary gland an abnormal change in structure of glands of traumatic origin are, formed due to perforation of main duct of a minor salivary gland with consequential leakage of the mucus into the fibrous connective tissue resulting in formation of cyst like cavity and this is the mucous retention phenomenon or mucocele. The wall of this cavity is formed by crushed bundles of collagen fibrils and it is filled with mucin. The most frequent location of mucocele is lower lip and mostly the cause is trauma or habit of lip biting. Diagnosis is chiefly clinical because of its pathognomonic appearance. The various sites for mucocele are the lower lip, the floor of mouth and buccal mucosa. These case series present three cases of mucocele found on lower lip.

Medical Science, 2020, 24(105), 2877-2882

ANALYSIS

Knowledge and attitude of parent toward pediatric lumbar puncture and its relationship with demographical factors in Al-ahsa, Saudi Arabia

Yameen Almatawah, Fadi Busaleh, Ahmed Alkhars, Wejdan Almarzooq, Mohammed Almarzooq, Abdullah Alkhars, Abdulhakim Almarzooq, Alreem Albaqshi, Fatimah Alkhars

Introduction: Lumbar puncture (LP) or spinal tap is a procedure where a sample of the cerebrospinal fluid is extracted utilizing a needle. Despite the fact, LP is safe and has therapeutic and diagnostic value; many parents refuse to give consent for performing the procedure on their children which hinder the process of diagnosis and treatment. The purpose of this study is to describe the level of knowledge and attitudes toward LP of parents in AlAhsa and its correlation with various factors like age, ethnicity, level of education, socio-economical state. *Methods:* This is a cross-sectional study that evaluated the knowledge and attitude of parents of LP and its correlation with demographical factors in AlAhsa, Saudi Arabia. Data were obtained through an online questionnaire. Basic statistical parameters were calculated including frequency mean and proportions. Independent T-test and ANOVA test were used to test for association. *Results:* A total of 466 responses have been included in the study, of which it showed that only 12.6% of the participant refused to give consent to LP when needed. Only 8.40% had a high level of knowledge. However, 61.1% of respondents were categorized with high level of attitude. A significant association was observed between knowledge level groups and total attitude scores towards LP, the higher the total knowledge scores, the better the total attitude scores towards LP ($p < 0.001$). *Conclusion:* Despite the lack of knowledge and the misconception of LP, parents' attitude showed high levels of acceptance. Further community education regarding the importance of LP and the safety of procedures is highly recommended.

Medical Science, 2020, 24(105), 2883-2892

CASE REPORT

Comprehensive physical therapy improves functional recovery in a rare case of stroke associated with asthma: A case report

Ruchika Zade, Priyanka Sahu, Gunjan Shende, Pratik Phansopkar, Ragini Dadgal

Background: Globally, according to the WHO, cerebrovascular (stroke) injuries are the second largest cause of death and the third largest cause of disability. Sudden loss of any neurological feature due to disruption to the blood flow is called stroke. Most of the stroke patients develop permanent disability. Chronic inflammation in asthma patients due to their growing pathophysiology of inflammation and immune dysfunction may influence the pathogenesis of cardiovascular disorders. In line with this, some studies have indicated a high risk of cardiovascular disorders in asthma, including myocardial infarction, angina, heart failure, and stroke. During vigorous activity, if there is no enough supply of oxygen to the brain it can lead to acute stroke with features of hemiparesis, aphasia, loss of balance and coordination, spasticity, etc. There is increased risk of stroke when associated with asthma. *Clinical findings:* The patient was unable to maintain balance, weakness in the right upper and lower limb, pain in shoulder joint, and restrictions in daily activities. *Diagnosis:* The features involved are according to the area of involvement in the brain. In this case, there is infarction of left corona radiata and lentiform nucleus. After medical interventions, a well-structured 9 weeks physical therapy treatment was initiated. *Conclusion:* This case report offers a crucial function for physical therapy in a patient's extensive rehabilitation that helped her with through strength and range of motion, coordination and improvements in routine everyday living activities, in pain relief over the shoulder joint.

Medical Science, 2020, 24(105), 2893-2899

ANALYSIS

Knowledge and Attitudes of School Teachers toward Hearing Problems with Students in General Elementary Schools in Makkah, 2019

Abdullah F. AlOtaibi, Hisham Abdulsalam Bashawri, Hind Furaj AlOtaibi, Ali H. Alqahtani, Ahmed S. Alzahrani, Moteab Sayer AlOtaibi

Background: Schoolteachers can play a significant role in maintaining and improving student's health. Hearing loss causes delays in speech and language, which often result in poor school performance. *Objectives:* To identify the level of knowledge and attitude of elementary school teachers in Makkah toward hearing problems in children in the classroom setting. *Subjects and methods:* Analytical cross-sectional study was conducted from May 2019 to December 2019 among 390 of elementary schoolteachers working

in governmental schools, in Makkah. Self-administered Arabic questionnaire was used. It includes demographic and professional criteria, knowledge of teachers regarding children with hearing problems and their attitudes towards children with hearing problems. *Results:* The study included 390 teachers. Their age ranged from 26 to 60. Only 4.9% expressed good level of knowledge about hearing problems. Younger, lowest income, more qualified teachers, computer sciences and special education teachers, those having a degree in special education, lower experienced, had ≤ 20 students in a class, teaching students with hearing problems, who had currently students with hearing problems, and had currently students using hearing aids were more knowledgeable about children's hearing problems compared to their counterparts. Overall, 14.6% of teachers had positive attitude towards children with hearing problems. The most obstacles the teachers feel that the students with hearing loss may suffer in classroom were bullying/ignorance, communications, and educational process. Most of the teachers recommended -as the most appropriate educational placement for DHH students-residential institute and special schools for deaf students. *Conclusion:* Knowledge and attitude of elementary school teachers in Makkah regarding hearing problems was mostly poor-intermediate.

Medical Science, 2020, 24(105), 2900-2917

Examining the adherence of simvastatin prescription in diabetic patients: a descriptive study at Hera General Hospital Makkah (HGH)

Majd Alharazi, Nouf Almalki, Hetaf Alhabashi, Rahaf Felemban, Raghad Qasim, Asala Assas, May Almutairi, Mayam Alharthy, Raghad Alsharif, Yosra Alhindi

Introduction: Cardiovascular disease (CVD) is a leading cause of morbidity and mortality. In the gulf countries specially in Saudi Arabia Diabetes type 2 is becoming the highest in the world, affecting around 30% of adults. In fact, diabetes is associated with an increased risk of cardiovascular disease (CVD). The management of high lipid levels in diabetes is a key aspect within the multifactorial technique to save CVD in people with type 2 diabetes. Several meta-analysis studies have in reality validated the effects of statin remedy. *Aims:* To look into the adherence of simvastatin in patients with type 2 diabetes. *Methods:* A descriptive case looking at 1680 diabetic patients conducted in Hera General Hospital. Data were retrieved from clinical files from January 2018 until December 2018. Data evaluation performed using the SPSS software. *Results:* Almost 95 percent of the population around was older than 45 years. Almost all patients (97%) were on statin therapy. Treatment goal for an LDL less than 2.5 mmol/l was found in (20%) patients. Diabetic men were more likely than diabetic women to receive a statin prescription ($P < 0.05$). *Conclusion:* Data from 2018 showed that diabetic HGH patients showed only a small proportion of patients with diabetes have met the LDL treatment goal this was mainly because of poor adherence. This underline the need for better monitoring, better use of available medicines and new treatment options for better quality of life.

Medical Science, 2020, 24(105), 2918-2924

RESEARCH

Is smokeless tobacco used to mitigate the daytime sleepiness and depression? A case-control study in Tabuk City, Saudi Arabia

Izzaddinn Elawad Ahmed, Khalid Saad Alqarni, Mohammed Ahmed Mesaik, Yassin Ibrahim Mohammed, Hyder Osman Mirghani, Asaad Khalid

Background: smokeless tobacco use is prevalent worldwide, however, its association with depression and daytime sleepiness is not well-studied. This study aimed to assess the association between depression, daytime sleepiness, and smokeless tobacco use. *Methodology:* This case-control study was conducted among 212 male subjects (84 smokers vs. 128 controls) in Tabuk City, Kingdom of Saudi Arabia during the period from January to April 2020. Cases were matched with controls for age. A structured questionnaire based on demographic data and the Arabic versions of the Epworth Sleepiness Scale and HADS questionnaires were used to assess the daytime sleepiness and depression respectively. The statistical Package for Social Sciences (SPSS) was used for data analysis and the ethical committee of the University of Tabuk approved the research. *Results:* There were 84 males smokers and 128 non-users control subjects, their ages were 37.65 ± 10.74 , vs. 34.21 ± 12.91 years with no significant statistical difference, P -value > 0.05 , depression was found in 38.1% of smokers and 4.7% of non-smokers and the daytime sleepiness was reported in (35.7% subjects vs. 17.2% of controls), with a significant statistical difference, P -values < 0.05 . It is interesting to note that 57.1% of smokers tried to quit due to illness and social factors, the main barriers were dependence and stress. *Conclusion:* depression and daytime sleepiness were common among smokeless tobacco users compared to their non-user counterparts. More than half of smokers attempted quitting due to illness and their feeling that smokeless tobacco is not social. Barriers to quitting were dependence and stress felt after stopping. Studies addressing barriers to quitting are recommended.

Medical Science, 2020, 24(105), 2925-2931

ANALYSIS

RETRACTED: Combination of plasma NGAL, Cystatin C and NT-proBNP in the diagnosis of cardiorenal syndrome type 1

Hao Thai Phan, Bao Bui Hoang, Minh Van Huynh

Medical Science, 2020, 24(105), 2932-2943

CASE REPORT

Enteric pancreatitis: Rare association in young elderly

Sanyukta Hepat, Abhijit Wadekar, Parth Godhiwala, Sunil Kumar, Nitin Raisinghani

In tropical nations Enteric fever is a common infectious disease. Acute pancreatitis is one of the rare complications of enteric fever. In this case report is a 65 years old male patient who presented with fever and abdominal pain and diagnosed as acute pancreatitis with enteric fever. Acute pancreatitis is an unusual presentation of enteric fever and should be kept in mind when patients in endemic countries like India present with fever and abdominal pain. This will prevent delay in starting appropriate treatment.

Medical Science, 2020, 24(105), 2944-2947

ANALYSIS

Prevalence and determinants of physical activity among adult patients attending primary health care centers in Makkah Almokarramah, Saudi Arabia 2018

Abdul Rahman Talal Taeyb, Adel Alghamdi

Background: Physical activity can be defined as any movement of the body that requires energy expenditure. This includes any motion you do through the day excluding sitting still or lying down. For example, walking to class, taking the stairs, mowing the lawn, and even cleaning your house can be considered physical activity. Exercise is a type of physical activity but not every physical activity is exercise. Exercise is a planned, structured, and repetitive activity for improving or maintains physical fitness. Physical inactivity is recognized as one of the leading risk factor for mortality around the world that leads to an estimated 3.2 million deaths globally. Saudi Arabia has undergone a drastic change in life style and eating habits. Burden of life style related diseases such as diabetes, coronary artery diseases and hypertension has increased and these diseases are associated with physical inactivity. These diseases have become the principal cause of morbidity and mortality in Saudi Arabia. *Aim of this study:* To describe the prevalence and factors associated with physical activity among adult patients who attend primary health care centers in Makkah city, Saudi Arabia. *Methodology:* Cross sectional design will be adopted. The study will be conducted in Makkah city, Saudi Arabia. The present study was conducted at primary health care centers In Makkah city, Cluster sampling technique was be applied on the three main sectors inside Makkah city (alzahir, alka'akiah, and ala'adl). Systematic random sampling was be adopted to select persons .The sample (385) from adult patients aged 18 years and above who will attend primary health care (PHC) centers. *Results:* the response rate was (100%) participants, majority of participants are male were (69.00%) while female's was (31.00%). The majority of our participants were at overweight and obese (51.0%), a significant relation between BMI and Physical activities *Conclusion:* Physical activity likely has a greater role in promoting health in disease populations than previously thought and may confer substantial reductions in disease burden Primary health care centers in Makkah should be active and able to provide health advice and behaviour to their patients. There will a strong intention to increase physical activity among physically inactive primary care physicians (PHCPs). *Recommendations:* The priority for variables classified as consistently associated with physical exercise should be to apply these findings to improving interventions. The no modifiable demographic variables suggest subgroups of relatively inactive adult people that need to be targeted for special intervention programs. Subgroups at risk for being inactive include adult and children developed to change these variables through education, family programs, or environmental and policy change. Future research could examine prospectively whether increases in physical activity in unhealthy disease adults lead to a healthier status.

Medical Science, 2020, 24(105), 2948-2962

CASE REPORT

Resin bonded fixed partial denture as treatment option for midline spacing in mandibular anteriors: A case report

Kashish Mangal, Mithilesh M. Dhamande, Seema Sathe, Ruchika R. Mandhane, Rupali M. Patel, Pragati Goyal

The benefits of conservative dentistry have been realised and practiced by the dentists predominantly in the recent times. A constant choice of least invasive treatment modality in relative comparison to other invasive procedures has gradually shifted the dynamics of dental treatment modality. In a similar approach, the following case report presents rehabilitation of a young patient presenting with mandibular diastema using resin bonded fixed partial denture, with a detailed description on the clinical procedures associated.

Medical Science, 2020, 24(105), 2963-2967

ANALYSIS

Value of plasma NGAL in the in-hospital all-cause mortality prognosis of acute heart failure or acute decompensated heart failure

Hao Thai Phan, Bao Bui Hoang, Minh Van Huynh

Background: Renal dysfunction is common in patients with AHF or ADHF and is associated with significant early and late morbidity and mortality. Neutrophil gelatinase-associated lipocalin (NGAL) is an early predictor of acute kidney injury and adverse events in various diseases; however, in AHF or ADHF patients, its significance remains poorly understood. This study was aimed to evaluate

the in-hospital all-cause mortality prognostic value of NGAL in AHF or ADHF patients. *Methods:* there were 139 patients with AHF or ADHF in the department of cardiovascular resuscitation and Interventional cardiology at Ho Chi Minh City 115 People Hospital from November 2018 to May 2019. This research was a prospective cohort study. *Results:* there were 21 cases (rate 15.1%) in-hospital all-cause mortality or serious illness, mean age 66.12 ± 15.77 , men accounted for 50.4%. The optimal cut-off of NGAL for in-hospital all-cause mortality prognosis is > 399.58 ng/ml, AUC is 0.668 (95% CI 0.58-0.75, $p = 0.0163$), sensitivity 71.43 %, specificity 66.95 %, positive predictive value 27.8%, negative predictive value 92.9%. Patients were divided into two groups according to their plasma NGAL levels: high level (≥ 400 ng/ml) and low level (< 400 ng/ml). Kaplan-Meier analysis revealed that the high level plasma NGAL group exhibited a worse prognosis than the low level plasma NGAL group in all-cause death/serious illness (Hazard Ratio 2.56; 95%CI 1.35-4.84, $P=0.0039$). Independent predictors of in-hospital-all-cause-mortality/serious illness were identified using multivariable Cox proportional-hazards regression models with backward-stepwise selection method consisted of two variables: level of NGAL ≥ 400 ng/ml, mean blood pressure at admission. *Conclusions:* Plasma NGAL ≥ 400 ng/ml and mean blood pressure on admission were independent predictors of in-hospital all-cause mortality/serious illness in patients with AHF or ADHF. The survival probability in hospital of high level NGAL (≥ 400 ng/ml) groups were lower than that of low level NGAL (<400 ng/ml), difference was statistically significant $\chi^2 = 7.99$; $p = 0.0047$ by Kaplan-Meier curve.

Medical Science, 2020, 24(105), 2968-2978

The immediate outcome of thrombolytic therapy in ST-elevation myocardial infarction

Fadil Agla Bonyan, Laith G. Shareef, Assad Al-waily

Background: Plaque rupture and thrombus development play a major role in the genesis of acute coronary occlusion. The introduction of thrombolytic therapy was the main advance in the management of acute ST-elevation myocardial infarction (STEMI) since over 90 percent of such patients have complete occlusion of the culprit artery. Due in part to insufficient availability of primary PCI, fibrinolysis persists a vital therapeutic option. The earlier reperfusion occurs, the greater the benefit that can be achieved. The survival rate is elevated when thrombolytic drugs are prescribed within the first 4 hours after the onset of symptoms, especially, within the first seventy minutes. *Objective:* To evaluate the immediate effect of fibrinolytic therapy in patients admitted to the coronary care unit with acute myocardial infarction. *Methods:* A retrospective study was carried out at Baghdad Teaching Hospital/ cardiac care unit (CCU) during the period from June 2018 – January 2019. All patients with chest pain with confirmed ST-elevation MI were included (40) patients. The patients divided into two groups: Group no.1 patients receive thrombolytic therapy within a period less than three hours from onset of chest pain, Group no. 2 patients receive thrombolytic therapy within a period between three hours to twelve hours from onset of chest pain. *Result:* A total of 40 patients who were presented with STEMI were included in this study. The patients were 31(77.5%) males and 9 (22.5%) were females. The mean age was 61.27 ± 9.47 . There was a statistically significant relationship between risk factors, diabetes mellitus ($P=0.004$), ischemic heart disease ($P= 0.029$), hypertension ($P=0.003$), gender ($P=0.011$), and alcohol ($P=0.033$) and the occurrence of Acute myocardial infarction (AMI) and the impact of time to thrombolytic medication on outcome in patients with acute myocardial infarction. Statistical significant between thrombolytic administration and the basal crackle as a complication ($P= 0.011$) as a result of delay the time to delivery of fibrinolytic therapy. *Conclusion:* The most important factor in determining outcomes in patients who present with a STEMI is the time taken from onset to reperfusion. The little risk for dying through acute hospitalization period was seen for those treated with tissue plasminogen activator within two hours of acute symptoms. Elderly, women, hypertensive, and diabetic patients had longer delays at all stages. Prior infarction was an added risk factor for treatment delay.

Medical Science, 2020, 24(105), 2979-2984

Assessment of dietary iodine intake for females of childbearing age from Amman, Jordan

Ahmad A. Obeidat

Introduction: Jordan has one of the highest prevalence rates of hypothyroidism, and this condition is more prevalent in women and especially pregnant women. Iodine insufficiency during fetal development and childhood is associated with cognitive disturbances. The aim of this research study is to measure the daily consumption of dietary iodine in females of childbearing age in Amman City and determine how this consumption relates to sociodemographic characteristics. *Subjects and Methods:* A nonrandomized, cross-sectional study was carried out in 802 females. The inclusion criteria were healthy pregnant and nonpregnant females of reproductive age from 18 to 45 years old living in Amman. Females with any chronic disease were excluded from the study. Iodine intake and sociodemographic characteristic were measured by validated questionnaires. *Results:* Optimum iodine adequacy was detected in only 9.6% of participants. The highest average dietary iodine intake ($\mu\text{g}/\text{d}$) was from milk (36.4 ± 36.5), followed by yoghurt (27.5 ± 27.5), white fish (18.8 ± 33.9), red fish (15.2 ± 23.7), eggs (10.2 ± 10.1), shrimp and oysters (9.9 ± 22.7), nuts (9.2 ± 13), cheese and cheddar (7.8 ± 7.3), meat (7.7 ± 6.3), bread (5.6 ± 4.5), apple juice (2.9 ± 4.8), as well as fruits and vegetables (2.4 ± 2.8). Findings showed that the average iodine intake was affected significantly ($p < 0.05$) by pregnancy and smoking. *Conclusion:* Normal iodine status was detected in only 9.6% of participants. The highest average dietary iodine intake was from milk and the lowest from fruits and vegetables. Factors affecting average iodine intake in females of childbearing age in the Amman region were related to pregnancy and smoking. It is highly important to raise awareness of Jordanian women of childbearing age about their dietary iodine intake.

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Emphysematous cystitis an unusual case of urinary tract infection in long standing rheumatoid arthritis; A case report

Abhijit Wadekar, Yash Gupte, Parth Godhiwala, Swapnil Lahole, Sachin Agrawal, Sunil Kumar

Emphysematous Cystitis is a rare condition with presence of air within the urinary bladder wall and lumen which commonly presents with vague symptoms ranging from asymptomatic to sepsis. We report an elderly female, known case of rheumatoid arthritis on methotrexate admitted with complaints of pain in lower abdomen, later came out to be urinary tract infection due to acute emphysematous cystitis diagnosed on CECT abdomen.

Medical Science, 2020, 24(105), 2993-2996

ANALYSIS

A comparison of epidemiological characteristics in breast cancer patients and healthy women in Baghdad and Misan province

Kawakeb N Abdulla, Saba Jassim Alheshimi, Anwar Ahmed Mohammed

Objective: the assessment of the main sociodemographic, clinical, and pathological data for breast cancer patients, within two referral hospitals in Iraq. *Methods:* A retrospective study carried out in two governates in Iraq (Baghdad, and Misan). The data were extracted from the patient's medical record. The study carried out in two referral hospitals (Medical City Teaching Hospital in Baghdad province, and Al-Sader Teaching Hospital in Misan province). Hormonal receptor status, Her2 status, and demographical data were collected. *Results:* The study included 646 women diagnosed with BC, 320 patients were from Baghdad governate while 326 from Misan governate. The mean age was 50.9 ± 8.0 years, with 50.2% between the age of 50 – 64 years and 47.2% between the age of 35 – 49 years. Additionally; 79.1% was married, 37.3% was menopausal, 24.6% was null parity, 78.8% had an urban residency, 28.8% used oral contraceptive method, 12.4% had a family history of BC. In terms of histopathological features, 72.3%, 75.7%, and 17.3% were ER-positive, PR positive, and Her2 positive. There was no significant difference in demographic, pathological features, tumor characteristics between patients from both governates. *Conclusions:* The Mean age of women with breast cancer was in the sixth decade of life, more than 70% had positive estrogen and progesterone receptor status, no difference was found Baghdad and Misan governate in patient's characteristics indicating breast cancer behavior is similar in various region of Iraq.

Medical Science, 2020, 24(105), 2997-3002

Detection of *Mycobacterium tuberculosis* and drug resistance by GeneXpert® MTB/RIF and Anyplex™ II MTB/MDR in a tertiary care hospital

Reham Hamed Abdel Aziz Yousef, Nevine Gamal El-din El-Rashidi, Sahar Mohammed Khairat, Maha Mohammed Gaafar, Mohamed Abdel Hakim Elnady, Mariam Mahmoud Balah, Noha Salah Soliman

Tuberculosis (TB) is a major global health threat, aggravated by emergence of drug resistance. Early diagnosis is critical and has been offered lately by molecular assays. This study aimed to evaluate the performance of GeneXpert® MTB/RIF and Anyplex™ II MTB/MDR assays in simultaneous direct detection of *Mycobacterium tuberculosis* (MTB) and genetic determination of Rifampicin (RIF) resistance. This study was conducted with 100 specimens collected from TB suspects. ZN (Zeil-Neelsen) smears were prepared and L-J (Lowenstein-Jensen) culture was used for isolation of MTB. GeneXpert and Anyplex assays were performed directly on specimens to detect *Mycobacterium tuberculosis* (MTB) and RIF resistance. MTB was isolated on L-J culture from 40% of specimens. For MTB detection, Xpert and Anyplex assays showed same total sensitivity of 95%, and specificities of 73.3% and 81.7%, respectively. Rifampicin resistance was detected by Xpert and Anyplex assays with rates of 5.5% and 6.12%, respectively showing significant agreement with a P-value < 0.001. Time of assay was 2 hours for Xpert and 3 hours for Anyplex. In conclusion, both molecular assays enable rapid concomitant detection of MTB and drug resistance with high sensitivity, specificity and significant agreement. Xpert showed more technical ease, however higher cost than PCR.

Medical Science, 2020, 24(105), 3003-3011

Study on bacterial vaginosis among a group of Iraqi women

Kawakeb N Abdulla, Saba Reyadh Shaker, Hayder A Fawzi

Objective: the isolation and identification of bacteria in women with clinical vaginosis. *Methods:* A cross sectional which included 176 women diagnosed with BV according to Amsel criteria. The study carried out in National Cancer Research Center – University of Baghdad, the participants were collected during the period from February 2019 to December 2019. The participants undergo vaginal swab and then it was subjected gram stain for bacterial identification. The swab was performed by trained clinicians, in which a sterile unlubricated speculum was inserted into the vagina then the specimens were collected from the lateral vaginal wall and posterior fornix using two sterile cotton tipped swabs, the swabs removed carefully to avoid contamination. *Results:* The study included 176 women diagnosed with BV, mean age was 31.4 ± 8.9 years, the most common type *Staphylococcus aureus* with 19% prevalence, followed by *Escherichia coli* (16%), 12% *Enterobacter* spp, 11% *Klebsiella pneumonia*, 9% and lastly 1% *Neisseria* spp. *Conclusions:* Gram negative bacteria showed the highest rate for causing bacterial vaginosis, only one type of gram-positive bacteria was present (*Staphylococcus*) which showed the highest prevalence of all the bacteria.

Medical Science, 2020, 24(105), 3012-3016

The use of rotary nickel–titanium endodontic instruments by Dental practitioner in Saudi Arabia - a cross sectional study

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The objective of the study was to determine the use of rotary nickel-titanium endodontic instruments by Dental practitioners in Saudi Arabia. A cross-sectional study conducted 650 dental practitioners. The result of the study revealed that a total of 180 (60%) of the respondents used rotary endodontic systems, while 90 (40%) did not. The male respondents (66.7%) were more likely to use rotary endodontics than females (55.3%). *Aim:* To evaluate the use of rotary nickel–titanium endodontic instruments by Dental practitioner in Saudi Arabia. *Material and Method:* A questionnaire contains 12 multiple-choice questions conducted online by SurveyMonkey.com. The target samples are undergrad students, dental interns, general practitioners, post grad and Endodontists. The study was done in central, northern, eastern, western and southern regions of Saudi Arabia. The survey was distributed in multiple universities, governmental hospitals, privet clinics and social media. *Result:* A total of 180 (60%) of the respondents used rotary endodontic systems while 90 (40%) did not. The male respondents (66.7%) were more likely to use rotary endodontics than females (55.3%). *Conclusion:* The majority of dentist at Saudi Arabia use rotary NiTi systems forendodontic procedures in their clinical practice.

Medical Science, 2020, 24(105), 3017-3023

RESEARCH

Accuracy of sliding sign for prediction of adhesions in repeated cesarean section in third trimester and Intra-operative adhesion complications

Shirin Nirumanesh, Taraneh Arbabzadeh, Fatemeh Golshahi, Maryam Moshfeghi, Mahboobeh Shirazi, Mamak Shariat

Objective: Repeated cesarean sections (CS) are the common etiology of intra-abdominal adhesion formation with increased operating time and blood loss. Because of the necessity of a preoperative diagnosis, we decided to evaluate the sensitivity, specificity and predictive values of sliding sign in abdominal ultrasound in repeated CS for intra-abdominal adhesion diagnosis. *Method:* This study was performed on pregnant women with at least one previous CS in the third trimester. The movement of the outer surface of the myometrium relative to the inner surface of the abdominal fascia was evaluated by abdominal ultrasound for sliding sign. If the patient had sliding sign, the patient was low risk. In the absence of sliding sign, the patient was high risk. Then the questionnaire was filled out according to the CS findings and data was entered into analysis stage. *Results:* In the negative sliding sign group, the number of CS was higher than the positive sliding sign that was statistically significant (1.7 vs 1.4, p value=0.026). The higher the adhesion degree, the longer incision and delivery time and the lower 1-minute Apgar score (P = 0.0001). Of the 37 cases with adhesion, 25 did not have sliding sign, and the sensitivity was 68%. Of the 170 cases without adhesion, sliding was seen in 164 cases; with specificity 96.5% (positive and negative predicting values were 52% and 98%, respectively). *Conclusion:* Sliding sign by abdominal ultrasound could be an accurate and easy diagnostic tool in predicting intra-abdominal adhesion, especially in severe cases.

Medical Science, 2020, 24(105), 3024-3034

ANALYSIS

The association of amniotic fluid index measurement and pregnancy outcome

Avesta Anis Shaker, Srwa Ismael Khalid, Hayder A Fawzi

Objective: identify the efficacy of AFI (amniotic fluid index) in pregnant women as a predictor of pregnancy outcome including mode of delivery and neonatal outcome. *Methods:* a prospective cohort study done from September 2018 to February 2019, the study involved 300 women with a gestational age between (36 – 40 weeks). The AFI was measured by ultrasound (US), and accordingly, the women were divided into three groups: normal (AFI = 5 – 25cm), oligohydramnios (AFI <5cm), and polyhydramnios (AFI >25cm), each group consisting of 100 women. *Results:* The group of oligohydramnios has a significantly higher rate of C/S, induction of labor in comparison to normal and polyhydramnios (p-value <0.05). There's a significant correlation between AFI and fetal weight, small for gestation is more in oligohydramnios and big baby in polyhydramnios. There's a significant difference between AFI and clinical/visual intrapartum estimation amount of liquor. There is a significant association between CTG and 1st minute Apgar, but not significant with the 5th minute Apgar score. In true groups (AFI is same with visual estimation), there was a significant association between mode of delivery and neonatal outcome regarding admission to NICU, is higher in elective CS and emergency CS after failed induction of labor, the Failure rate of induction of labor due to fetal distress was more in true oligohydramnios group, but statistically not significant. *Conclusions:* Rate of induction of labor and C/S is higher in oligohydramnios comparing to polyhydramnios and normal liquor. In true oligohydramnios failed of induction due to fetal distress is more but statistically not significant. The type of delivery significantly affects neonatal outcomes regarding admission to NICU.

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Comparative study of metronomic capecitabine and oxaliplatin versus classic XELOX in Egyptian metastatic colorectal cancer patients

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Background: In Egypt, colorectal cancer (CRC) is a diagnosis of advanced tumors. While the drastic survival gains with standard doses of chemotherapy have significant toxicity in certain CRC patients. Less than the maximum tolerated dose of chemotherapy, with no prolonged drug-free breaks, tumor progression is impeded. Therefore, a safer alternative to standard dose therapy with a safer toxicity profile would be. *Methods:* This is a Phase II randomized study which included 70 (35 in each arm) metastatic Egyptian CRC cancer patients diagnosed at the National Cancer Institute of Egypt. Patients were treated with either classic XELOX (arm A) or capecitabine (2000 mg daily x 8 weeks) and oxaliplatin (30 mg / m² weekly X 8 weeks) followed by 2 weeks of rest (arm B). Both therapies continued until the disease progressed or were tolerated. Toxicity and analysis of survival were recorded after two years. *Results:* The mean PFS was 7.6 months for patients receiving Arm A, while patients receiving the arm B was 5.7 months ($P=0.318$). Median OS for arms A & B were nearly equal (15.9 m & 15.8m) ($P = 0.8$). Disease control rate was slightly higher in arm A (48%) than arm B (37%) ($P=0.3$). Most toxicity was higher in group A (P -values: anemia 0.03, diarrhea 0.027, hand & foot syndrome 0.002, neutropenia 0.001, oral mucositis 0.003, and gastritis 0.004). Also, higher grade III toxicities in arm A; anemia, hand and foot syndrome, diarrhea, fatigue, gastritis (P -values: 0.017, <0.001, 0.009, <0.001, <0.0001) respectively. *Conclusion:* Metronomic protocol had significantly lower rates of most toxicities and grade III ones than standard protocol with equal OS, the use of metronomic treatment did not affect PFS or response rates.

Medical Science, 2020, 24(105), 3041-3050

Reliability and Validity of Arabic Translation of the Impact of Event Scale-Revised for COVID-19 Pandemic

Hatim Yousef Alharbi, Sami S. ALHarthi, Ahmed S. Alzahrani

Objective: This study aims to translate and validate the Impact of Event Scale-Revised (IES-R) into the Arabic language with a population of medical students at two different universities in Saudi Arabia. *Method:* Fifty-six male and female medical students were tested during different periods of quarantine due to the COVID-19 pandemic using both original and translated versions of the IES-R. *Results:* The Arabic IES-R has acceptable internal consistency, with the following alpha coefficients: Intrusion (Cronbach's $\alpha = 0.85$), Avoidance (Cronbach's $\alpha = 0.75$), Hyperarousal (Cronbach's $\alpha = 0.74$), and total IES-R score (Cronbach's $\alpha = 0.88$), all of which were significant (p -value < 0.01). The test-retest reliability of the Arabic scale examined with the same sample is high, with correlation coefficients ranging from 0.75 to 0.81 (p -value < 0.01) for the three subscales and total score. The reliability-parallel form method of the Arabic IES-R with the original IES-R indicates excellent consistency between the two scales, with significant (p -value < 0.01) intra-class correlation ranging from 0.80 to 0.89 for its three subclasses and total score. Finally, a principal components analysis using Varimax rotation was performed with the 3-factor forced solution explains 50.5% of the variance and generated an intrusion factor (items 1,3,6,9,14,15), avoidance factor (items 5,8,11,17,22), and hyperarousal factor (items 2,4,10,12,16,18,19). *Conclusion:* The Arabic IES-R has proven to be a reliable and valid measure for posttraumatic stress symptoms in our sample of medical students in quarantine during the COVID-19 pandemic. Category: Psychiatry, psychometry, community.

Medical Science, 2020, 24(105), 3051-3060

Quality of Life among Women with Primary and Secondary Infertility Attending a Private Fertility Center in Jeddah, Saudi Arabia: A Cross - Sectional Study

Yasmeen Barnawi, Hamed Adetunji, Fawaz Edris, Reham BinHassan, Bashaier Fairaq

Objective: The aim of this study was to determine the fertility quality of life (QoL) among women with primary and secondary infertility and to assess the factors related with QoL in women with infertility. *Material and Method:* This cross-sectional analysis has been performed from December 2019 to June 2020. We measured the quality of life of 264 infertile women attending Healthplus Fertility Center in Jeddah city using the FertiQoL questionnaire tool, One hundred and eighty-five women with primary infertility and 106 women with secondary infertility were compared for QoL subscales and other confounding factors like age and education using multiple regression analysis. *Results:* Women with secondary infertility obtained better scores in emotional, mind/body, Relational and social domains of the core subscale and total QoL ($p < 0.01$). Primary and secondary infertile women who got married for more than five years and had more than five years duration of infertility had a significantly low scores in total FertiQoL and its subscales ($p < 0.001$). Women with primary infertility who had support from their families or friends achieved significantly higher scores in emotional, mind and body, relation, and social subscales besides the total QoL ($p < 0.05$). Multiple regression evaluation confirmed that Secondary infertility and social assistance had a positive effect on total QoL scores while age and years of marriage had a negative impact. *Conclusion:* Fertility Quality of Life scores were better for women with secondary infertility, while the scores were negatively affected by being older in age and being married for more than five years.

Medical Science, 2020, 24(105), 3061-3069

Endoscopic frontal sinus surgery - A tertiary hospital experience

Ali Almomen, Fatimah Abdulwahid, Abdullah Al Shakhs, Ibrahim Al Yaeesh, Ahmed AlOmairin, Abdulrahman Alsuwailim, Abdulelah AlBahr, Abdulrahman AlNaim, Fatimah AlAbbad, Fatimah AlOmayrin

Background: Chronic frontal rhinosinusitis (CFRS) is a condition in which there is a persistent frontonasal outflow tract obstruction that leads to impairment of the normal drainage. Frontal sinus surgery is known to be a challenging surgery due to the complex

frontal sinus anatomy, which is considered to have many anatomical variations from one patient to another. *Objective:* To present the different causes, diagnostic, and management plans to different frontal sinus pathologies in order to provide the best management strategies. *Methods:* This is a retrospective clinical study, which was conducted between 2010 to 2019. The study was conducted in the ENT department of King Fahad specialist Hospital in Saudi Arabia. It included only the patients with sole involvement of the frontal sinus managed endoscopically. *Results:* A total of 450 endoscopic sinus and skull-base procedures were performed at King Fahad Specialist Hospital-Dammam in the period from 2010 to 2019. Out of the total number of cases, 51.3% (231) of the cases fulfilled the criteria of endoscopic frontal sinus surgery. *Conclusion:* With the advantages of the state of art imaging, different angled endoscopes and intraoperative image guidance system, the different endoscopic approaches to different pathologies of the frontal sinus will result in a wide frontal outflow tract and a safe outcome while minimizing the need for the external approach to the frontal sinus with its morbidities and hence improves the patient's quality of life.

Medical Science, 2020, 24(105), 3070-3076

CASE REPORT

Report of Peutz-Jeghers syndrome in two sisters with intussusception at the age of 10 and 12 year old

Mohammad Solaiman Mohammad Alnoajji, Asmaa Salah Ghmaid, Ahmad Khaled Aleliwi, Tahani Nasser M Alrashidi

Peutz-Jeghers syndrome (PJS) is an inherited autosomal dominant condition that is characterized by various hamartomatous polyps in the gastrointestinal tract (GIT) and hyperpigmentation of the skin and mucous membranes. PJS increased risk for developing intestinal malignancy. *Cases presentation:* we report two sisters with intussusception at the age of 10 and 12 year old presented to the emergency department (ED) with features of intestinal obstruction. After thoroughly investigating, they diagnosed intussusception. Intraoperative was found intestinal polyps and by history, intraoperative findings, and histopathology, they confirmed diagnosis of PJS. These cases are reported because of the rarity of PJS and rarity of intussusception occurrence at 10 and 12 years. *Conclusions:* PJS is a rare familial disease. Early detection, treatment, and closely monitored can improve the prognosis of PJS and prevent complications related to polyps. PJS should be included as a differential diagnosis if intussusception happens at an atypical age.

Medical Science, 2020, 24(105), 3077-3082

ANALYSIS

Efficacy of neck ultrasound in the detection of cervical lymph node metastasis from thyroid carcinoma

Ibrahim Khaled Ibrahim Raslan, Mahmoud Saad Farahat, Ahmed Serag Eldin Hessein, Nafissa El-badawy, Amr Mahmoud Abd-Elsamad, Mahmoud Ahmed El-shafie

Background: In patients with proven thyroid carcinoma, neck metastases are often occult on routine physical examination. Both the central and lateral neck compartments can harbor non palpable, occult metastases. our study was done to assess the diagnostic accuracy of preoperative neck ultrasound (US) in the detection of both central and lateral cervical lymph node metastases from thyroid carcinoma so that it can help in tailoring the surgical treatment plan. *Patients and methods:* The study was conducted at the General Surgery Department of Ain shams University Hospital from December 2017 through December 2019. It included 40 patients who had proved thyroid carcinoma by preoperative histopathology. Preoperative Neck ultrasound was done for all patients to detect suspicious Lymph Nodes. Total thyroidectomy with central neck dissection +/- Lateral neck dissection according to ultrasound results was done. The accuracy of US was assessed according to whether the removed lymph nodes had histologically confirmed malignancy or not. *Results:* The sensitivity and specificity of US in predicting thyroid carcinoma metastasis in the central neck were 13.3% and 90%, respectively. The sensitivity and specificity of US in predicting metastasis in the lateral neck were 90.9% and 85.7%, respectively. Also ultrasound detected occult non palpable lateral neck metastasis in 47.5% of patients. *Conclusion:* Preoperative neck US is a valuable tool in assessing patients with thyroid cancers. The highly sensitive and specific nature of US in predicting cervical lymph node metastasis in the lateral neck can provide reliable information to assist in surgical management.

Medical Science, 2020, 24(105), 3083-3092

Laser Hemorrhoidoplasty for Treatment of Third and Fourth Degree Hemorrhoids: A Pilot Study

Mohamed Ali Nada, Mahmoud Ahmed Farghaly, Ali Mohamed Nageb

Background: Patients' postoperative discomfort and pain represent the most feared and complained complications after surgical hemorrhoidectomy. In response to the high request of painless treatments, in the recent years, many trials assisted to the widespread of minimal invasive and non-excisional techniques including, HAL, THD and stapled hemorrhoidopexy. *Objective:* The aim of this study is assessment of laser hemorrhoidoplasty for treatment of third and fourth degree hemorrhoids with follow up regarding; post-operative pain, bleeding, wound healing and hospital stay. *Patients and Methods:* This study was conducted at general surgery department of ain shams university hospital from December 2017 through December 2019. It included 20 patients 55% males and 45% females. Their age ranged from 28 to 60 years, with an average of 44 years (\pm 11.6). Patients aged 50 years and older represented 35% of all study participants. The majority of participants (75%) had grade III hemorrhoids. *Results:* In our study the operative time ranged from 15 to 30 minutes, with a mean of 19.3 minutes (\pm 4.37), while the hospital stay ranged from 12 to 18 hours,

with a mean of 13.8 (\pm 2.82) hours. And with regarding the postoperative complications in our study, only two patients were complicated (10%). The first patient had pain (5%) and abscess (5%), while the second patient had bleeding (5%) and edema (5%). No fistula, no stricture, no incontinence, no recurrence have occurred. *Conclusion:* Laser hemorrhoidectomy is a safe and effective procedure associated with low incidence of post-operative complications and it is more effective in grade III than grade IV but we cannot generalize the results as it was a pilot study, so further investigations are needed with larger, preferably randomized and controlled trials to confirm the results of this study in the future.

Medical Science, 2020, 24(105), 3093-3100

CASE REPORT

Chickenpox in HIV-infected 11-years old child with lethal outcome

Halyna Lytvyn, Iryna Dybas, Olga Hladchenko, Natalia Ivanchenko, Filip Pajak

The case presents a severe form of generalized chickenpox in an 11-year-old HIV-positive child. Simultaneous lack of prior anti retro viral therapy, concealment of the child's HIV status, late request for medical help and many factors were seen. Delayed adequate specific treatment led to a dramatic lethal course of the disease.

Medical Science, 2020, 24(105), 3101-3105

ANALYSIS

Comparison of children's behavioral problems between two groups of shift and fixed working mothers with different occupational stress levels

Elham Kebriyai, Fatemeh Khajeh, Mohammad Hosein Yazdanpanah, Maryam Naghmachi, Zahra Bazargani

Background and objective: Work-related stress has become one of the most serious health problems in any career. Occupational stress in mothers can affect family relationships and children's characteristics and behavior. The aim of our study was to investigate any differences between shifts and fixed working mothers with high and low occupational stress in their Children's Behavioral Problems. *Materials and Methods:* The study population was 32 nurse and 23 employed mothers as case and control groups. The data were collected using Cooper Occupational Stress Questionnaire and Children's Behavioral Checklist (CBCL). T-score attributed to CBCL parameters has been measured for assessing behavioral problems. Pearson correlation and Multiple Linear Regression was used to examine the relationships between different variables. *Results:* Mean of age was 36.22 in case group and this value was detected as 37.70 years in control group. In case group, in subjects with low and moderate to severe occupational stress, the mean of T score of anxious/depressed problems was 47.26 and 54.00 respectively, that had significant difference ($p=0.042$). There was a significant relationship between nurses' occupational stress level and their children's anxiety/depression problems ($P=0.011$) and also internalizing disorders ($P=0.012$). *Conclusion:* Increase in the level of nurses' occupational stress in nurses may lead their children to behavior problems especially anxious/depressed and internalizing symptoms.

Medical Science, 2020, 24(105), 3106-3112

Outcome of total thyroidectomy in non-malignant solitary thyroid nodule by FNAC

Yahya Zakaria Mohamed Ali Abou El-Wafa, Hisham Mohamed Omran, Ahmed Yasser Elrifai, Nafissa El-Badawy, Mahmoud Ahmed El-Shafei

Introduction: Solitary Thyroid Nodules (STN) are a common entity and is detected in approximately 5% to 7% of the adult population by physical examination alone. 7 to 15% of thyroid nodules are harbor cancer. In this study, we will evaluate the outcome of total thyroidectomy in non-malignant STN by FNAC as regards to the histopathological results and post-operative complications. *Patients and methods:* This is a prospective randomized control trial study conducted in Ain Shams university hospitals, 30 patients with non-malignant STN by FNAC with a minimal follow up of 12 month after undergoing total thyroidectomy. *Results:* On FNAC, 18 (60%) were benign, 10 (33.3%) were follicular lesion and 2 (6.7%) were Atypia of undetermined significance. complications 5 cases were complicated (16.7%) post operatively. On the final histopathology, 2 cases (6.7%) were confirmed to be malignant both were papillary carcinoma. In Addition, three cases (10%) were found to be hurthle cell tumor. *Conclusion:* Total thyroidectomy seems to be a safe and reliable option for managing patients with solitary thyroid nodules by FNAC as it has low complication rate in experienced hands. Moreover, it obviates the need for completion thyroidectomy.

Medical Science, 2020, 24(105), 3113-3120

Head and Neck Synovial Sarcoma: Egyptian National Cancer Institute Experience

Hala Aziz Shokralla, Ahmed Elsayed Fathalla

Background: Head and neck synovial sarcoma (HNSS) are rare types of sarcomas of uncertain etiology. They appear predominantly in young adults, with a peak incidence in the third decade. They are considered as a high-grade sarcoma with poor prognosis. *Aims:* to study the clinicopathological features of all cases with HNSS, pathological subtypes, management protocols & the outcome of such treatments as regard progression-free survival (PFS) & overall survival (OS). *Materials & Methods:* a retrospective analysis of all cases presented to National Cancer Institute-Cairo University from January 2011 until December 2019. 16 cases were included. Data

collected then analyzed. *Results:* Mean age was 30.6 years with male to female ratio of 1.3:1. Anatomically; 5 cases were in the neck soft tissues, 3 cases were in the cheek, 2 cases were in each of hypopharynx, oropharynx & temporal regions, one case in thyroid gland and submandibular gland. Mean tumor size was 7.38 cm. Surgical resection was done in all patients; postoperatively, 4 cases (25%) <had R0 margins with no further treatment; twelve cases had (R1/R2) resection. Five patients (~31%) developed metastasis and 3 patients (~19%) developed both local and distant metastases; lungs were commonest site (~94%). Median follow-up was 57.2 months (range, 6.76–100 months). Overall survival at 1, 3, and 5 years were 95.1%, 71.4% & 42.9% respectively while the corresponding PFS were 68.6%, 30.7% & 16%. *Conclusion:* Surgery is the primary treatment for localized tumors. Radiotherapy/chemotherapy is options. Initial tumor size & margins of resection was the main predictive of survival.

Medical Science, 2020, 24(105), 3121-3127

RESEARCH

Exposure to bis (2-ethylhexyl) phthalate causes sperm quality deteriorations, oxidative stress and down-regulates the expression of Catsper2 gene and protein in testis of mice

Shabnam Mohammadi, Seyed Mehdi Hasanian, Farzad Rahmani, Mahsa Akbari Oryani, Mehdi Jalali, Farimah Beheshti, Parisa Haeri

Purpose: Environmental factors such as exposure to heavy metals and air pollutants are factors influencing the male fertility. The present study was conducted to determine the effect of bis (2-ethylhexyl) phthalate administration on sperm parameters, testicular histopathology, expression of Catsper2 gene and protein and oxidative stress in male adult mice. *Methods:* In this study, 32 male NMRI mice were randomly divided into 4 groups of control and phthalate 1-3. The control group received the solvent of bis(2-ethylhexyl) phthalate (corn oil). The phthalate 1-3 groups received 50, 250, and 500 mg/kg of bis(2-ethylhexyl) phthalate for 14 days, respectively. Sperm, CatSper2 gene and protein expression, testicular histopathology and oxidative stress assessments were performed 5 weeks after the intervention. *Results:* Our results showed that, the administration of phthalate reduced sperm parameters as well as interstitial space and congestion with incomplete spermatogenesis in seminiferous tubules. Mice received phthalate showed a significant decrease in CatSper2 gene expression compared to the controls ($p < 0.05$). The changes identified in CatSper2 protein expression levels were consistent with their relative mRNA level. A significant difference was found in the mean levels of malondialdehyde and superoxide dismutase enzyme between the phthalate 2 and 3 groups and the control group. A significant increase was observed in the mean thiol level in phthalate 1 ($p = 0.04$), phthalate 2 ($p < 0.001$) and phthalate 3 ($p < 0.001$) groups compared to the control group. *Conclusion:* The exposure to bis(2-ethylhexyl) phthalate reduces sperm quality especially sperm with tail defects and degenerative changes in testicular tissue and increases oxidative stress in male mice. A dose-dependent reduction was also observed in CatSper gene and protein expression.

Medical Science, 2020, 24(105), 3128-3136

Chlamydia pneumoniae seropositivity among public health and health informatics students in Ha'il University, Saudi Arabia

Rafat Zreiq, Fahad D. Algahtani, Shadi Sulaiman, Mohd Saeed, Fares Alshammari, Reem M. Ali

Chlamydia pneumoniae is a common respiratory tract infectious bacterium and associated with chronic diseases such as cardiovascular diseases, atherosclerosis and Alzheimer's. The prevalence of *C. pneumoniae* infections in general communities and specific populations are mostly conducted in western countries. This work aims to investigate the seroprevalence of the immunoglobulin G (IgG) against *C. pneumoniae* among public health and health informatics students in Ha'il University, Saudi Arabia. Serum samples of sixty-six students were subjected for the microimmunofluorescence (MIF) test. Current/acute infections were estimated at IgG titres of 16-256, while past/chronic infections at a titre of 512. The seropositivity results were combined with the demographical, medical history and habits as evidenced by the surveyed students. The overall seroprevalence of IgG antibodies against *C. pneumoniae* was 48.48%, with a higher IgG detection rate in males (55%) than females (48.7%). The seropositivity in students had symptoms was 30.4% (symptomatic), while 58.1% of the students had no symptoms related to *C. pneumoniae* infection. The serological evidence of *C. pneumoniae* infection was found in association with asthma (3.03%), sore throat (1.51%), Cough (6.06%) and in smokers (4.55%). In conclusion, although our study relatively shows a moderate prevalence of *C. pneumoniae* IgG seropositivity, which is likely a leading cause of common respiratory tract infections among students, the results should be used for proper distribution of the internship students in the hospital departments to minimize the contact of *C. pneumoniae* infected students and subsequently reduces the transmission of *C. pneumoniae* to the high-risk groups patients.

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CASE REPORT

Multiple Myeloma presenting as Hypercalcemic Crisis: A case report

Akhilesh Annadatha, Sourya Acharya, Samarth Shukla, Amol Bhawane, Anuj Varma, Amol Andhale

Multiple myeloma, a disease of the plasma cells, clinically presents as lytic bone lesions, hypercalcemia, renal failure, and secretion of either complete immunoglobulins (light and heavy chain) or incomplete immunoglobulins (light chain). The light chain secretion into urine is called as Bence Jones protein which is another characteristic of the disease. Hypercalcemic crisis is an acute condition which presents with Oliguria or Anuria and sometimes, Coma. The cause of hypercalcemic crisis is usually Primary Hyperparathyroidism.

Hypercalcemia of malignancy is one of the rarer causes of the same. We present a case of Multiple Myeloma presenting as hypercalcemic crisis.

Medical Science, 2020, 24(105), 3148-3152

ANALYSIS

Image guidance endoscopic sinus & skull base surgery in children

Zahra Almoumen, Ali Almomen, Hashim W AlShakhs, Mohammed AlSaeed, Abdullah AlShakhs, Layla Abd Alaziz Almzraq, Mohammed A. Al Ameer, Salma Emad Algargoosh

Background: Endoscopic sinus surgery in children has been used for treatment of chronic rhinosinusitis, complicated acute sinusitis, sinus tumor, meningoceles and congenital sinonasal malformations. The use of imaging guidance during surgery will make it safer and gives more intraoperative guidance with less complications. *Methodology:* A Retrospective study of all cases of image guided pediatric endoscopic Sinus & Skull base Surgeries performed in King Fahad Specialist Hospital-Dammam from (2009 -2019) in a group of patients between 4-15 years of age. *Results:* 47 of pediatric cases underwent endoscopic sinus and skull base surgeries using the image guidance system. *Conclusion:* Image guidance system (IGS) is effective and safe tool that improve endoscopic approach in pediatric sinonasal and skull base surgeries with minimal morbidity and intraoperative complications. Indications of image guidance in our study includes allergic fungal sinusitis abutting orbit and skull base, different complicated sinusitis with periorbital and brain abscesses, CSF leaks and meningocele and different benign and malignant tumors affecting the orbit, infratemporal fossa and skull base.

Medical Science, 2020, 24(105), 3153-3157

Alterations associated in dendritic cells sub-types in smokers and non-smokers

Amal A Alattas, Nuha A Alkhattabi, Maryam H Alzahrani

Introduction: Dendritic cells (DCs) consider as greatest significance cells of innate and adaptive immune system because they connect both types. These cells are necessary for controlling immunity and tolerance balance. *Objective:* Effect of cigarette smoking on immunological properties of DCs and their subtypes plasmacytoid DCs and myeloid dendritic cells. *Methods:* The study included 27 smokers (female and male) and 18 nonsmoker controls. Isolating peripheral blood mononuclear cells, later, counted the total white blood cells (WBCs/mm³) by hemocytometer. DCs population, maturation marker CD83, and intracellular cytokines (IL-12, IFN- α) were detected using multiparametric flow cytometry analysis. *Results:* Increasing absolute number of pDCs was noted among smokers in general and among male smokers specifically. Therefore, mDCs/pDCs ratio was decreased in same populations. A comparison of male and female smokers reported that, increasing in the absolute number of pDCs in males. No detectable changes recorded for the expression of CD83 or the intracellular cytokines. *Conclusions:* Our results support that smoking alters the ratio for mDCs/pDCs and could lead to the suppression of the immune system through increasing tolerance response, thus increasing the risk of cancer and infections in smokers.

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Trending career preferences of future dentists of Saudi Arabia and factors influencing their choices

Bahija Basheer, Feras Aloushan, Mamdouh AlHarbi, Khalid AlHazmi, Khaled Alhelal, Abdullah Alanazi, Sliuman Alnashwan, Meshal Alsayed, Yazeed Alrajeh

Aim: This study is intended to highlight the current career choices and the speciality preferences and the motivating factors of all 27 dental collages in the Kingdom of Saudi Arabia. *Methodology:* A questioner survey was collected as hard and soft copy among 364 participants who are Saudi dental students and Saudi dental interns. *Results:* a response rate of 86.9% (230) paper-based surveys and 289 electronic survey filled, of which 64.4% (315) are male and 35.6% females (174). The most preferred speciality among males is Endodontics, Prosthodontics, and Orthodontics respectively. Whereas, females Restorative, Prosthodontics, and Orthodontics. As for the motivational factors, employment benefits and guaranteed salaries were among the highest for males, and length of residency for females. *Discussion:* previous studies have shown a different trend in speciality and career choices. However, the topic of speciality is continuously changing. Moreover, the motivating factors are comparable with other studies. *Conclusion:* non-clinical specialities were among the least preferred specialities. However, those specialities have a critical role in the dental field. Employment benefits and short residencies may aid in more people choosing these specialities.

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Effects of passive smoking on perioperative respiratory and cardiovascular complications

Shammah Ahmed Ali, Newwigy MK

Objective: In this study, we aimed to research whether there is significant difference in the incidence of cardiovascular and respiratory complications during intraoperative and postoperative periods and the duration of recovery in patients who exposed passively to tobacco smoke compared with unexposed patients. *Methods:* 250 adult patients ranging in age from 18 to 60 years with the ASA I or II score who received general anesthesia for various elective surgical operations were selected and divided into two groups. Group 1(study group) included 130 patients who were exposed to passive cigarette smoke, Group 2 (control group) include 120 patients who were not exposed to smoke. Respiratory and cardiovascular complications evaluated and recorded in

intraoperative and postoperative period. At the end of the operation, patients taken to the postoperative care unit (PACU) and monitored until Modified Aldrete's Score became 9 or more and stay time in PACU was recorded. *Results:* There was no statistically significant difference concerning demographic data and ASA status between the two groups. Among respiratory complication in the two groups there was no significant difference regarding to bronchospasm, hypoxia, laryngeal spasm. In contrary there was significant increase in the incidence of cough and hyper secretion in passive smokers. Regarding cardiovascular complications there was no significant difference between the two groups in arrhythmias or ischemia occurrence. In contrary there was significant increase in the incidence of hypertension occurrence in passive smoking group. PACU stay time in the passive smoking group was not significantly longer than control group. *Conclusion:* Passive smoking is associated with higher incidence of perioperative cardiovascular and respiratory complication with no prolongation of PACU stay time.

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Prevalence and pattern of analgesic misuse among patients attending primary health care centre in Makkah

Abrar Alharbi, Fahad Saqib Lodhi, Adeel Ahmed Khan

Background: The inappropriate use of analgesics can have implications on health and can also have effect on quality of life. This inappropriate use can lead to misusing healthcare resources and increasing healthcare costs. *Objective:* To determine the prevalence of analgesic misuse, pattern and side effects of analgesics among adults aged 15 -65 years attending general clinics in Al-Zaher primary health care center (PHCC) in Makkah. *Subjects and methods:* A cross-sectional study was conducted in Makkah at Alzaher PHCC enrolling 214 patients of age 15-65 years attending general clinics from August - September 2019. A systematic random sample technique was adopted to recruit adult patients attending clinics. A self-administered validated questionnaire was used for data collection including sociodemographic data, the pattern of analgesics use, and awareness about the analgesics use and its side effects. *Results:* The study included 214 participants. The mean age of our study participant was 37 ± 11.9 years. The prevalence of analgesics use was 94.9%. More than half of the participants who used analgesics (58.4%) claimed that these analgesics were not prescribed. The most frequently used analgesic was paracetamol (64.5%). The most frequent indications for using analgesics among the participants were headache (34.5%), joint pain (22.7%), and fever (11.8%). The prevalence of analgesics misuse among the participants was 26.6%. Most of the participants (73.4%) were aware of the analgesics misuse side effects. The most frequently known side effects were hepatotoxicity (39.3%) and nephrotoxicity (30.8%). *Conclusion:* The use of analgesics among the adult population in Makkah, particularly for headache is alarming. Misuse of analgesics is also higher that needs immediate attention. Awareness regarding analgesics side effects is high; however, for particular side effects, it is suboptimal.

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Implant based reconstruction in large ptotic breasts

Tarek Hashem, Ahmed Farahat

Introduction: Breast reconstruction in women with large ptotic breasts is a challenging surgical procedure. Nipple sparing mastectomy is associated with increased surgical morbidity. Implant based reconstruction offers an attractive alternative in order to decrease donor site morbidity. The subpectoral pocket needs support along its inferomedial aspect. This is usually provided by acellular dermal matrix or specialized meshes. This study displays the use of a sling formed of the deepithelialised lower breast skin flap to complete the subpectoral implant pocket. *Methods:* 36 patients were included in this study, all with big sized ptotic breasts. Five patients had documented BRCA1/2 mutation and were seeking bilateral prophylactic mastectomy. 31 patients had unilateral breast cancer and underwent unilateral Wise pattern skin reducing mastectomy. Postoperative cosmetic results were evaluated using the BREAST-Q™ questionnaire and the BCCT.core ©software. *Results:* Complications occurred in 5 (14%) patients. BREAST-Q™ results showed a median score of 73.2 for overall outcome evaluation. 55.6% of the study group had a favourable cosmetic outcome as evaluated by the BCCT.core© software. *Conclusion:* The dermal sling technique provides a valid autologous alternative to acellular dermal matrix for implant based reconstruction in patients with large ptotic breasts.

Medical Science, 2020, 24(105), 3191-3198

An Investigation of the Effect of Anxiety and Religious Beliefs on Decision-Making Attitudes to Lumbar Microdiscectomy

Murat Kiraz, Seda Kiraz

Background: The effects of religious beliefs on health have been investigated for many years. Although this issue has been investigated in many scientific studies, whether there is a significant relationship between anxiety and religiousness is still discussed. This study aims to investigate the effects of anxiety levels and religiousness on Lumbar Microdiscectomy acceptance attitudes. *Methodology:* The participants were divided into two groups as those who accepted Lumbar Microdiscectomy and those who did not; these patients were asked to fill in two different forms that were developed to measure pre-operative anxiety level and religiousness level. The patients' religiousness level was identified using the "Religious Orientation Scale". The anxiety levels of the patients were determined by using "Anxiety Specific to Surgery Questionnaire". *Results:* The anxiety level of the group that did not accept an operation was 33.48 ± 8.05 , which was significantly higher than the anxiety level (27.12 ± 7.32) of the group which accepted an operation ($p=0.001$). The Pearson correlation analysis performed between the anxiety and religiousness scale scores indicated a significant, weak-level, and negative relationship ($p=0.033$, $r=-0,320$). When the effect of anxiety level between the groups who accepted an operation and who did not is controlled with ANCOVA test, no significant differences were found between the religious scale scores of the groups ($p=0.572$). *Conclusion:* Apart from the effect of religiousness, decision for Lumbar Microdiscectomy is

considered to be affected by several multidimensional factors such as patients' anxiety levels, previous disease experiences, importance they give to quality of life, post-operative risks such as experiencing severe pain or getting paralyzed, anxiety of leaving from the family, loss of independence, fear of operation, and fear of death.

Medical Science, 2020, 24(105), 3199-3205

Comparison of the efficacy of Aripiprazole and Risperidone in improving the obsessive symptoms in bipolar disorder comorbid with obsessive-compulsive disorder

Reza Kookalani, Fatemeh Sadat Ghoreishi, Fatemeh Assarian, Mojtaba Sehat

Obsessive-compulsive disorder can be associated with bipolar disorder at the same time. Studies show that the relatively high synchronization of these two disorders throughout the life span is about 9-39%. Bipolar disorder comorbid OCD is still not well studied. Treatment for obsessive-compulsive disorder is a significant clinical problem, because antidepressants are effective for obsessive-compulsive disorder may lead to the Accelerated of mania or hypomania and mixed phase. In this double blind clinical trial, 60 patients bipolar disorder comorbid obsessive-compulsive disorder were evaluated according to DSM5 criteria. Patients were chosen at least 3 months of maintenance therapy and Yale-Brown score of 16 or more. In one group, aripiprazole was started at a dose of 2.5 mg and was given at a dose of 10 mg per day over a period of 15 days. In the other group, it started with 1 mg of risperidone and was given at a dose of 4 mg per day. In the 4th, 8th and 12th weeks, patients with Yale-Brown scale were evaluated. The Yale-Brown mean score in the aripiprazole group was 23.3 before the study and 12.3 after 12 weeks. The Yale-Brown mean score in the risperidone was 25.5 before the study and changed to 11.27 after 12 months of treatment. Moreover, according to ANCOVA analysis model, it was indicated that at week 12 of treatment, the Yale-Brown scale in the risperidone group was 1.47 units lower than that of the aripiprazole, demonstrating a significant difference ($P < .001$). It was revealed that both drugs (aripiprazole and risperidone) were effective on treating the therapeutic-resistant obsessive-compulsive disorder comorbid with bipolar disorder in the maintenance phase. Furthermore, it was found a slight difference between the Yale-Brown mean scores of the two groups, which showed the advantage of risperidone over aripiprazole.

Medical Science, 2020, 24(105), 3206-3214

CASE REPORT

Infected non union in an operated compound fracture of shaft of humerus: A case report

Kiran Saoji, Mohit Dadlani, Gajanan Pisulkar, Aditya Kekatpure, Amit Saoji

Introduction: Infected non-union of humerus is a chronic disorder, which pose many difficulties to the patient and the surgeon and the treatment is long term and time consuming. It is one of the most common complications of humerus fractures. Some risk factors include age, sex, tobacco smoke, metabolic disorders, nutritional deficiencies, fracture type, soft tissue injury, type of surgical treatment and presence of infection. We present the case of infected non-union in an operated case of compound fracture of shaft of humerus treated in two stages with Infection control in first stage and then definitive treatment in second stage. *Case:* A 35 year old female presented to AVBRH OPD with complains of pain and fullness over right mid-arm who was follow up case of compound grade II shaft humerus fracture right side and she was managed with ORIF with plating at govt hospital in Chandrapur 9 months ago. On examination, tenderness and abnormal mobility was present at fracture site, overhead abduction and forward flexion was 90 degrees and further movements were painful and restricted. The radiograph showed Non-Union of mid-shaft of humerus with implant in situ. The patient, in first stage was managed with Debridement of Non-Union site and Sinus tract excision and insertion of Calcium sulphate antibiotic (Vancomycin) beads at and around the fracture site. Postoperatively, patient's arm was immobilized by above elbow slab. The pus culture shows No growth. Patient continued having copious amount of discharge from the wound for around 2-3 weeks and suture removal was done after 3 weeks of surgery. Patient was continued on antibiotics for 6 weeks. On follow up at 6 weeks, wound was completely healed and discharge was absent and the pain and swelling was reduced but still the tenderness and abnormal mobility at fracture site was present. Functional humerus brace with mobilization of shoulder, elbow, wrist and fingers was advised with continuation of antibiotics. Then the patient was recalled after 6 weeks for definitive treatment. After 6 weeks, the patient was managed with removal of old plate and ORIF with LCDCP with cancellous bone grafting. Then the patient was discharged with continuation of functional humerus brace application and finally showing an excellent outcome. *Conclusion:* The treatment of humerus-infected non-union is a challenge for the orthopedic surgeon. The use of an antibiotic-impregnated bead, associated to systemic antibiotic therapy, is a valid option of treatment.

Medical Science, 2020, 24(105), 3215-3221

An Infant with Complete Corpus Callosum Agenesis: Case Report

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Corpus callosum is an important commissure, which connects the right and left hemispheres. Corpus callosum agenesis is a relatively uncommon malformation of the brain in our society of KSA. Its diagnosis is based on brain imaging and sometimes asymptomatic. The Following case report highlights a case of a newborn with ambiguous genitalia, associated with complete agenesis of the corpus callosum discovered at birth, with wide cisterna magna and small cerebellum, multiple congenital anomalies, and dysmorphic features.

ANALYSIS

Comparison between intubation and noninvasive ventilation in management of ICU chest trauma patients

Gaser Ali, Ehab Sobhy

This study aims to compare the effectiveness of endotracheal intubation with mechanical ventilation and noninvasive ventilation as the most in common methods used in management of ICU chest trauma patients. Sixty-eight patients with chest trauma aged 20–70 years were participated in this study for 2 years. The patients attended to cardiothoracic surgery department, Zagazig University Hospital. The Patients enrolled in this study were divided into 2 groups: the first one received endotracheal intubation with mechanical ventilation (MV group) (Group 1, n = 34) and the other received noninvasive ventilation (NV group) (Group 2, n = 34). All enrolled patients were monitored with clinical criteria including RR, HR, MAP and SpO₂. The software SPSS was used for the statistical analysis. P value < 0.05 was considered as statistically significant. The present study resulted that the mean HH, HR, pO₂, pCO₂ and P/F ratio were improved in the MV group as well as in the NV group but this improvement was not significant. The use of noninvasive ventilation reduces mortality, damages, and complications as well as the length of stay in intensive care (ICU), which leads to low cost.

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No-prep veneers versus traditional veneers: Steps and follow up cases

Reem Ajaj

A beautiful smile is a smile that looks good, natural, healthy, conservative and can last. No-prep indirect veneers are a conservative cosmetic treatment that can be made of 0.3 mm thick laminate. They have many advantages over traditional veneers but have limited case selection, is more technique sensitive, and the absence of finish line is claimed to indirectly result in gingival irritation. The aim of this report is to state and explain the differences between traditional veneers and no-prep veneers, the steps followed for no-prep veneers in the reported cases, and to present the treatment and follow up of 4 different no-prep veneers cases in terms of esthetic longevity, periodontal health, patient satisfaction and overall impact of the treatment. The non-prep veneers used in these cases were made from Cerinate feldspathic pressable porcelain which is a leucite-reinforced glass ceramic by DenMat[®]. During the seven years of follow up with the patients, none had debonding failure. It was found that: meticulous oral hygiene and commitment to follow-up appointments had a great impact on the periodontal health outcomes, cleaning the gingival and interproximal areas is more challenging than traditional veneers, Fracture/chipping of the no-prep veneers is one of the disadvantages encountered specially at the very thin gingival margin, adequate adaptation of the no-prep veneers is crucial for the success of the treatment and that treatment is highly satisfactory with avoidable adverse outcomes. It is suggested that patients with no-prep veneers come to follow up appointments more frequent than twice a year (3–4 times a year) and to have more meticulous oral hygiene measures of brushing at the gingival areas and flossing due to the higher susceptibility of plaque accumulation due to the absence of finish line.

Medical Science, 2020, 24(105), 3234-3258

A survey on obesity and overweight among intermediate school Saudi male students at Albaha city

Elfatih Mirghani M. Salih, Abdulelah Mohammed Ali Alghamdi, Ali Yahya B Alzahrani, Saeed Ali Saeed Alzahrani

Introduction: Childhood obesity is a major health problem associated with a widespread range of comorbidities and complications. As its prevalence is increasing, childhood obesity is emerging as a genuine public health problem among globally as well as in the Gulf countries including Saudi Arabia. *Methodology:* A cross-sectional prospective study targeting intermediate school Saudi male students, who were classified according to their body mass index, then the prevalence of obesity/overweight was calculated, a questionnaire was used to assess them for possible risk factors and presence of complications. *Results:* The prevalence of overweight and obesity among Intermediate school Saudi male students at Albaha city is 17.3%, and 8.97% respectively. The most common risk factor of overweight and obesity encountered in the studied group is the sedentary life followed by poor dietary habits. *Conclusion:* The obtained prevalence of obesity is comparable to studies done at the national and international levels. All known complications of obesity have been reported to occur in the studied group except for stroke.

Medical Science, 2020, 24(105), 3259-3265

CASE REPORT

Basal cell carcinoma over the breast with unusual presentation: A case report

Sahal Samarkandy, Awdh Alamri, Bushra Alradadi, Basel Almalki

The most common skin malignancy is basal cell carcinoma. Sun exposed areas are most commonly affected sites in the body because sun exposure is the main risk factor. Rarely, the nipple areola complex can be affected. There are several dermoscopic features in basal cell carcinoma, such as arborizing vessels and spoke-wheel areas. However, a yellow lobulated structure is a dermoscopic feature that is unusual to be seen in basal cell carcinoma. Here, we report a case of basal cell carcinoma over the nipple areola complex that showed this rare dermoscopic feature.

Post radiofrequency full thickness burn in a case of osteoid osteoma of ulna: A case report and review of literature

Aditya Kekatpure, Naresh Dhaniwala, Aashay Kekatpure, Abhiram Awasthi, Suvarn Gupta, Sunil Nikose, Kiran Saoji, Priyank Bhatt, Ulhas Dudhekar

Case: 33-year-old male was diagnosed as a case of Osteoid Osteoma of right Ulna based on clinical history and radiological investigation. After failed conservative management, the patient opted for radiofrequency ablation (RFA) as a treatment option. Two weeks post procedure; the patient developed a deep full thickness skin necrosis at the procedure site. The wound was managed with debridement and negative Pressure wound therapy (NPWT) followed by secondary wound closure. *Conclusions:* Full thickness thermal skin necrosis is one of the rare potential complications of RFA. NPWT can play an important role and hasten wound healing in such cases.

Medical Science, 2020, 24(105), 3270-3276

Status epilepticus presenting feature of pulmonary embolism: Rarest of rare combination

Charan Bagga, Iftekhar Ansari, Amrutha Garikapathi, Irshadv, Srinivas Naik, Sachin Agrawal, Sunil Kumar

Generalized seizures secondary to underlying pulmonary embolism is rare phenomenon. Pulmonary embolism is a significant cause of mortality due to difficulty in diagnosis especially in absence of any obvious clues, as its presentation ranges from symptomless to sudden death. Here by presenting a case of 49-year-old male who presented with continuous episodes of generalized tonic clonic seizure for 30 minutes, due to pulmonary embolism associated with Hyperhomocysteinemia.

Medical Science, 2020, 24(105), 3277-3280

PERSPECTIVE

In Light of COVID-19 Crisis: Proposed Guidelines for the "New Norm" of Anatomy Teaching

Mohammed H. Karrar Alsharif, Hosam Eldeen Elsadig Gasmalla, Abubaker Y. Elamin, Juman M. Almasaad, Ahmed Eisa Elhag

The recent COVID-19 has impacted all the human activities around the globe, and medical education was no exception. During this time, e-learning and technology-enhanced learning has gained more attention. Since the crisis shows evidence of lasting for more than expected, it is necessary to prepare guidelines that accommodate and adapt to the situation, especially in anatomy teaching, in which replacing working in the lab by virtual cadavers is still a field of active debate among anatomists. Thus the aim of this guide is not to appraise the educational modalities; instead, we embrace all of them and provide a brief description of each one with proposed guidelines and useful tips. This guide will shed light on the administrative, educational and infection control measures to be taken, including all teaching modalities in anatomy: students' learning by performing a dissection, and learning based on prosected cadavers, bones, plastinated specimens, plastic models and students' learning using virtual cadavers/specimens. Thus, it does not only serve the educationists, but its scope extends to all the personnel whether they are administrative staff, technicians, workers, or anatomy teachers, this guide also serves medical students undergoing anatomy teaching. The guide comprises two levels; the first one is concerned about teaching anatomy at the level of demonstrating the anatomical structures, while the second level is concerned about the assessment issues.

Medical Science, 2020, 24(105), 3281-3290

ANALYSIS

RETRACTED: Value of plasma NGAL in the diagnosis of cardiorenal syndrome type 1

Hao Thai Phan, Tien Anh Hoang, Bao Bui Hoang, Minh Van Huynh

Medical Science, 2020, 24(105), 3291-3301

Relative frequency of odontogenic and non- odontogenic cysts – A retrospective analysis of 145 cases

Somalee Mahapatra, Priyanka Debta, Saswati Siddhartha, Manoranjan Dash, Preeti Y Shadangi, Anurag Dani

Background: The purpose of this study is to determine the frequency of distribution of odontogenic cysts and non odontogenic cysts in Odisha based population. *Methods:* A retrospective study was carried out and 145 cases of cysts were selected and were analyzed for demographic data. *Results:* 106 of the 145 cases of cysts, classified as cysts of odontogenic origin classified and non odontogenic origin. In the odontogenic cysts the most common are - Radicular Cysts (47%) with OKC (28%) and then DC (18%). *Conclusion:* Our study attempted in showing various types of cysts both odontogenic and non odontogenic type in the people residing in Odisha, which till now is rarely reported. It helps us to know which type of odontogenic cyst/non odontogenic cyst is most prevalent in Odisha population and suggesting the wide range of involvement OC and non OC in respect of age, gender and site.

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Criteria for Successful Salvage of Failing Autogenous Hemodialysis Arteriovenous Fistulae Using balloon Angioplasty

Ahmed Fathy Abdelaziz Abohadr, Mohamed Mahmoud Zaki, Atef Abdel Hameed Desoky, Mostafa Soliman Abdelbary

Background: Hemodialysis arteriovenous fistula dysfunction is a big challenging problem. Maintenance of this vascular access is one of corner stones in the care of patients with end stage renal disease. Ballooning angioplasty is the first line of salvage of failing arteriovenous fistula (AVF) due to stenosis of venous outflow. **Aim:** This prospective study aims at exploring factors affecting the outcome of ballooning angioplasty of failing arteriovenous fistula and postulating criteria for success of intervention. **Methods:** 40 patients with failing autogenous arteriovenous fistulae were recruited for percutaneous transluminal balloon angioplasty in the period from May 2018 to May 2019, follow up done for one year till May 2020. Technical & Clinical success rates were reported. The variables, including patients' demographics, co-morbidities, medications, fistula age, fistula type, site, number of lesions and degree of stenosis were analyzed and correlated with primary and secondary patency rates. **Results:** The median age of the AVF in this study since their creation was 24 months, we had 40 failing AVF: 16 (40%) radiocephalic AVF, 17 (42.5%) brachiocephalic AVF and 7 (17.5%) brachio basilic AVF. The most common cause of autogenous AVF dysfunction was 90-99% stenosis while the most common site of stenosis was juxta-anastomotic (52.5%). Technical and clinical success rates of the study population were 97.5% and 95% respectively. The median postintervention primary and secondary patency during one year follow up were 6 and 12 months respectively. The primary patency at 1, 3, 6, 9, 12 months were 87.5%, 75%, 55%, 40% and 32.5% respectively. Univariate cox regression analysis of the variables that potentially affect success and patency of the procedure we found that three factors are associated with decrease both primary and secondary patency. Hyperlipidemia was associated with decrease primary patency with HR (95% CI) of 2.475 (1.034 – 5.926) and p-value of 0.042 and decrease in secondary patency with HR (95% CI) of 15.848 (1.839 – 136.586) and p-value of 0.012. Insulin intake was associated with decrease in primary patency with HR (95% CI) 3.531 (1.526 – 8.168) and p-value of 0.003 and decrease in secondary patency with HR (95% CI) 13.452 (1.563– 115.748) and p-value of 0.018. The presence of cephalic arch stenosis was also associated with decrease in primary patency with HR (95% CI) 4.950 (1.983 – 12.355) and p-value of 0.001 and decrease in secondary patency with HR (95% CI) 29.856 (3.418 – 260.795) and with p-value = 0.002. Multivariate cox regression analysis was done for the variables with significant association in univariate analysis (table 3) and found that primary patency was reduced by insulin intake with HR (95% CI) of 2.876 (1.200 – 6.889) and p-value of 0.018 and the presence of cephalic arch stenosis HR (95% CI) of 3.050 (1.158 – 8.030) and p value 0.024. And the secondary patency was found to be reduced only by the presence of cephalic arch stenosis HR (95% CI) of 17.794 (1.463 – 220.814) and p value 0.024. **Conclusion:** Ballooning angioplasty is an important method for salvage of failing hemodialysis arteriovenous fistula but the primary and secondary patency affected hugely by the site of stenosis (cephalic arch stenosis is associated with least primary and secondary patency); the use of some drugs as insulin decrease the primary patency. There is no proved association between medical comorbidities and patency.

Medical Science, 2020, 24(105), 3312-3318

REPORT

Causes and Clinical Presentation of Upper Airway Obstruction among Sudanese Children

Yaseen Mohammed Alameen, Amar Fathi Mohamed Khalifa

Background: Acute upper airway obstruction regardless of the cause can be a life- threatening emergency. Complete obstruction will lead to respiratory failure followed by cardiac arrest in minutes. In contrast, a child with partial obstruction may initially have an adequate airway, which may be followed by recurrent chest infections or attacks of stridor. **Objectives:** To investigate the different causes of upper airway obstruction among Sudanese. **Patients and methods:** This is a prospective observational hospital based study conducted in ENT Khartoum Teaching Hospital from October 2017 to October 2018. 62 patients were included in the study. Data were collected from the patients and their guardians using pre coded pretested questionnaire developed specifically for this study after consulting literature and epidemiologist. The data analyzed using SPSS software program and p value of 0.05 or less considered significant. **Results:** The male: female ratio is 1.48: 1.00. The mean age of patients was found to be 2 years and 9 months, with 87.1% of patients belonging to the age group 0- 5 years. The most common cause of obstruction was foreign body aspiration (19.4%) followed by bilateral choanal atresia and laryngomalacia (14.5%) for each and croup in (9.7 %). At presentation; all patients (100%) were dyspnoeic and distressed, 85.5% of them had obvious stridor while the remaining (14.5%) presented with cyanosis. **Conclusion:** upper airway obstruction in children affects mostly younger children less than 5 years. The most common cause is foreign body larynx aspiration. The most common presentation in this group is stridor.

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ANALYSIS

The use of neuromuscular electrical stimulation in vaginoperineorrhaphy (rectocele repair)

Ettedal Aljahdali

Introduction: This study presenting experience of utilizing neuromuscular stimulation in posterior vaginal wall muscles repair to identify pelvic floor muscles defects. **Methods:** This prospective study carried at King Abdulaziz University Hospital (KAUH) and Baksh private Hospital, Jeddah, Saudi Arabia from May 2019 till June 2020. Attended 20 patients with rectocele. Patients demographic and clinical characteristics were collected. Pre-repair assessment of rectocele were recorded. Neuromuscular electrical stimulation was used intraoperatively for initial muscles defects evaluations then during dissection to identified muscles at applying stitches of repair

and at repair conclusion for final vaginoperineal muscles assessment. Pain intensity, vaginal calibration and intercourse and sexual satisfactions were evaluated. Patients were followed up post-operative. *Results:* Repair causes were sexual dissatisfaction (100%), recurrent vaginitis (85.0%), difficult defecation (75.0%), urinary incontinence (65.0%), urinary tract infections (50.0%), dyspareunia (50.0%). All patients had rectocele and cystocele, defective perineal body, 8 (40.0%) urethrocele, 4 (20.0%) abnormal vaginal mucosa. Post-procedure vaginal width, vaginal caliberation, pain scale, intercourse and sexual satisfactions improved versus pre-procedure. *Conclusions:* High beneficial of neuromuscular stimulation usage in intra-operative identifying vaginal and perineal muscles defects.

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Right Ventricular Function after isolated Mitral valve Replacement in Rheumatic Mitral Stenosis with Pulmonary Hypertension

Ahmed M Nasr, Ahmed M. Fathy Ghoneim, Ahmed Abdel Galeel Ahmed, Mohamed Alaa Nady, Ahmed Elminshawy

Background: Right ventricular global function (RVF) of the high pressure right ventricle in mitral stenosis patient's post Mitral Valve Replacement (MVR) had not been well-defined. *Objectives:* We evaluated the MVR effects on RVF in immediate and mid-term post-operative periods for mitral stenosis status *Methods:* A prospective observational study was conducted on 80 patients with mitral stenosis. RVF evaluated pre, immediately post, 3 and 6 months Post MVR by both conventional and tissue Doppler echocardiography imaging process. Where, evaluated patients were divided into 2 groups (Group (I) PAP>40 mm Hg, n: 26; Group (II) PAP<40 mm Hg, n: 54) according to systolic pulmonary artery pressure which was recorded through using echocardiography prior to MVR. *Results:* After MVR mean gradient, PASP and LA showed significant decrease. However, this PASP significance was decreased at 3 to 6 months follow up (Mean SD from 42.67±11.3 to 47.36±13.69). Significant post MVR increase in TAPSE, RVFAC%, E Peak in addition to significant decrease in RA maximal volume, deceleration time, A peak and MPI indicating improved RV function. 6 months follow up showed decreased significance of TAPSE, RA maximum volume and MPI. However, the significance was lost in RVFAC%, A and E peak. Similar results were obtained on comparing group (II) with overall group. *Conclusion:* RVF improved significantly after MVR during the immediate postoperative and short term, those positive effects decreased with patients developing pulmonary hypertension (group II) for subsequent mid-term follow-ups. Denoting how important is to intervene in those patients before development of pulmonary hypertension for a better RV response.

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Risk factors for hypertension disease among a population in Al-Fasher City – Sudan

Ahmed Abdalla Jarelnape

Background: Hypertension is the most significant risk factor for cardiovascular and kidney maladies and the main risk factor for mortality. *Aim:* To study the risk factors of hypertension among the adult population. *Methods:* This study was a descriptive cross-sectional community-based study conducted on adults (above 18 years) in Al-Fasher City between April and December. A cluster sampling technique was used to draw the study sample of 4325 participants. The data were collected using a standardized questionnaire with 22 ends closed questions. The collected data were analyzed using the statistical package for science (SPSS) version 23. The results were displayed as percentages, frequencies, and cross-tabulation. The statistical significance was tested using the Chi-Square test and the P-value is >0.05. *Results:* This study revealed that the prevalence of hypertension was 33% and supported evidence that hypertension increased as age increased. The prevalence of hypertension was higher among the age group above 55 years old (14.6%), and the percentage was higher among females compared to males. The risk factors significantly associated with hypertension were age, weight and obesity. *Conclusion:* This study revealed that hypertension increased as age increased, and it has also been shown that the risk factors associated with the disease are age, salt intake, and body mass index.

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Pediatrics otological emergencies among Sudanese children

Shaimaa Salaheldeen Mahmoud, Amar Fathi Mohamed Khalifa

Background: Otological emergencies among children are very common in all communities. Swift recognition and prompt institution of management is very crucial to successful outcome of otological emergencies. *Objectives:* To determine the spectrum of pediatrics otological emergencies at Khartoum ENT hospital. *Patients and methods:* This is a cross-sectional; hospital based observational study conducted from September 2017 to May 2018. It included all pediatrics patients who presented to Khartoum ENT teaching hospital complaining of ear emergency. Pre coded pre tested questionnaire was used to collect data. Data was analyzed using Microsoft excel and SPSS version 22. *Results:* This study included 313 respondents. Their age was up to 16 years with mean age (1.87±0.75) years. The main affected age group of these patients was 6-10 years old as 131 patients (41.9%). Male to female ratio was 1.26:1. The commonest presenting symptom was ear pain in 236 patients (48.9%), followed by ear discharge in 120 patients (24.8%); Those symptoms were common on the right ear (136 patients) representing 43.5%, followed by left ear symptoms in 131 patients (41.9%), while only 46 patients had bilateral ear complaint (14.7%). Regarding commonest diagnosis; acute otitis media was the commonest which seen in 177 patients (56.5%), foreign body in the external ear canal in 55 patients (17.6%), the least frequent diagnosis were mastoid abscess in 5 patients (1.6%) and frunculosis in 5 patients (1.6%). *Conclusion:* The study concluded that the most commonly affected age group 6-10 years, with slight male predominance. The commonest presenting symptom was ear pain followed by discharge. The commonest neuro-otological symptom associated with ear emergencies was fever. The commonest otological emergency was acute otitis media followed by foreign body ear.

The prognostic value of B-catenin, CD10 and p63 Immunohistochemical expression in urothelial carcinoma

Abdulkarim Hasan, Reda Elhawary, Nasser Omar, Esam Mandour

Background: Detection of high-grade urothelial carcinoma is important for modification of therapy and improving the prognosis. We studied the prognostic value of β -catenin, CD10 and p63 immunohistochemical expression in urothelial carcinoma and correlated this expression with the tumor grade and stage to evaluate the prognostic value of those commonly used markers. *Material and Methods:* Eighty four cases of urinary bladder urothelial carcinoma were obtained from the pathology archive and reexamined histologically for diagnosis, grading and staging then stained with β -catenin, CD10, and p63 immunohistochemistry and evaluated. *Results:* Thirty cases were non invasive carcinomas and fifty four cases were invasive carcinomas. There was a significant relationship between β -catenin positivity and higher tumor stage and higher tumor grade. CD10 expression showed significant correlation with tumor grade ($p=0.006$) and tumor invasion. Also P63 antibody immunostaining expression revealed a significant correlation with tumor grade and tumor invasion. *Conclusion:* β -catenin, CD10 and p63 expression can be used as a prognostic factor for high grade invasive urothelial carcinoma.

Medical Science, 2020, 24(105), 3362-3369

CASE REPORT

Aesthetic management of missing anterior teeth in Binder Syndrome- A Case report

Shriya Prakash Murarka, Sunita Shrivastav, Ranjit Kamble, Pooja S. Bidwai, Swapnaja Gosavi, Zoher Merchant

Poor esthetics and its management is a vital orthodontic goal in adults is one of the prime concerns during orthodontic treatment is maintaining the esthetics. It becomes more mandatory in cases where there are anterior teeth/tooth losses and during orthodontic treatment may lead to psychosocial problems. One of the rare conditions is the Binder Syndrome, which is, one of the rare conditions that shows midline cleft and at times missing premaxilla consequence of which is missing anterior teeth. Orthodontic treatment aimed at alignment of teeth while maintaining space for prosthesis of the missing anterior teeth becomes an integral part of patient management in such cases. Utilizing the riding pontics during Orthodontic treatment helps in reducing the psychological trauma particularly in patients with Binder Syndrome.

Medical Science, 2020, 24(105), 3370-3375

ANALYSIS

Prevalence of depression among chronic back pain patients attending district hospital in Malaysia

Mohammad Arshad Ikram, Philip George, Jasmin Can Wei Ng, Sinthia Ramani, Saw Yeon Ng, Abdul Rauf Bin Hj Ahmad, Fazrina Ayu Binti Abdul Sani, Denesh Kumar Shunmugam, Andrew Vinesh Susinadan, Syed Shahzad Hasan

Background: It is generally agreed that the relationship between chronic low back pain and depression is bidirectional. Depression can complicate the management and interfere with recovery in chronic back pain and similarly, chronic back pain can induce depression. Often if patients with depression are not managed, their back-pain morbidity may be prolonged. *Objective:* The purpose of this study was to assess the prevalence of depression among different ethnic groups with chronic low back pain (CLBP). *Methods:* A cross-sectional prospective study was done on clinically diagnosed CLBP patients attending orthopaedic clinic at Hospital Tuanku Jaafar, Seremban, Malaysia over twelve months between July and December 2019. The convenience sampling was used to recruit study participants. The Ministry of Health (MOH) pain scale and Patient Health Questionnaire (PHQ-9) instruments were used to identify the severity of pain and depressive symptoms and to obtain socio-demographic. SPSS was used to evaluate the relationship between demographic factors, pain, and depressive symptoms. *Results:* A total of 100 patients with CLBP comprising 71 females and 29 males participated in the study. About 68% scored positively on the PHQ-9 with 40% having moderate to severe rating scores. The risk of depressive symptoms increased with the severity of pain. 77.8% of the studied population with severe CLBP experienced depressive symptoms. Among the different ethnic groups, the prevalence of depression in Indians was 83.3%, while it was 58.2% among Malays. *Conclusion:* This study shows that two-thirds of patients with CLBP have depression, and the prevalence is low in Malays as compare to other races.

Medical Science, 2020, 24(105), 3376-3384

Value of plasma NGAL in the 12-month all-cause mortality prognosis of acute heart failure or acute decompensated heart failure

Hao Thai Phan, Tien Anh Hoang, Bao Bui Hoang, Minh Van Huynh

Background: The presence of acute kidney injury in the setting of acute heart failure (AHF) or acute decompensated heart failure (ADHF) is very popular and was called cardiorenal syndrome 1 (CRS1). CRS1 is associated with significant morbidity and mortality. Neutrophil gelatinase-associated lipocalin (NGAL) is an early predictor of acute kidney injury and poor outcomes in various diseases; though, in AHF or ADHF patients, its significance remains poorly understood. This study was aimed to evaluate the 12 month prognostic value of plasma NGAL in AHF or ADHF patients. *Methods:* There were 139 patients with AHF or ADHF in the department

of cardiovascular resuscitation and Interventional cardiology at Ho Chi Minh City 115 People Hospital from September 2018 to March 2019 and 12 months follow-up. A prospective cohort study was carried out. *Results:* There were 46 all-cause mortality cases (rate 33.1%) 12 months follow up after discharge. There were 11 cases (rate 7.9%) lost to follow-up; mean age 66.12 ± 15.77 , men accounted for 50.4%. The optimal cut-off of NGAL for 12-month all-cause mortality prognosis was > 383.74 ng/ml, AUC 0.632 (95% CI 0.53-0.74, $p = 0.011$), sensitivity 58.7 %, specificity 68.29 %, negative predictive value 74.7%, positive predictive value 50.9%. Kaplan-Meier analysis revealed that the high plasma NGAL (≥ 400 ng/ml) group exhibited a worse prognosis than the low plasma NGAL (< 400 ng/ml) group in 12-month all-cause death (Hazard Ratio 2.56; 95%CI 1.35-4.84, $P=0.0039$). Independent predictors of 12-month all-cause-mortality were identified using multivariable Cox proportional-hazards regression models with backward-stepwise selection method consisted of two variables: level of NGAL, mechanical ventilation at admission. *Conclusions:* Plasma NGAL and mechanical ventilation at admissions were independent predictors of 12-month all-cause mortality in patients with AHF or ADHF. The survival probability 12-month follow-up of high level NGAL (≥ 400 ng/ml) groups were lower than that of low level NGAL (<400 ng/ml), difference was statistically significant $\chi^2 = 8.31$; $p = 0.0047$ by Kaplan-Meier curve.

Medical Science, 2020, 24(105), 3385-3394

Evaluation of effect of atrifel (product of traditional Iranian medicine) on patients with migraine headaches associated with gastrointestinal symptoms

Hemaseh Tavahen, Majid Emtiazy

Background: Migraine is an acute non-communicable psychiatric disease, which causes many problems for affected patients, creating defects in the life process of these individuals. This complication is often collaborative, and treatment of the participated member can be an effective step to overcome the disturbances of migraines. This study aimed to evaluate the effect of atrifel on patients with migraine headaches associated with gastrointestinal symptoms. *Materials and Methods:* This double blind randomized clinical trial was conducted on 124 patients, August 2017 till July 2018, who referred to Neurology Clinic of Shahid Sadoughi Hospital, Yazd, Iran. Patients were randomly and equally divided into control and intervention groups. While subjects of the control group received a daily dose of sodium valproate 200 mg, the participants of the intervention group received both the mentioned tablet and atrifel sagir 50 mg pill before lunch and dinner. The relevant parameters were measured before and eight weeks after the intervention. *Results:* In this research, stress, fatigue, overeating, hearing loud voices, insomnia and consumption of high-calorie foods were more involved in the emergence of migraine, compared to other factors. According to the results, the integrated use of atrifel sagir and sodium valproate significantly reduced the severity of pain, duration of headache and the time required for rest ($P<0.001$). *Conclusion:* According to the results of the study, atrifel sagir along with sodium valproate had considerable impacts on reduction of severity of pain, duration of headache and time required for rest in patients.

Medical Science, 2020, 24(105), 3395-3403

An investigation of empathy in Vietnamese and Indonesian children

Vinh-Long Tran-Chi, Lifthiah Lifthiah, Hai The Hoang, Thuy-Trinh Ngo-Thi, Hong-Gam Ngo-Thi

Empathy is essential to healthy relationships and overall well-being. Previous research suggests that children from East Asian cultures experience more personal distress and less empathic concerns than those from western cultures, but none of these differences between children from Vietnam or Indonesia have been specifically studied. This study attempted to determine the differences between children's empathy in Vietnam and Indonesia. Seven hundred nine children aged 8-12 years-old participated, including 336 Vietnamese and 373 Indonesian children. Results found significant differences in gender, grade level, and nationality on the children's empathy. Girls were higher than boys, younger children were higher than older children, and Indonesian children were higher than Vietnamese children. For the interaction, it was found the interactions between gender and grade level, gender and nationality, and grade level and nationality. Therefore, the differences in children's empathy between Vietnamese and Indonesian children can be explained under a general trend in development as well as the cultural influences in their experience of empathy.

Medical Science, 2020, 24(105), 3404-3412

CASE REPORT

Pediatric neuroinfection caused by *Borrelia burgdorferi* and *Varicella-zoster virus*: A case report

Olha Shvaratska, Victor Mavrutenkoy, Tatiana Mavrutenkova

Background: Pediatric co-infections are an emerging problem due to their ascending prevalence and tendency to blur typical clinical presentation of particular diseases. *Case presentation:* The paper describes a verified case of *Varicella-zoster virus* and *Borrelia burgdorferi* co-infection in a 7-year-old male patient. Neuroinfection manifested ten days after the onset of varicella episode. Acyclovir IV was initiated for acute varicella zoster encephalitis. Concerned with the progression of neurological disorders we performed additional cerebrospinal fluid PCR testing for other potential neuropathogens; *Borrelia burgdorferi* DNA was detected. The patient denied any history of tick exposure. Combination of ceftriaxone and acyclovir IV was effective. *Discussion:* Co-infection with *Varicella-zoster virus* and *B. burgdorferi* may have a permissive deleterious impact on the central nervous system with unclear mechanisms. Testing for molecular biological and/or serological markers of Lyme disease should be a standard procedure in patients with any severe neuroinfection in endemic regions regardless of anamnestic data.

Early gait training program and proprioceptive neuromuscular facilitation in the patient with post debridement amputation – A rare case report

Aachal Birelliwari, Vrushali Athawale, Angela Kapoor, Waqar M. Naqvi

Introduction: Lower limb amputation is most common amputation. Indication for amputation is traumatic injuries, tumours, vascular diseases and thermal injuries. *Case description:* A case of 56 year male, presented in this report who had a pain over right foot with blackish colour discoloration results gangrene over dorsal aspect of right foot. The patient was having the history of diabetes since 10 years and operated with midfoot amputation. The primary goals of the rehabilitation program are to increase range of motion, improve muscle strength and prevention of stiffness and deformities. *Conclusion:* Dynamic balance and overall mobility of patient is improved by Proprioceptive neuromuscular facilitation and also improving the parameters, gait performance and ambulation of patient. The combined effect of strengthening exercises, PNF technique, Gait training had significantly produced the positive effect on patient by performing activities of daily living and improving quality of life of patient.

Medical Science, 2020, 24(105), 3421-3426

ANALYSIS

Social stigma associated with COVID-19 infection in Saudi Arabia: A population based study

Ahmed M. El-Malky, Haya J. Albalawi, Talal A. Alotaibi, Abdullah I. Alamoudi, Dhari A. Aldhafaeri, Khlood A. Alshammari, Afnan A. Alshammari, Turki I. Al-khalaf, Fayez El Shaer

Background: Saudi Arabia is one of the nations impacted by the epidemic of COVID-19. *Objectives:* To address psycho-behavioral problems to the pandemic of COVID-19 in the whole population of Saudi Arabia, namely: 1) obstacles to infection control measures against COVID infections; 2) adverse responses to COVID-19; and 3) fear among the general population in Saudi Arabia. *Methods:* An electronic population based cross sectional survey using a validated electronic questionnaire was performed between 23 July and 1 August 2020. Among the whole estimated target population of COVID-19 patients in Saudi Arabia. Using multi-stage random sampling technique all over the governorates. The six-item variant of the State-Trait-Anxiety-Stock (STAS-6) was used to measure rates of anxiety. Estimated target population of 67,000 Covid-19 patients according to last national report of MOH. A multi stage sampling from different affected governorates. Sample size was calculated using Steven Sampthorn formula to be 2230 patient. Sample was collected from MOH electronic registries approved by the ethical committee of KSUMC # (78/82/KSUMC/IRB-COVID-3792). *Results:* A total of 1,800 full replies have been received. Almost 60 percent reported having trouble wearing a face mask to guard against COVID infection. The mean and standard deviation (SD) for the overall avoidance obstacle value was 35.8 (SD ± 7.1; scale 18 to 68) out of a maximum 72. Male respondents [odds ratio (OR) = 1.25; 95 % confidence interval (CI) 1.03 to 1.51] and many respondents who regarded their health condition as poor / fair (OR = 1.49; 95 % CI 1.31 to 1.82) were indicators of Strong obstacles to avoidance. Negative feelings such as anxiety (74.6%), accompanied by sadness (43.4%) and stigma (23.0%) correlated with SARS-CoV-2 infection has been identified. The addressing groups that their wellbeing was viewed as poor / fair (OR = 2.19; 95 % CI 1.57 to 3.04) and a higher risk was recorded to get more depressive feelings. Anxiety rating results showed 68.0 per cent (95 per cent CI 65.8 to 65.8 per cent). (70.1) mild to extreme anxiety recorded. Participants who see their well-being as poor / fair (OR = 3.46; 95% CI 12.22 to 5.40) and who were female (OR = 1.91; 95 % CI 1.55 to 2.36) were female; predictors with mild to extreme fear. *Conclusion:* Psycho behavioral measures are expected to promote the management and monitoring of the epidemic of COVID-19.

Medical Science, 2020, 24(105), 3427-3437

Virgin Olive Oil Protects the Cornea against Diabetes-Induced Damage in Rats: A Biochemical and Histological Study

Hebah Abdullah Alwafi, Elham Hamed AlGahdali, Buthaina M. Aljehany, Soha Ramadan Altamimi, Hanadi Alwafi, Abdullah Alfayez, Soad Shaker, Hailah Mohammed Almohaimeed

Diabetes mellitus (DM) is a chronic health problem with a growing spread universally. Diabetes poses severe health complications, including neuropathy, cardiomyopathy, and ocular difficulty which is a typical complaint between diabetic subjects. Virgin olive oil is a natural product rich in phenols and other antioxidants. It is commonly recognized to protect against numerous ailments and disorders, including diabetes. The main objective of the present study was to investigate the possible protective role of virgin olive oil against diabetic induced corneal histopathological changes in streptozotocin (STZ) induced diabetic rats. Furthermore, the underlined mechanism was investigated regarding the antioxidant's capacity. Diabetes was induced by giving a single intraperitoneal (i.p.) injection of STZ (40 mg/kg bw). Twenty-four male Sprague-Dawley rats were allocated in 4 equal groups: non-diabetic control, STZ- diabetic, diabetic and olive oil (1.0 ml/100 gmbw/day), and diabetic and metformin (500 mg /kg/bw/day). The experiment design for treatment last for six weeks. Pathological examination of the corneal tissue was used to ascertain the potential protective effect of virgin olive oil against the damage associated with diabetes. The results of this study showed a glycemic and glycosylated hemoglobin lowering effect of virgin olive oil and metformin in STZ-induced diabetes. Moreover, olive oil and metformin reduced the lipid peroxidation product and increased the level of total antioxidants capacity. Furthermore, this study showed an ameliorative effect of olive oil on diabetic induced corneal histopathological complications. In conclusion, olive oil seemed to protect against diabetic induced changes in rat's cornea as it maintained epithelium integrity and prevented keratinization and stroma neovascularization via both controlling blood glucose level and most probably via antioxidant activity.

Knowledge about Cancer Screening among Medical Students and Interns at University of Jeddah and King Abdul-Aziz University

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Background: Cancer screening has been a significant factor leading to reduce the burden of morbidity and death from cancer. Screening is described as presuming identification of an unknown disease with examinations, tests, or other methods that can be applied quickly and easily in a healthy asymptomatic population. Unfortunately, there is no proper focus on cancer screening and tumor markers in addition to the poor awareness about the importance of early detection of cancers. This study aims to evaluate Knowledge about Cancer Screening among medical students and interns at the University of Jeddah and King Abdulaziz University. *Material and method:* a cross-sectional study which was conducted from December 2019 to February 2020 among medical students and interns at the University of Jeddah and King Abdulaziz University in Jeddah, Saudi Arabia. By using a validated questionnaire, the questionnaire-based survey contained 15 questions and demographic data Distributed among medical students and interns to assess the knowledge regarding tumor markers, method of screening, initiation age of screening and frequency of screening. *Result:* a total of 212 participants included in the study, males were more than females (58.5% versus 41.5%). Participant's level of knowledge was poor (less than 50% had adequate knowledge). The best knowledge is shown in clinical years students (4th, 5th, 6th year) compare to pre-clinical (2nd, 3rd year) and interns, they have better knowledge in all types of cancer screening methods, the initiation age of screening and frequency. *Conclusion:* This study found that medical students and interns at the University of Jeddah and King Abdulaziz University in Jeddah have not received adequate knowledge and training in cancer screening modalities, Therefore, our recommendations for future researches are applying the study on many medical schools with different curricula, increasing the sample size, including post-graduate residents, and to increase the number of questions that is related to cancer screening.

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RESEARCH

The relationship between Adipocytokines & Ghrelin and Obesity associated with Type II Diabetes Mellitus among Jordanians

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Background: Type II DM and obesity are both chronic diseases of high morbidity and mortality rates. Impaired glucose regulation is contributed to DM. Obesity is under effect of appetite regulating peptides including leptin and adiponectin, ghrelin and NPY. *Aim:* This case control study aimed to evaluate the association between leptin, adiponectin, ghrelin and NPY in a sample of Jordanian patients with obesity associated with type II DM, and to figure out their possible roles in obesity pathogenesis. *Subjects and Materials:* 188 subjects (90 diabetic patients and 98 normal healthy subjects as a control group) participated in the study, BMI was determined for all subjects. Blood glucose, triacylglycerols and cholesterol were assayed chemically. ELISA was used to estimate insulin, leptin, adiponectin, ghrelin and NPY. *Results:* Insulin level in NODs was significantly lower than NONDs, while, the difference was insignificant between ONDs and ODs. There was significant increase in leptin levels ODs versus NONDs. The levels of adiponectin showed significant decrease in ODs compared to ONDs and NODs. Ghrelin was increased significantly in ONDs and ODs versus NONDs and NODs. NPY was higher significantly in ONDs than NONDs as well as ODs than NODs. *Conclusion:* BMI is significantly correlated to leptin, adiponectin, ghrelin and NPY in the ODs; also, the significant correlations between leptin-adiponectin, leptin-ghrelin, leptin-NPY, adiponectin-ghrelin, adiponectin-NPY and ghrelin-NPY in ODs may help to explore the role of these hormones in the pathogenesis of obesity related complications as type II diabetes mellitus.

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In vitro antiviral activity of *Illicium verum* and *Zingiber officinale* ethanolic extracts

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The emergence of viral isolates resistant to viral drugs confirmed the need to constantly discover new and effective antiviral drugs. Medicinal plants represent a safe and renewable source for antiviral drug development which used instead of the chemically synthesized drugs that characterised by many other side effects. The present study aimed to investigate the antiviral role of *Illicium verum* and *Zingiber officinale* ethanolic extracts against A and B influenza virus. The tested plant extracts revealed minimal cytotoxic effect using MTT assay. The obtained results exhibited antiviral effect of both tested plant extracts. This effect was investigated by quantification of viral mRNA and inhibition of neuraminidase (NA) and haemagglutinin (HA) at molecular and biochemical levels. The antiviral effect of *Illicium verum* was higher than *Zingiber officinale*. The response of viral infected cells to plant extract treatments was detected through down regulation of inflammatory CXCL1 and Jun genes in comparison with positive control and clarithromycin antiviral drug. These results demonstrated that, the tested plants can be utilized as a safe new source for developing anti-influenza treatment with further detailed studies.

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Association between whey protein supplements and acne vulgaris

Aziz ALSohaimi

From process of isolated from milk, whey protein was formed. Whey proteins are Whey protein is consisting of β -lactoglobulin, immunoglobulins, α -lactalbumin, Lactoferrin, Lactoperoxidase, glycomacropeptide (GMP) and Bovine Serum Albumin (BSA). Diet and acne etiology had been investigated for several decades. Recent evidence confirmed the association between acne and whey protein. *Materials and Methods:* A total of 88 cases as gym trainers using whey protein to promote muscles strength and placebo were seen during the study period in the dermatology clinic of Al-Baha region from January 2019 to January 2020. Association between acne and whey protein were carefully examined every two weeks for one month. Analysis of the following parameters was applied: location and onset and presentation of lesions. *Results:* Out 88 new cases visited dermatology clinic in the last year, 81 patients had completed the study. Lesions in most of cases started two weeks after ingestion of whey protein (70.5%) versus placebo (5%). By the end of 4 weeks most of cases has acne formation after whey protein ingestion (95%) versus placebo (15%). *Conclusion:* Whey protein used in people to increase their muscle strength is strongly associated with acne.

Medical Science, 2020, 24(105), 3481-3484

ANALYSIS**Investigating the appropriateness of antibiotic usage and misuse for uncomplicated urinary tract infections (UTIs) in the clinics at King Abdul-Aziz Hospital (KAH) in Makkah, Kingdom of Saudi Arabia**

Shahad Al-Ahmadi, Yosra Al-Hindi

Inflammation or infection of the urinary tract is considered to be a critical and common condition that can affect vast numbers of patients yearly. Inappropriate antibiotic prescriptions lead to an increased risk to patients whom can face bacterial resistance. The main aim was to investigate the frequency of this infection and the antibiotic-treatment schemes and errors. A retrospective study was done in three months' time period during 2019 in the out-patient and in-patient clinics at King Abdulaziz Hospital in Makkah (KAH) in the Kingdom of Saudi Arabia. In general, (1,556) subjects have been diagnosed with this infection, consisted of children (13.7%), grown-ups (77.5%), and seniors (8.9%) subjects. 88.7% was the total frequency of these subjects attended clinics. Wide-spectrum of empirical antibiotics was endorsed for 80% of the subjects. The total wide-spread of antibiotic endorsement with at least one type of error was 45.2% (children 52%, grown-ups 45%, and seniors 46%). The most common mistakes were found in dose (38%), length of the treatment (9%), repetition (5%), and the choice of the antibiotic (3.5%). Mistakes in the dosage were significantly higher in children. However, misfolds in the treatment duration were greater in the seniors. Urine cultures of positive results were found in 31.50 % of patients, with Escherichia coli at high rates (77%). In conclusion the findings showed a large degree of misuse use of antibiotics in the care of UTIs at King Abdulaziz Hospital in Makkah, Saudi Arabia.

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Knowledge, awareness, and attitudes of population in Eastern Province during outbreak of novel coronavirus (COVID-19)

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Objective: Coronavirus disease (COVID-19) has been declared a pandemic. The current study aimed to assess public's knowledge, perception, and attitude during COVID-19 outbreak. *Methods:* An online survey was administered during the rapid outbreak of COVID-19 in Saudi Arabia. Questions focused on the signs, symptoms, transmission, prevention, and control of COVID-19. In addition, the attitudes and practices of the participants were explored. Descriptive statistics, t-test, and one-way analysis of variance (ANOVA) which followed by Tukey post-hoc test was conducted. *Results:* 2453 respondents participated in this study. 90.6% of them represent eastern of Saudi Arabia. Most of them had good knowledge about COVID-19. Better knowledge was among female, attitude improve significantly with age and knowledge was significantly higher among higher educational level. The practices of wearing a mask (80.6%) and keeping a safe distance from people in public places (82.5%) were common among the participants. *Conclusion:* Participants demonstrated good knowledge, optimistic attitudes, and practices toward most aspects of the COVID-19 outbreak. Suggesting that governmental efforts of health education about COVID-19 is helpful and important to control the disease.

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Comparative analysis of postural stability in elite and novice recurve archers

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Introduction: Archery is a static game which needs extreme precision, strength and endurance of upper body. Besides this, postural stability is another crucial factor determining the outcome of every shot. An archer's skill is the ability to shoot the arrow in a specific time, to achieve this athlete needs to avoid unnecessary sway which can reduce stability. It has been seen that a high level of postural stability increases the aiming stability of the archers. Therefore, the purpose of the study was to compare the postural stability in Elite and Novice Recurve Archers. *Method:* 50 Novice and 50 Elite Recurve archers between the age group of 15-25 years were recruited. Postural stability was assessed using the Balance Error Scoring System (BESS) on the non-dominant leg. 3 stances (tandem, double & single-leg) on firm and foam surface were tested. The Waterloo Footedness questionnaire-revised was used to

determine leg dominance. Each of the 20-second trials was scored by counting the errors accumulated by the subject. *Results:* Elite archers had significantly less number of balance error on Firm surface (8.48 ± 3.31) $p=0.006$, and on Total BESS score (21.94 ± 4.98) $p=0.025$ than novice archers [Firm surface (10.02 ± 2.035), Total BESS score (24.16 ± 4.744)]. However, there was no statistical difference for foam surface score in elite (13.46 ± 2.84) and novice archers (14.14 ± 4.49), $p=0.368$. *Conclusion:* Elite archers had significantly better postural stability on a firm surface and total score of BESS, whereas on foam testing surface both elite and novice recurve archers showed no statistical differences in the postural stabilizing ability.

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Intra-lesional Injection of Tuberculin Skin Test Antigens as an Immunotherapy for Warts: Open Label Placebo Controlled Clinical Trial

Abdulmajeed Alajlan

Background: Warts are typically skin growths caused by Human Papilloma virus affecting all age groups. Resistance to conventional therapy is a common characteristic of the lesion. Immunotherapy with variant antigens is effectively used in wart therapy. Purified protein derivative (PPD) of tuberculin is tested. *Objective:* To determine the efficacy and adverse effects of intra-lesional injection of PPD antigens in treating common warts. *Methods:* 82 Patients with multiple warts who have not received any treatment for the last 12 weeks have been enrolled in an open labelled, placebo-controlled clinical trial in outpatient dermatology clinics in a tertiary care center. The research has acquired Ethical approval from the IRB in King Saud Medical City and informed consent was signed voluntarily by all patients. Patients were assigned for two groups. Interventional study group for intra-lesional injection of tuberculin skin test antigen, which subdivided in to two different groups: positive PPD skin test ($n=40$) and negative PPD skin test ($n=22$). Control group were intra-lesional normal saline was injected ($n=20$). All patients who lost to follow up 3 months post last injection were excluded from the analysis. We defined success of the injection by complete resolution of one or more warts at injected or none injected sites. *Result:* Seventy-six percent ($31/40$) of the positive PPD patients in the active group showed clearance of one or more warts compared to 10% ($2/20$) of normal saline group ($p<0.005$) While 82 % ($18/22$) of negative PPD patients showed clearance of one or more warts. Out of the responders in the positive PPD patients, 38% percent ($12/31$) cleared anatomically distant warts as well. However, 78% ($14/18$) of the responders in the negative PPD group cleared anatomically distant wart. Analysis of the two groups (positive and negative PPD test). in the active arm showed significantly that multiple injections at single session is more efficacious for distant wart than single injection ($p<0.005$). *Conclusion:* Immunotherapy with intradermal injection of PPD of tuberculin skin antigen is an effective and safe treatment modality for multiple and resistant warts. Multiple PPD injections at one session are more effective than single injection. Positive PPD skin test is not mandatory for its efficacy in our study population.

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CASE REPORT

Lichen Planus Pigmentosus on the palms: Case Report

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Lichen planus pigmentosus (LPP) is uncommon variant of Lichen planus (LP). Lichen planus is a common inflammatory condition of unknown etiology. Here we report a 60-year-old female presented with 7 months history of persistent very itchy skin lesions on her hands. Otherwise, she is healthy. Skin examination revealed non-scaly brownish patches on her palms. Hair, nail and mucous membranes examinations were all normal. Skin biopsy showed hyperkeratosis, hypergranulosis, acanthosis, saw toothing of rete ridges, vacuolar degeneration of the basal layer and band-like lymphohistiocytic cellular infiltrates in the papillary dermis. The patient was diagnosed as LPP. She was started on potent topical steroid treatment with excellent response.

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ANALYSIS

Recognizing Predictors of Ischemic Bowel in Patients with Mechanical Acute Small Bowel Obstruction - A Retrospective Study

Tamer M Abdelrahman, Alaa E Younes

Early and precise diagnosis of bowel strangulation is the main focus of clinicians treating bowel obstructions due to the high morbidity and mortality rate associated with this disease. The objective of this study was to improve the therapeutic prognosis of Small bowel obstruction (SBO) by identifying and assessing predictive factors independently associated with the presence of ischemia. A retrospective study was conducted in two hospitals in TAIF, Saudi Arabia, from January 2015 to January 2020. A total of 151 patients had retrieved from records. Study findings suggest that intestinal ischemia was considerably associated with tachycardia (>100 bpm), signs of peritoneal irritation, White blood cells (WBC) ($\times 10^9/L$) > 10.0 , CRP (≥ 75 mg/l) and CT finding of thickened walled small bowel ≥ 3 mm, Seroperitoneum > 500 ml, and Closed-loop obstruction. The study concluded that the presence of predictors clinically and by investigations in patients with mechanical SBO should alert the clinicians of underlying bowel ischemia and early diagnosis of patients who need surgical intervention, which ensures better therapeutic prognosis and patient outcomes.

CASE REPORT

Emergence profile in anterior implant region by gingival recontouring – 2 year follow up

Syed Ershad Ahmed, Parithimar Kalaiganan S

In spite of successful osseointegration of dental implants, many patients often are displeased with the outcome of the implant treatment due to the poor esthetics of the final restoration. For a proper esthetics of the implant restoration certain factors such as implant positioning, the nature of the hard tissue and texture of the soft tissue and emergence profile play an important role. Emergence profile of the restoration is an integral part for developing a good esthetics and also for maintaining a good health of peri-implant soft tissue. This case report highlights the use of provisional implant restoration to create gingival recontouring.

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ANALYSIS

Vulvar itching among female general population of Saudi Arabia: Cross sectional study

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Background: Vulvar itching can affect any woman at any age. It can lead to scratching and rubbing which can break the skin and can lead to soreness, bleeding and skin infections. We aimed to investigate the prevalence of vulvar itching, its manifestations and the previously doctor diagnosed causes among females in KSA. *Methods:* A cross-sectional study was carried out on general female population of Saudi Arabia, during the period from 1 January to 31 June 2019. Data was collected from Saudi general female population. Multistage random sampling technique was followed. Data was collected by using pre designed online questionnaire which include questions designed to fulfill the study objectives. Risk factors were determined using X^2 test. P value of less than 0.05 was considered statistically significant. *Results:* Among 2791 studied females, the total incidence of vulvar itching was 43.9%. The reported causes were Trichomonas vaginalis 31.9%, fungal infection 33.2%, mixed infection 15.3%, bacterial infection 6.9%, chemical irritation in 1.5% and only 0.1% for chronic cervicitis. According to relation of pruritus vulva to age, marital status, DM, keeping genital area dry and dysuria, our study found that there was significant relation with marital status, DM, keeping genital area dry and dysuria ($P < 0.05$) but, there was no significant relation found with age. *Conclusion:* in our study, the total incidence of vulvar itching was 43.9%. The most frequently reported causes were Trichomonas vaginalis then fungal infection and mixed infection. So, we recommend health education about the preventive measures and prompt treatment of the cases to prevent the recurrence.

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CASE REPORT

Malignant Brenner Tumor- A rare case of ovarian carcinoma

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Ovarian cancer are a heterogenous group of tumors, involving a variety of histological tissue ranging from epithelial tissue, connective tissues, specialized hormone secreting cells to germinal and embryonal cells. Brenner Tumor' (BT) is a rare epithelial ovarian tumor accounting for about 1-2% of all ovarian neoplasms. Malignant Brenner tumor (MBT) is much rarer. Although asymptomatic, they can presents as abdominal discomfort, abdominal pain or abnormal uterine bleeding. On gross appearance, it resembles fibroma of ovary with cut section appearing gritty and yellowish grey. On histological examination, solid and cystic nests of urothelium-like cells surrounded by abundant dense, fibrous stroma are seen. It closely resembles to transitional cell carcinoma of ovary, latter having worse prognosis and needs to be differentiated from Brenner tumor. Currently, most accepted treatment is primary surgical resection with or without lymph node dissection followed by platinum based chemotherapy. We herein review a case of MBT in a postmenopausal woman with abnormal uterine bleeding with emphasis on clinical features, investigations and primary treatment and discuss the current state of the literature and standards of practice regarding this malignancy.

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A simple technique for orientation of iris disc in custom made ocular prosthesis using a transparent graph grid- A case report

Varadharaju Vinutha Kumari, Sami Alduwayhi, Saquib Ahmed Shaikh, Meena kumarai Chikkanna, Narendranath Kumar Ajay, Lavanya Thota

An ocular prosthesis restores the confidence and self-esteem of the patient. Various techniques have been in use to fabricate such prostheses. A custom made ocular prosthesis provides with better adaptation and esthetics over stock eye prosthesis. To improve upon the custom made ocular prosthesis, the position of the iris in the natural contralateral eye can be traced to guide in

positioning the iris disc in the ocular prosthesis. In this case, report a simple and cost-effective method is described to position the iris in a custom ocular prosthesis.

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ANALYSIS

Knowledge, attitude, and perception of dental undergraduate students in different dental schools in Riyadh towards diagnosis and management of dental trauma – A cross sectional study

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Objective: The aim of this study is to evaluate the knowledge and the attitude of dental students toward management of dental trauma cases and to assess the effect of dental education on that, in several dental colleges in Riyadh, Saudi Arabia. *Materials and Methods:* A cross sectional study was conducted on 364 participants. *Results:* The response rate was 80.8%. The association between the attendance of the educational programs and the responses of knowledge questions shows statistically significant association for the treatment of tooth intrusion and extrusion. No statistically significant association was found between the respondents attending educational programs and the responses of the management questions which was assessed with two clinical scenarios. Moreover, no statistically significant association was observed between participants' gender, academic year, university and responses of knowledge and management questions. *Conclusion:* This study demonstrated that the overall knowledge on the management of traumatic injuries was moderate with inadequacy in some specific aspects of dental traumatology among dental students and interns in Riyadh, Saudi Arabia.

Medical Science, 2020, 24(105), 3561-3571

Surgical management of pediatric inguinal hernia repair

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Background: Inguinal hernia (IH) is considered the most common surgical procedure performed in pediatric patients. IH is more prominent in males. *Objective:* The purpose of this study to investigate the epidemiology and outcomes of IH in our center. *Methods:* A five- year retrospective study carried out at, Tabuk, SA since 2015 in all the patients who underwent to IH repair. *Results:* This study included 150 patients who underwent surgical management for an IH. Males were more prominent. A 40% of patients were preterm. Approximately half of the patients were delivered with a low birth weight (LBW). Most of the patients were younger than one year (59.3%). Right IH is the most common side. Incarcerated hernia was reported in 7 patients (4.7%), and a strangulating hernia was reported in 2 patients (1.3%). However, an obstructed hernia was only reported in one patient (0.7%). Postoperative complications were not observed in the majority of patients. *Conclusion:* In the present study, the presentation of IH was more frequent in children younger than one year in age. Approximately half patient delivered with LBW.

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CASE REPORT

An unusual case of hematemesis in a case of cirrhosis with portal hypertension- in a realm of double jeopardy

Amol Andhale, Sourya Acharya, Samarth Shukla, Sujal Patel, Shubham Nimkar, Mansi Patel

Portal hypertension in cirrhotic patients causes hematemesis usually due to rupture of esophageal varices. At the same time portal hypertension is also a risk factor for development of splenic artery aneurysm (SAA). One of the potential complications of SAA is erosion and rupture into the stomach leading to intra gastric hemorrhage and, or intra peritoneal hemorrhage. We report a case of a 60 year old male patient, who had cirrhosis of liver with portal hypertension and presented to us with hematemesis. During therapeutic endoscopic band ligation, a pulsatile mass along the posterior wall of stomach was seen, which was confirmed as splenic artery aneurysm in CECT of abdomen. To prevent further potential risk of hemorrhage a coiling embolization was performed.

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ANALYSIS

Length of the umbilical cord among Sudanese neonates

Elghazaly A. Elghazaly

Objective: Study the human umbilical cord before and after the delivery is importance, because it plays an essential role in the fetal development. The aim of this work is to measure the umbilical cord length in term Sudanese neonates and to study the differences in cord length, between singleton to twin birth and between neonatal genders. *Materials and methods:* length of 721 umbilical cords of singleton and twin neonates was measured, in first 2 to 3 minutes after delivery, in Omdurman Maternity Hospital, Sudan, 2019. *Inclusion criteria:* full term single and twins birth cases, of normal vaginal delivery, looked health neonates. *Exclusion criteria:* preterm labor, triplets, quadruplets, caesarean sections deliveries and cord with true knot. The data was analyzed by using SPSS statistical software version 20. *Results and conclusion:* the average length of the umbilical cord was about 68 cm in singleton and 47 cm in the

twin, being longer in males of single birth and in females of twin birth cases. Maximum length of the umbilical cord in singleton neonates were 112 cm in male, 91cm in female, and in twin were 62 cm in male and 78 cm in female neonates. About 1.5% of cords were shorter than 30 cm, 3.5% were longer than 90 cm and 95.0% were of normal length. 20 cm of the cord length is suitable for fetus to be delivered vaginally.

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The relationship of biceps brachii muscle cross-sectional area with chronic obstructive pulmonary disease and its severity

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Introduction: Chronic obstructive pulmonary disease (COPD) is a multi-dimensional disease and one of the leading causes of mortality worldwide. In patients with COPD, extra-pulmonary effects of this disease such as muscle atrophy are often seen. This study performed to investigate relationship of biceps brachii muscle cross-sectional area (CSA) with chronic obstructive pulmonary disease and its severity. *Materials & Methods:* In this cross-sectional study, 50 patients with COPD and 50 non-COPD outpatient subjects referred to Razi Hospital in Rasht (northern Iran) in 2018 were investigated. Basic demographic characteristics were recorded in checklist. The upper limb biceps brachii muscle CSA was measured by ultrasonography in all subjects. Intravenous use of steroids, severe acute exacerbation over the last year, dyspnea severity (mMRC dyspnea scale), FEV1 and FEV1 / FVC (% of predicted) (in Spirometry), the airflow limitation severity (GOLD criteria) in COPD patients were evaluated. The collected data were analyzed using SPSS-24. *Results:* The groups were matched for age, sex, BMI, smoking and occupation type ($P > 0.05$). Mean biceps brachii CSA in COPD group ($388.106 \pm 50.26 \text{ mm}^2$) was significantly lower than the control group ($465.90 \pm 12.97 \text{ mm}^2$). In linear regression analysis, COPD was the predictor affecting the muscle CSA. In COPD patients, muscle CSA was directly correlated with FEV1 ($r = 0.589$) and FEV1 / FVC ($r = 0.396$). There was an inverse correlation between the muscle CSA and the frequency of severe acute exacerbation ($r = -0.380$). No significant difference was found between the groups based on mMRC dyspnea scale in terms of the mean biceps brachii CSA ($P = 0.070$). However, this difference was significant between the groups of GOLD2 ($448.01 \pm 12.42 \text{ mm}^2$), GOLD3 ($420.91 \pm 0.72 \text{ mm}^2$), and GOLD4 ($281.57 \pm 54.60 \text{ mm}^2$) ($P < 0.001$). In linear regression analysis, patient's age and GOLD criteria (airflow limitation severity) were the predictive factors affecting the muscle CSA in COPD patients. *Conclusions:* The results of this study showed that chronic obstructive pulmonary disease (COPD) affects the biceps brachii muscle of the upper limbs and leads to a decrease in muscle CSA.

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Evaluation of immune factors of blood serum after pulpectomy of dog's teeth using two root filling material

Leila Basir, Zahra Basir, Hadi Naddaf, Maryam Kouchak, Shabnam Rasti

Background and Purpose: This study aimed to evaluate the immune factors of blood serum (IgG, IgM, and IgE serum levels and complement components C3 and C4 and blood cells after pulpectomy of dog's teeth using two root fillers (ZOE and Chitosan). *Method:* The present study is a semi-experimental study conducted on 40 root canals in two groups (20 channels in 2 dogs for Chitosan and 20 channels equal to 2 dogs for ZOE). The healthy teeth of the first, second and third premolars of the lower and upper jaw (40 canals) in 4 dogs aged 12-18 months were selected for the treatment of pulpectomy. Before treatment and after 28 days, 5 cc of blood was taken from the dogs and the serum immune factors were studied. The mean values obtained from the two groups were compared using T-test. Data analysis was performed using SPSS software version 22. *Findings:* The rate of WBC changes between the two treatment groups with ZOE has increased compared to Chitosan ($P = 0.03$). The levels of C3 and C4 decreased more due to the use of ZOE than chitosan. The rate of IgG changes with ZOE increased compared to chitosan. The rate of change in IgM and IgE between the two treatments groups with ZOE was not significant compared to Chitosan. IgE levels in the chitosan-treated group did not change significantly ($P > 0.9$). The rate of IgE changes between the two treatment groups with ZOE and chitosan was not significant ($P = 0.65$). There was no change in the serum level of factors associated with red blood cells, including, number of red blood cells, HCT, MCV, MCH, and MCHC. The rate of albumin and total protein changes between the two treatment groups with ZOE was not significant compared to chitosan. *Conclusion:* In comparison between two root canal material, ZOE increased white blood cells and immunoglobulins. There was no difference in blood factors and protein levels between the two groups.

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Hand Hygiene and knowledge of Intensive Care Unit Visitors towards Hospital Acquired Infection

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Background: Poor compliance with hand hygiene (HH) is associated with higher rates of hospital-acquired infection (HAI). *Aim:* to determine HH compliance of intensive care units (ICUs) visitors as well as knowledge of visitors towards HAI. *Methods:* This cross-sectional study utilized a self-administered questionnaire to collect demographic data and assess visitors' knowledge regarding HAI. Visitors were also directly observed to assess HH before entering and after exiting ICU. *Results:* A total of 381 persons participated in this study. Only 25.7% used antiseptic solution before entering the ICU. The mean knowledge score was 5.08 ± 2.09 . Most respondents (81.4%) had moderate to high levels of knowledge, while 18.6% had a low level of knowledge. Compliance with HH was significantly associated with male gender ($p = 0.009$), but not with level of knowledge. The level of knowledge was significantly associated with male gender ($p = 0.005$) and educational level ($p = 0.042$). *Conclusions:* Rate of visitors' compliance with HH was low

and was not related to knowledge. Education of visitors about the importance of HH in preventing HAI is required. Reminders of HH should be used.

Medical Science, 2020, 24(105), 3614-3622

Consumer-Oriented Evaluation of the Clinical Service Provided in Diabetic Health Education: A Prospective Observational Study

Yasser Sabr

Background: Lack of knowledge and understanding about diabetes are important barriers to cure. Treatment of diabetes alone without education is not sufficient. Patient education could meet us today on our cell phones. *Aim:* Our aim is to establish an educational model for diabetic patients and evaluate its effectiveness in the clinical patient outcome. The theme of this study is diabetes education. And to know how far the prompt well-structured education could affect the clinical status and the quality of life of a poorly controlled diabetic patients. *Methods:* 702 patients with type 1 diabetes were followed for 2 years (2019, 2020), by condensed friendly education and training sessions. A conventional model groups (498 patients) were enrolled as comparative group. Our activities were mainly through direct individual approach and social media, structured in the form of visits. The study was done in a specialized clinics of diabetes (SDC) in a tertiary university hospital. We evaluated the clinical status, psychological, socio-cultural and satisfaction of the patients, pre and post education, through patient satisfaction survey. We assessed our patients at the beginning of the study, throughout, and at the time of discharge. Quantitative and qualitative data were compared statistically by paired t test and chi-square test at 0.05 level of significance. *Results:* Patients were evaluated 2 years after the interventional program. 96.7% of our patients were completely satisfied by what they have achieved through this project. The average HbA1C become less than eight in 54% of patients. Mean HbA1C drop was 2.7%. Patients with HbA1C 8-9%, BP <140/80, and LDL <3.36 mmol/l, were 46%, 51% and 79% respectively. Normal mean blood pressure of 56% of participants were 132/77. The mean LDL level of 71% of participants was 2.25. Of the participants, 27% had mean discharge of HbA1c of 7.3. Net promotor score of SDC was 85%, were promotors, passives and detractors were 87.8%, 9.5% and 2.8% respectively, P-value <0.05. *Conclusion:* Training and self-management assistance services are cost-effective and preferable to routine treatment. Education programs were more effective in lowering HbA1c. The attendees would find it useful and pleasant.

Medical Science, 2020, 24(105), 3623-3638

Assessment of the role of umbilical artery doppler ultrasound in predicting mode of delivery and neonatal outcome in high risk pregnancy

Ghada S. Al sakkal, Alan A. Abdul kader

Objective: to assess umbilical artery Doppler indices in relation to fetal outcome in high risk pregnancies. *Methods:* The present prospective study was carried out from the 1st of January 2019 until the 1st of October 2019 in Maternity Teaching Hospital in Erbil, Kurdistan Region-Iraq. The study compared two groups of high risk pregnant women (A and B) each group included 106 women. One of the groups underwent Doppler velocimetry, while the other one did not. Required data including age, gravidity, gestational age, and resistant index from Doppler's, mode of delivery, meconium, APGAR1, APGAR5, and neonatal weight were collected for both groups. *Results:* The study population included 28 women with gestational diabetes, 100 women with preeclampsia and 84 women with gestational hypertension. Doppler was done for group A only, The mean age of women of the whole sample was 30.0 ± 6.37 years. The majority of women in group A delivered by cesarean section compared with 11.3% of women of group B. There was a significant relationship between history of hypertension and diabetes mellitus and birth weight ($p < 0.05$). *Conclusions:* Umbilical artery Doppler is an effective tool for prenatal monitoring in women with high risk pregnancy.

Medical Science, 2020, 24(105), 3639-3646

Screening L-Glutaminase producing some *Pseudomonas* sp. isolated from contact lenses by Rapid Plate Assay

Al-Zahrani NH

L-glutaminase is enzyme led to decomposition glutamine to glutamic and ammonia in the presence of water. Twenty isolates were isolated from the eyes wearers' lenses in Jeddah city-Saudi Arabia. The bacterial ability to produce L-glutaminase was detected by rapid plate method and assayed by agar well diffusion method. Based on 16S rDNA sequencing, the highest L-glutaminase producer strain was submitted under accession numbers as (*pseudomonas aeruginosa* B17 KX963365.1). The maximum enzyme production was performed at 35 °C in a shaking incubator, at 7pH after 24 hours by *pseudomonas aeruginosa*B17, and was partially purified. The enzyme was precipitable at 80% ammonium sulphate sedimentation; it was thermally stable at 30 °C and 7.5 pH. SDS-PAGE of purify L-glutaminase given (1) band with molecular weight (138.761kb).

Medical Science, 2020, 24(105), 3647-3654

RESEARCH

Changes in blood and inner organs of immunodeficient rats induced by complex of natural peptides and proteins with immunostimulating activity

Elena Kotenkova, Ekaterina Vasilevskaya, Ekaterina Barysheva, Irina Chernukha, Andrey Lisitsyn

The results of complex extract (*Sus Scrofa* thymus, spleen and lymph nodes) and its fractions (molecular weight: <5 kDa; 5-30 kDa; > 30 kDa) study on alterations in morphology, blood biochemical status, and antioxidant capacity of Wistar rats with cyclophosphamide immunodeficiency model are present in this article. The significant difference noted in fractions <5 kDa and fractions >30 kDa that was a minimal tendency to recovery after immunosuppression. Thus, positive effect was in fraction 5-30 kDa, it was revealed protein metabolism normalization leads to stable increase in rat weight, main renal stabilization background and hepatic markers, corresponding to decrease in pathological changes in liver and kidneys. Also it was detected significant increase in antioxidant blood serum activity and decrease in signal amplification in ESR spectroscopy. Further investigation advisability of immune pig organs extracts fraction will be devoted to fraction 5-30 kDa, which demonstrated maximum therapeutic effect.

Medical Science, 2020, 24(105), 3655-3663

ANALYSIS

The proportion of Hepatitis B among drugs abusers in Al-Huda prisoners in Sudan

Mohammed A. Nouredin

Aim: This study was designed to determine the proportion of hepatitis B virus (HBV) among drug abuser in three prisons in Sudan, which include Al-Huda. *Methods:* A total of 300 candidates, mainly drugs abusers, were screened using questionnaires and included information from each respondent besides using immunochromatography (ICT) testing for detection of HBV from each respondent. The respondent were randomly chosen and enrolled in the study. Authorities approved this research in the Sudanese ministry of interior and the administration of Al-Huda prison. *Results:* The study revealed that the prevalence of infection with HBV among the drug abuser prisoners was 5% (16 prisoners). *Conclusions:* hepatitis B virus infection represents a considerable spread among drug abuser prisoners and accounts for around 5% of the prisoners.

Medical Science, 2020, 24(105), 3664-3669

Myasthenia Gravis in Pregnancy, Disease Course and Outcome: Prospective Observational Study

Waleed H Alkhamis, Wael A Abdelkarim, Ahmed Abdulwahab Abdulkarim

Background and objectives: Pregnant ladies with MG can have normal pregnancy and delivery, but the course is unpredictable, however, worsening of symptoms occurs more likely during the first trimester and puerperium. Our aim was to follow up pregnant women affected with myasthenia gravis (MG) to study the course of the disease, the extent of the disease sequelae, and the effect of different treatment modalities on maternal and fetal outcomes. *Methods:* We conducted a prospective observational study regarding treatment and follow-up for eighteen pregnant women with myasthenia gravis over a period of 20 years from 1999-2019 at the department of obstetrics and gynecology of a tertiary university medical city, in Saudi Arabia. The course of the disease, during pregnancy, mode of delivery, puerperium has been evaluated in addition to the state of the mother and the baby. *Results:* 66% of females had spontaneous vaginal delivery. Three only experienced relapse during pregnancy (16.6%), one patient (5.5%) experienced relapse in the puerperium, no patients had myasthenia crises, and six patients (33.3%) developed MG progression. One third of the patients were treated with cholinesterase inhibitors alone, and the rest received corticosteroids. Fourteen patients (77.7%) had a thymectomy. Four babies (22.2%) had transient neonatal myasthenia gravis. thymectomy in those females gave significantly different results, $P=0.015$. *Conclusion:* Myasthenia gravis can be managed well during pregnancy with safe and effective therapies. Caesarian section is recommended only for obstetrical reasons. Forceps and vacuum delivery are sometimes required. Myasthenia gravis during pregnancy can lead to serious life threatening conditions. An interdisciplinary approach is required for managing pregnant women with myasthenia gravis.

Medical Science, 2020, 24(105), 3670-3678

CASE REPORT

Pickwickian syndrome with severe pulmonary hypertension: Deciphering the early connection

Nipun Bawiskar, Sameera Dronamraju, Parth Godhiwala, Chetan Rathi, Sunil Kumar

Pulmonary Hypertension (PH) is commonly found in obesity hypoventilation syndrome but it has been assessed in very few studies. In patients referred to sleep clinics pulmonary hypertension is common among with OHS and must therefore be included in their regular assessment. This case report highlights a young male (20 year old) presenting with severe pulmonary hypertension who was having morbid obesity diagnosed as pickwickian syndrome.

Medical Science, 2020, 24(105), 3679-3682

ANALYSIS

Clinical Characteristics of Inguinal Hernia Repair in Children: A Retrospective Study

Hamad A Hader, Tahani N Alrashidi, Yazeed A Alshehri, Nawaf Y Abdulhadi, Majed F Hosiky, Fayzah S Alrazhi, Manar A Alsaeedi, Anhar S AlQahtani, Jamilah H Alshahrani, Raghad S Almuidh, Ahmed H Alanazi

Inguinal hernia (IH) is one of the most common surgical conditions seen in pediatric age group and managed only surgically. *Aim:* The aim of our study was to investigate clinical characteristics of IH in children. *Methods:* This is a retrospective observational study based on medical charts carried out at a secondary hospital in southern region period between January 2013 and July 2019. We included all patients younger than 13 years and attend to pediatric surgery clinic and underwent to IH repair. *Results:* A total of 272 children were diagnosis with inguinal hernia repair, of them, 256 could be analyzed. Ages range from days to 12 years with mean age of 2.5 ± 3.2 years old. Majority of the children were males (75%; 192). The most frequent signs and symptoms were Reducible swelling (76%) followed by irreducible swelling (12%), cough impulse (11%), swelling with crying (11%). *Conclusion:* In present study we found that an inguinal hernia with irreducible sac contents, tenderness, and obstruction was more among preterm young children with very low birth weight.

Medical Science, 2020, 24(105), 3683-3689

REPORT

Partial nephrectomy in surgical management of renal neoplasms - National Cancer Institute experience

Amr Mounir Selim, Waleed Mohamed Fadlalla

Background: Nephron sparing surgery (NSS) is currently considered the best alternative in treatment of renal tumors <4 cm and its indication is expanding to selected cases of lesions up to 7 cm in size (whether open, laparoscopic or robotic) compared to radical nephrectomy, and the benefit of preserving renal function. Several studies have demonstrated the surgical and oncological safety of NSS in terms of local recurrence, long-term cancer-specific survival and the overall survival, which is comparable to radical nephrectomy. *Patients and Methods:* This is a retrospective descriptive cohort study including 40 patients with renal masses treated with partial nephrectomy (PN) whether open or minimally invasive (laparoscopic or robotic). These cases were treated by surgical intervention between March 2015 and July 2018. The study was performed at National Cancer Institute (NCI) - Cairo University (CU). Tumor size, site and relation to renal pelvis and vascular pedicle were assessed by contrast enhanced computed tomography (CT) abdomen and pelvis. Warm ischemia time (WIT), estimated blood loss (EBL), operative time, postoperative pain, postoperative complications, and hospital stay were recorded. *Results:* Mean operative time was 187 minutes. Mean blood loss was 413 ml. Mean warm ischemia time was 22.3 min. Open partial nephrectomy (OPN) was converted to radical in 1 case. 1 laparoscopic partial nephrectomy (LPN) case was converted to open radical and 2 LPN cases were converted to open partial. 3 patients had positive margin after resection and 2 patients had close margin (0.1 cm). 18 patients experienced mild postoperative pain, while 13 had moderate pain and 3 had severe pain. 6 cases had no pain postoperative. Mean hospital stay was 3.2 days. *Conclusion:* NSS is an accepted safe procedure that can be done open, laparoscopic and robotic which resulted in short hospital stay and preserved renal function but moderate blood loss and long operative time which can be reduced by improving learning curve of operating surgeons. We recommend adoption of NSS in any case with renal neoplasm indicated for partial nephrectomy.

Medical Science, 2020, 24(105), 3690-3695

ANALYSIS

Does glenohumeral external rotation gain and glenohumeral internal rotation deficit predict shoulder injury in novice and elite badminton players?

Ajit Dabholkar, Shweta Attali

Introduction: Badminton incorporates repeated arm movements with overhead strokes. Prediction of shoulder injury in novice and elite badminton players was assessed by identifying glenohumeral internal rotation deficit (GIRD) and glenohumeral external rotation gain (GERG), posterior soft tissue tightness, scapular dyskinesis, scapular muscle strength (serratus anterior, upper, middle and lower trapezius) and glenohumeral rotators strength (internal and external rotators). *Materials and Methods:* Bubble inclinometer, measuring tape, universal goniometer, push- pull dynamometer, DASH scale -sports module, numerical rating scale. Pre-assessment on various outcomes were performed and the player was followed-up for 3 months, post-assessment on various outcome were performed at the end of 3 months, results were studied and compared to predict shoulder injury. *Results & Conclusion:* Shoulder at risk of injury was identified in both the groups (novice & elite), evident GIRD & GERG, significant difference in posterior soft tissue tightness, increase in scapular muscles strengths, altered scapular stability observed by scapular dyskinesis test (SDT). This prediction can be used for designing appropriate treatment strategies for prevention of shoulder injuries in future.

Medical Science, 2020, 24(105), 3696-3704

CASE REPORT

An unusual neurological complication of Desmopressin: A case report

Reem Alyoubi

Desmopressin is generally used to treat nocturnal enuresis but is not recommended for pediatric patients due to reports of seizures caused by an electrolyte imbalance. This case report is on a 10-year-old Yemeni male patient who suffered four seizures after using intranasal desmopressin for one month without proper supervision. Some studies have proven that the usage of intranasal

desmopressin can have adverse effects. The major side effect concerning our case was the seizures, which were due to an electrolyte imbalance resulting in hyponatremia. As a result, patients must take precautions while on this medication. In conclusion, parents must be counseled about the side effects of intranasal desmopressin in order to help them make a well-informed decision when obtaining this medication. If they decide to use it, they should administer the doses under supervision.

Medical Science, 2020, 24(105), 3705-3708

RESEARCH

Association between socio-demographical characteristics, comorbidities and anxiety burden during COVID-19 lockdown in Saudi Arabia

Hussain Gadelkarim Ahmed, Emad Abboh Abdallah Abboh, Rania Abdeen Hussain Abdalla, Gamal eldin Mohamed Osman Elhussein
Background: During COVID-19, the majority of the globe nations have experienced horrible difficult times during the COVID -19 outbreak. Thus, the present study aimed to assess the association between socio-demographical characteristics, comorbidities and anxiety burden during COVID-19 lockdown in Saudi Arabia. *Methodology:* In the present descriptive survey, 422 persons (living in the City of Ha'il, Northern Saudi Arabia) were recruited. Both Saudi and non-Saudi persons were included during the COVID-19 lockdown (May 2020). The study was designed to assess the Psychological influence of the COVID-19 outbreak on the community of northern Saudi Arabia. *Results:* Approximately, 84% of the study population was found with some sorts of anxiety. About 206/257(80%) of the males have claimed some sorts of the anxiety of whom 118/206(57%) were found with anxiety level ≥ 5 . About 150/165(91%) of the females have claimed some sorts of the anxiety of whom 102/150(68%) were found with anxiety level ≥ 5 . The risk of anxiety associated with female gender and the relative risk (RR) the 95% confidence interval (95% CI); RR (95% CI) = 0.4581(0.2666 to 0.7873), $P = 0.0047$, z -statistic = 2.826. Higher levels of anxiety (level ≥ 5) were detected in 178/336(53%) Saudi and 42/86(49%) of the non-Saudi participants. The risk of anxiety associated with Saudi participant, RR (95% CI) = 0.8702 (0.5149 to 1.4707), $P = 0.6036$, z statistic = 0.519. *Conclusion:* Sociodemographic characteristics (especially, gender, job status, and age) are important factors affecting the community during an epidemic crisis, and should be considered by health policymakers. Especial psychologic support is deemed important for patients with chronic comorbidities, particularly hypertensive patients and those with respiratory and cardiovascular diseases.

Medical Science, 2020, 24(105), 3709-3716

ANALYSIS

Implementation of Virtual Consultations for Epilepsy during the COVID-19 Pandemic among Neurologists in Saudi Arabia

Reem Alyoubi, Sumayyah Kobeisy, Ahmed Elkady, Mashael Bamusa, Seham Alotaibi, Osama Muthaffar, Ahmed Bamaga, Sulaiman Alhindi, Naseem Alyahyawi, Huda Alyahyawi

Background: To reduce disease exposure, telemedicine has been used to help healthcare systems that have been faced with challenges since the COVID-19 outbreak in managing emergency departments, outpatient care clinics and providing ongoing care to those with chronic illnesses such as epilepsy. *Objectives:* The aim of this study is to assess the emergency implementation of virtual consultations among neurologists in Saudi Arabia in the wake of the COVID-19 pandemic. *Methods:* A cross-sectional study was conducted from August to September 2020 in survey format distributed electronically to neurologists practicing in Saudi Arabia. Descriptive and correlative statistical analyses were performed to identify factors associated with onsite and virtual clinic visits in those treating patients with epilepsy. *Results:* A total of 92 neurologists participated in the study. The majority of neurologists (75%) care for COVID-19 patients along with their regular clinic duties. There was statistical significance between the duration of the virtual visit in comparison to the onsite clinic visit and the neurologists' views on the future of teleneurology for epilepsy patients ($G^2(4, N = 92) = 18.673$, $p = 0.001$). *Conclusion:* Virtual consultations have been a way to decrease personal contact and disease exposure since the start of the COVID-19 pandemic. For those suffering with chronic conditions such as epilepsy, telemedicine may be a useful resource in following up with a neurologist and medication changes may be successfully made.

Medical Science, 2020, 24(105), 3717-3723

Correlates of cigarette smoking, and risks for chronic respiratory illnesses among young male adults, in Qena, Upper Egypt

Raouf M. Afifi, Majed Al Harthi, Ashraf E. Saad, Faris S. Almalki, Sameh Sh. Zaytoun

Background: Despite the known harmful effects of tobacco smoking, it is still a common risk behavior of young adults worldwide. *Aim:* To measure correlates associated with cigarette smoking among young-men residents of Qena, Upper Egypt and subsequent chronic bronchial illness. *Methods:* A total 1000 randomly selected men 20-44 years old attending the outpatient department (OPD) of Quena University Hospital (QUH) were interviewed, 06/2018 – 05/2019. A predesigned questionnaire, clinical examination and chest x-ray (CXR) were used. *Results:* The mean subjects' age was 32.2 ± 2.3 ; 98.2% were single, 50.6% recent graduates, 45% a workforce, and 4.4% were jobless. Further, 66.4% were of middle socioeconomic status (SES). Education-wise, 69.8% subjects had >9 year—and 30.2% had ≤ 9 year education. Current smokers accounted 266 (26.6%) of the study population. Middle – and – high SES subjects were at higher risk for smoking (28.8%, 36.7, respectively) than low SES peers (18.8%). Subjects with ≤ 9 year education were at a significantly higher risk for smoking than those more educated [33.1% vs. 23.8% , $\chi^2(1) = 10.2$, $p = 0.0013$]. Manual workers (38.2%)

tended to smoke more than “just graduates” (17.8%) and the jobless (9.1%) [$\chi^2(2) = 58.1, p < 0.0001$]. Respiratory wise, 27.6% of heavy smokers had bronchial asthma-like symptoms and 17.2 chronic bronchitis symptoms, vs. 20.9%, and 4.7% of light smokers, respectively [$\chi^2(9) = 301.8, p < 0.001$]. *Conclusions:* Higher SES, low education level, and manual work were significant smoking correlates among participants. The greater the cigarette consumption the higher risk for chronic pulmonary illness. These risks are quite preventable; efforts to minimize them are required.

Medical Science, 2020, 24(105), 3724-3735

CASE REPORT

MESIODENS: An atypical case report of 53-year-old male patient

Amira Ibrahim Albalawi, Abdulrahman Saleh Alolayan, Eida Ahmed Shahin, Lama Rafat Alrassan

Supernumery teeth can be defined as excessive quantity of teeth as compared to regular dentition. A 53-year-old male patient visited Riyadh Elm University Muneseya campus with chief complaint was pain in lower anterior region, which included a mesiodens having pain for one month. The diagnosis was mesiodens having root canal treatment and crown placed. Two methods are usually adopted for the removal of the mesiodens; Extraction prior the formation of root and delayed removal after root formation of the permanent incisors. Few extracts also indicate the removal of the mesiodens during early mixed dentition in relation to help voluntary eruption and positioning of the anterior. The diagnosis was mesiodens having root canal treatment and crown placed. Treatment included two options, with extraction and orthodontic treatment being one option, and root canal retreatment, post and core with crown being the second. The effectiveness of the management lies in the proper evaluation and management of the patient for better outcome.

Medical Science, 2020, 24(105), 3736-3741

ANALYSIS

Alendronate ameliorates LS-BMD and BMD Z-score in β -thalassemia major pediatric patients. A single-arm clinical study

Mohamed Ramadan Elshanshory, Adel Ali Erfan, Amr Mohammed Tawfek El Badry, Ahmad Abdel Hameed Shaat, Lenah Saeed Binmahfouz, Nagla Abd El-Aziz El-Shitany

Introduction: Osteoporosis associated with β -thalassemia major (β -Thal) has emerged as a significant problem due to increasing life expectancy in those patients. *Aim:* The aim of the current research was to evaluate the therapeutic effect of alendronate in β -Thal children with either low or very low bone mineral density (BMD). *Methodology:* The study was carried out on 20 β -thalassemic children (12 with very low BMD, Z-score < -2.5 , and 8 with low BMD, Z-score -1.0 – 2.4) and 10 healthy children (control; Z-score > -1.0). BMD was assessed in all the study children (control, and before and after alendronate therapy) by dual-energy x-ray absorptiometry (DXA). *Results:* The findings of this research revealed that the BMD Z-score and BMD of the lumbar spine (LS-BMD) were significantly low in β -Thal children compared to the control children. Six months of alendronate therapy (10 mg daily) significantly improved BMD Z-score while non-significantly improved LS-BMD of β -Thal children compared to before treatment values. Besides, alendronate significantly improved the degree of osteoporosis in β -Thal children (6 very low BMD, 10 low BMD and 4 are normal BMD (Z-score > -1.0)). *Conclusion:* The current study recommends the use of alendronate for pediatric β -Thal patients with a BMD Z-score < -1.0 .

Medical Science, 2020, 24(105), 3742-3748

CASE REPORT

Atypical presentation of Cogan’s syndrome with granulomatous anterior uveitis - A case report

Heba Joharjy, Pierre-Jean Pisella, David Bakhos, Alexandra Audemard, Marie Laure Le Lez

Introduction: Cogan’s syndrome is a scarce inflammatory disorder that mostly impacts the visual and audiovestibular (AV) function. There are two common classifications of Cogan’s syndrome (CS), typical and atypical CS. The ordinary ocular presentation of atypical CS is non-syphilitic interstitial keratitis that may be associated with other ocular inflammation which includes non-granulomatous anterior uveitis (NAU). *Case report:* A case of atypical CS with bilateral granulomatous anterior uveitis (GAU) was described. Eighteen years old male patient was referred to the Eye Clinic, University Hospital Bretonneau, Tours, France, complaining of blurred vision in the last 3 weeks in both eyes. For the last 5 months, the patient suffered a bilateral severe progressive hearing loss, tinnitus, and vertigo in addition to repeated episodes of ocular redness. The visual acuity was 0.20 and 0.10 Log MAR in the right and left eye, respectively. Biomicroscopic examination showed GAU, the anterior chamber had +3 inflammatory cell and granulomatous infiltration of the iridocorneal angle with granulomatous keratic precipitate in both eyes. The intraocular pressure and dilated fundus examination were normal in the right and left eyes. The patient was diagnosed as an atypical CS case with GAU. The patient was treated with intravenous methylprednisolone followed by oral prednisolone in addition to infliximab, topical steroid, and cycloplegic eye drops. The redness had relieved and the anterior uveitis resolved. However, there was no improvement in hearing, cochlear implants planned in a month. *Conclusion:* To the best of our knowledge, this is the first case of atypical CS with GAU without any systemic involvement.

Management of mid mesial canal in mandibular first molar – A case report

Nidhi Motwani, Anuja Ikhar, Pradnya Nikhade, Manoj Chandak, Samrudhi Khatod, Vrushali Zamare

The outcome and long term prognosis of the successful root canal therapy relies on the awareness and thorough understanding of variations in morphology that may exist in the root canals. Aim of the present study is to report a case of Management of Two Mandibular First Molar with Middle Mesial Canal. A 34 year old male reported with pain since three months. He was diagnosed with irreversible pulpitis. The Root canal treatment was initiated. The presence of extra canal, which is not so common finding was found during the treatment. Treatment plan was modified accordingly and Root canal was completed. The extra canal has been reviewed and discussed. This mid- mesial canal can be visualized after obtaining access to the pulp chamber and removing hindrance covering the canal orifice with either burs or ultrasonic tips.

Medical Science, 2020, 24(105), 3753-3758

A rare presentation of a giant sebaceous cyst in the breast- case report

Anurag Anupkumar Bhattacharjee, Bhavaniprasad Kalagani, Harshal Ramteke, Anil Agrawal, Ravi Ponnugoti, Deepak gupta, Sagar Rathod, Niveditha suresh

Cystic swellings of the sebaceous gland occurring due to blockage of their ducts, which opens commonly into the hair follicles, are called as sebaceous cysts. They become distended by their own secretory materials i.e. sebum (yellowish cheesy pultaceous material) secondary to blockage. These are commonly seen on the scalp, face and scrotal areas containing dense hair follicles and rarely seen on the breast, palm or sole. Sebaceous cyst occurrence and huge size in the breast is very rare and liable to develop complications like malignant transformation. It poses a clinical dilemma to distinguish it from other benign breast conditions. Here we are reporting an unusual case of 50year female presented with complaints of lump in the left breast for 20 years with no associated complaints.

Medical Science, 2020, 24(105), 3759-3765

Comprehensive rehabilitation of a rare case of hemangioma following subsequent attempts with vertebral stabilization

Madhuri Wane, Tejaswini Fating, Waqar M. Naqvi, Pratik Phansopkar, Arti Sahu, Sohael M. Khan

Vertebral body haemangioma is the most prevalent non-painful, slow-growing benign tumours of the spine. These are malformed vascular tumours, which primarily involve the vertebra and may extend to the epidural space. They rarely present with a neurological deficit due to hypertrophy of the posterior cortex of the vertebral body. It is managed by percutaneous vertebroplasty, in which bone cement i.e. polymethyl methacrylate (PMMA) is injected percutaneously into the vertebral body under fluoroscopic guidance. This study reports a case of a 50-year-old female presenting with excruciating back pain, which radiated to both lower limbs, and tingling and numbness over bilateral feet. Investigation reports reveal hemangioma at D8 and D10 level. The surgeon performed posterior decompression following cement leakage due to the previous vertebroplasty. Post-operatively, the patient was immobilized in a thoracolumbar Taylor's brace and acute rehabilitation phase was started. During the intervention period, the patient showed great cooperation and now the patient can maintain the self-balancing and be able to resume self-care activities of daily living and grooming with the minimum assistance.

Medical Science, 2020, 24(105), 3766-3772

ANALYSIS

Postoperative analgesic effect of intraoperative loading dose of morphine in caesarean section

Iyad Abbas Salman, Hawazen Mohammed El-moraeb, Haider Abbass Hassen

Objective: evaluate the effect of intraoperative morphine intravenous (IV) in addition to tramadol and NSAIDs on post-operative analgesia in cesarean sections. *Methods:* This is a prospective comparative study done at Baghdad teaching hospital & nursing house at medical city complex from January 2017 to January 2018, including 100 patients scheduled for elective cesarean section. Patients are divided into two groups, one group receives morphine intraoperatively, and the other group is control group. Postoperative pain was assessed at specific time interval using numerical analogue scale. *Results:* Effect of morphine on pain score at awakening and after 15 minutes show significant difference otherwise no significant difference in the later 16 hours. Time of recovery is significantly increased in morphine group. *Conclusions:* Intraoperative morphine administered after baby delivery in cesarean section decrease pain significantly at 0, 15 minutes postoperatively but did not affect pain score in the later 16 hours.

Medical Science, 2020, 24(105), 3773-3778

Facial fractures in patients with firearm injuries in Jazan Province; Profiles and Outcomes

Ebtissam Mohammed Sahli, Mashaal Hassan Mujalli, Mokhtar M. Abdel- Latif, Ali Mohammed Makrami

Objective: To establish the pattern of facial fractures, the most common fracture sites in patients with firearms injuries, then to determine which type of treatment was provided, duration of hospitalization and outcomes. *Materials and methods:* This retrospective study was conducted at two of the main hospitals (Samtah General and Prince M. bin Nasser Hospitals) in Jazan province (KSA) for patients with FAI from 2016 to 2018, while focusing on the following variables: 1) Demographic characteristics, 2)

Types of facial fractures, 3) Most common anatomical sites affected, 4) Type of management, 5) Hospitalization period and 6) Patient outcomes. *Results:* During the study period a total of 33 out of 1500 patients admitted to the hospital – based emergency department (ED) were included, they all suffered from facial fractures attributed to firearm injuries (FAIs), with mean age of 28 years and all were male patients. The assault with a firearm was the most common etiology with only one case of self-inflicted injury. The mandible was the most affected area and the body was the most common site followed by the angle. *Conclusion:* Gunshot wounds present a great challenge to oral and maxillofacial surgeons and a multidimensional team approach is required to rehabilitate the victims of gunshot injuries, in order to achieve acceptable aesthetic and functional parameters while diminishing psychological consequences.

Medical Science, 2020, 24(105), 3779-3784

RESEARCH

Risk of death from motorcycle accidents in North-western Iran and associated factors

Leili Abedi Gheslaghi, Homayoun Sadeghi-Bazargani, Mehdi Noroozi, Mohsen Barouni, Hamid Sharifi

Introduction: Death from motorcycle crashes has destructive effects on the society. This study aims to identify the risk of death from motorcycle crashes in East Azarbaijan Province, Iran. *Method:* This prospective cohort study was conducted based on the data of those injured in motorcycle accidents admitted to Emam Reza and Shohada Hospitals, Tabriz. The death data were obtained from Forensic Medicinal Organization, from May 2018 to December 2019. *Results:* Among 2008 injured people, 284 (14.1%) died during the study. Based on the multivariable model, the risk of death in the people aged above 65 was 2.02 times (95% CI: 1.08-3.77) higher than other ages. Crashes occurring outside the cities were 2.10 times (95% CI: 1.35-3.18) riskier than those happening inside the cities. Crashes at the dawn and when the motorcycle hit a fixed object increased the risk of death by 5.12 (95% CI: 2.51-10.4) and 10.70 (95% CI: 1.7-67.3) times, respectively. When the motorcycle hit another motorcycle, the risk of death increased by 2.16 times (95% CI: 1.18-3.96) compared to when the motorcycle hit a car. In those who sustained injuries to the head, thorax, and neck, the risk of death increased respectively by 46.9 (95% CI: 26.9-81), 6.06 (95% CI: 3.81-9.64), and 1.91(95% CI: 1.06-3.44) times compared to others. *Conclusion:* The risk of death was higher in older people and in those who sustained traumatic brain injury. Using air medical services may reduce the risk of death among the elderly.

Medical Science, 2020, 24(105), 3785-3795

ANALYSIS

Evaluation of Hand Hygiene Compliance among Adult Intensive Care Units' Visitors and Their Role as a Vector of Pathogens

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Background: Patients admitted to intensive care units (ICUs) show an increased rate of health care-associated infections. Visitors play important role in the well-being of hospitalized patients, but unfortunately, they occasionally expose them to infection. Hand hygiene (HH) is considered the most important measure for preventing health care-associated infections. *Objective:* The aim of this study was to investigate HH compliance among ICU visitors, the role of visitors in transmission of infection, and the types of pathogens involved. *Methods:* The observers stationed outside and inside the ICU evaluated whether visitors performed hand hygiene at any of the wall-mounted alcohol-based hand sanitizer dispensers prior entering the ICU room. At entry of the ICU, a hand swab was taken from the visiting visitor and another one was taken after existing in the ICU. The swabs were sent to the microbiology laboratories. *Results:* A total of 356 visitors were observed and participated in this study. Approximately one-fourth (26.4 %) of the study participants washed their hands with the existing alcoholic solution before entering the ICU. Among the 16 visitors who were positive for pathogenic organisms after exiting in the ICU, 13 did not perform hand hygiene before entering the ICU. Methicillin-resistant staphylococcus aureus was the only isolated Gram-positive organism either before or after the ICU entry. Antibiotic sensitivity testing revealed resistance to benzylpenicillin, erythromycin, and clindamycin. The patterns of antibiotic sensitivity/resistance of the isolated Gram-negative organisms revealed multidrug resistance. *Conclusions:* These results indicate poor hand hygiene compliance among ICU visitors. The visitors who did not perform hand hygiene before entering the ICU frequently showed pathogenic organisms and they posed a risk for ICU patients. In addition, the spectrum of the isolated bacterial species was diverse, and they showed a multidrug resistance pattern to different classes of antibiotics.

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Awareness of uterine fibroid with prevalence and symptomatic burden among women in Saudi Arabia- A cross-sectional survey

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Objectives: Women at the middle and late reproductive years are at high risk of developing fibroids. It is the most common benign tumor in females. So, the objective of this study is to assess the awareness of Saudi women about uterine fibroid and to assess its prevalence and symptomatic burden among them. *Methods:* A cross-sectional study that included Saudi women (≥ 18 years) of age. A questionnaire formed of nineteen questions translated into Arabic was used. The included questions were about the

demographics, history of being diagnosed to have UF, methods used to for diagnoses, any gynecological and non-gynecological symptoms related to UF, and history of any coexisting conditions. Both online and hard copies of the questionnaire were distributed from 16 May to 05 April 2019. Data was analyzed using Statistical Packages for Software Sciences (SPSS) version 21. *Results:* The prevalence of UF in this study was 105 (9.93%). The most commonly associated diseases with uterine fibroid were anxiety (55.2%) and depression (23.8%) while it's most common symptoms were irregular menstruation (49.5%) and bleeding clots (46.7%). The most common procedure used for diagnosis was ultrasonography. However, surgical intervention and the use of medicine were the best available treatment for about half of the respondents. *Conclusion:* Uterine fibroid has a heavy burden on Saudi fertile women and its symptoms may interfere with patient's quality of life. Also, patients' knowledge about uterine fibroid is good.

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To evaluate inter manual transfer of improved performance in similar functional tasks in untrained hand after training the dominant hand

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Objective: Human beings display some degree of dexterity that is a preference to use one hand for tasks. About 90% humans are right handed and therefore left hemisphere dominant for manual skills. Jebesen et al. in 1969 designed an objective and standardized test for hand functions. The study aims and focuses to confirm inter manual transfer of training untrained hand and to determine whether improvement in performance occurs in the similar functional tasks. *Method:* A total of 60 patients who could read and write English and fulfilled the inclusion criteria were selected and randomly allocated to two Groups. Group A and Group B. *Results:* For all dependent variables subjective and objective evaluation was done at the time of examination and four week after the intervention using t-test. *Conclusion:* Present study concluded that performance improvement in untrained hand occurs after training the dominant hand and also the improvement in performance occurs in the similar functional tasks. So inter manual transfer may be of therapeutic value in clinical setup especially in cases with unilateral impairment of an upper extremity.

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Radio-cytopathologic correlation of the thyroid nodule

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Background: Ultrasonographic features of thyroid nodule are very helpful in predicting the risk of thyroid cancer. Fine-needle aspiration (FNA) is the primary diagnostic methodology used for thyroid nodule evaluation. Presence of ultrasonographic feature suggestive of non- benign thyroid nodules may consider a way to decide which nodules should be sampled and subsequently, reduce the unnecessary biopsies. Of note up to one third of fine needle aspiration biopsies may be non-diagnostic, requiring open surgical biopsy for diagnosis. The current study aimed to correlate the ultrasonographic findings of thyroid nodule with malignancy. *Methods:* Retrospective cohort study was performed at King Salman Armed Forces Hospital to evaluate ultrasonographic finding in relation to cytology and histopathology. *Result:* Cytology results in relation to ultrasound finding show that malignancy was associated with larger nodule size, nodules containing intranodular blood supply as well as irregular nodular border. *Conclusion:* Radiological assessment of thyroid nodule by experience radiologist in thyroid sonography is encouraged looking for high risk radiological finding suggestive of malignant thyroid nodule such as large, hypo echoic, irregular nodule.

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