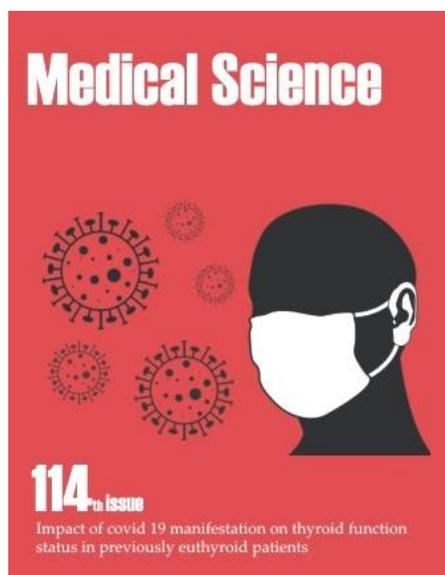


Medical Science

About the Cover



Background: A new coronavirus (severe acute respiratory syndrome coronavirus 2; SARS-CoV-2) infection began to spread in China, in early December 2019 and has rapidly spread around the globe. While its effects on respiratory symptoms are well recognized, but its effect on thyroid function test is still unclear. We initiated this study with the aim of comparison of thyroid function of Covid-19 affected individuals with that of unaffected individuals. *Methods:* Clinical examination, laboratory investigation and computed tomography study (CT severity score) of 50 patients with RT-PCR confirmed covid-19 infection who were tested for thyroid function test during their course of hospitalization in covid positive ward in the department of medicine. Other 50 individual who were admitted in covid negative section of the hospital with acute respiratory symptoms during the same period and were found RTPCR negative were also included in the study as control group. Thyroid profile of these two groups were analysed and compared to each other. *Result:* During the course of COVID-19, of the patients with COVID-19, 74% (37/50) had more-than normal TSH levels, with a p value of < 0.001. As compared with non-COVID-19 pneumonia patients with the serum TSH levels of the patients with COVID-19 were significantly higher. *Conclusion:* This supports the effects of SARS-Cov2 on Thyroid gland, thus proving the postulate that COVID19 may be inducing hypothyroidism which is majorly subclinical. None of the patients received thyroid hormone replacement therapy during the course of our study. (Ref: Jaiswal P, Kumar S, Acharya S, Bawankule S, Talwar D, Dhande R, Bagga C, Jugtap G, Verma P, Patel M, Khan S. Impact of covid 19 manifestation on thyroid function status in previously euthyroid patients: A cross sectional study. Medical Science, 2021, 25(114), 1821-1826).

Incidence of primary palmar creases variants and their correlation to academic performance in KFU College of medicine-2020: A cross-sectional descriptive study

Mohamed Bahgat Ali, Ahmed Waleed Alrashed, Abdulaziz Emad Alateeq, Ahmed Mamdouh Alkhawfi

Background: Most human palms present have primary creases, but some present only 1-2 creases. PIC model described 21 variants. Previous studies showed great variation in different variants' incidence in different countries and ethnic groups. Correlation between PIC variants and students' academic performance is proposed. This study aimed to describe different PIC variants incidence in KFU College of medicine Saudi male students and assessing relationship between variants' types and academic performance. *Methodology:* A cross-sectional study conducted on 175 KFU College of medicine male students, years 1-4. Each student signed data collection form and recorded his data. PIC patterns of both hands were recorded and photograph of both palms was picked. Data were statistically analyzed using IBM SPSS 24th version. *Results:* Out of previously described 21 PIC variants, only 10 variants found in students' palms (310, 300, 311a, 311b, 312, 321c, 321d, 200, 201, 211). Our study revealed new variants (PIC 320, 400, 410, 510). There was high incidence of bilateral symmetrical variants. Commonest variant was PIC 310 and 300. Academic performance was higher in students having bilateral symmetrical variants, PIC (300–300) than (310–310). Within PIC 310-310, higher performance was present in students having symmetrical meeting points. Academic performance was highest in bilateral two-creases (4.75 ± 0.35) than in unilateral two-crease (3.67 ± 0.52) variants. *Conclusions:* Similarity of variants in both palms was associated with higher academic performance (more prominent in those with similarity in points of meeting). Presence of new variants raises importance of performing further studies to find other new variants.

Medical Science, 2021, 25(114), 1803-1811

Human enamel analysis in ancient Egyptians and contemporary via LIBS technique

Sayed El Tayeb, Mostafa Z Geith, Mohamed A Harith

Recent studies have shown that chemical and physical approaches are increasingly being used for dental materials analysis and to develop full details and information on the biological circumstances of Humans groupings, prehistoric diets, and the etiology of different illnesses. As a result, estimates of elements levels in teeth can provide insight into the discovery as well as the pathogenesis of different ailments among ancient and contemporary Egyptians. The level of lead, aluminum, and strontium in enamel of teeth from human Egyptian embalment dated to the new kingdom (1085 BC) from the Sakkara region, as well as newly extracted sound teeth from the same region's inhabitants, were analyzed. The laser involved breakdown spectroscopy (LIBS) approach was used to estimate the elements. Using the measured LIBS spectra, the elemental content was calculated. Lead, aluminum, and strontium content levels in ancient Egyptian teeth have been found to be higher than they have been in recent years, according to current data. These data suggested that an increase in lead and aluminum levels in ancient Egyptian teeth was due to direct exposure to such elements, which increased contamination during that time duration. Because of the increased strontium content, ancient Egyptian teeth are more calcified than modern teeth.

Medical Science, 2021, 25(114), 1812-1820

Impact of covid 19 manifestation on thyroid function status in previously euthyroid patients: A cross sectional study

Praraj Jaiswal, Sunil Kumar, Sourya Acharya, Shilpa Bawankule, Dhruv Talwar, Roma Dhande, Charan Bagga, Gaurav Jugtap, Prerna Verma, Mansi Patel, Sania Khan

Background: A new coronavirus (severe acute respiratory syndrome coronavirus 2; SARS-CoV-2) infection began to spread in China, in early December 2019 and has rapidly spread around the globe. While its effects on respiratory symptoms are well recognized, but its effect on thyroid function test is still unclear. We initiated this study with the aim of comparison of thyroid function of Covid-19 affected individuals with that of unaffected individuals. *Methods:* Clinical examination, laboratory investigation and computed tomography study (CT severity score) of 50 patients with RT-PCR confirmed covid-19 infection who were tested for thyroid function test during their course of hospitalization in covid positive ward in the department of medicine. Other 50 individual who were admitted in covid negative section of the hospital with acute respiratory symptoms during the same period and were found RTPCR negative were also included in the study as control group. Thyroid profile of these two groups were analysed and compared to each other. *Result:* During the course of COVID-19, of the patients with COVID-19, 74% (37/50) had more-than normal TSH levels, with a p value of < 0.001 . As compared with non-COVID-19 pneumonia patients with the serum TSH levels of the patients with COVID-19 were significantly higher. *Conclusion:* This supports the effects of SARS-Cov2 on Thyroid gland, thus proving the postulate that COVID19 may be inducing hypothyroidism which is majorly subclinical. None of the patients received thyroid hormone replacement therapy during the course of our study.

Medical Science, 2021, 25(114), 1821-1826

Efficacy of Acetazolamide in management of idiopathic intracranial hypertension: A systematic review and meta-analysis

Abdulmajeed Albalawi, Alanoud Alharbi, Mawaddah Altaleb, Mohammed Almatrafi, Shuruq Alzahuf, Omayrah Alanzi, Aljawharh Alawad, Asayel Mohammed Bin Saif, Sarah Almuwarraee, Bader Alotaibi, Faisal Almishali, Tarek Kassem, Fatimah Alrajab, Omar Almatrafi, Hezam Alshahrani

Objectives: To investigate the efficacy of acetazolamide in the treatment of idiopathic intracranial hypertension. *Methods:* We searched PubMed, Scopus, Web of Science, and Cochrane central for relevant published clinical trials. We performed the risk of bias using Cochrane's risk of bias tool. Our outcomes of interest were: SF-36 mental and physical scores, papilledema grade, diplopia, optic nerve head (ONH) volume, and 6-item listed headache impact test (HIT6). We conducted the analysis using OpenMeta Analyst Software and used mean difference (MD) with 95% confidence interval (CI) for analyzing continuous data, while risk ratio (RR) and 95% CI was used for analyzing dichotomous outcomes. *Results:* We included six clinical trials in our analysis. The results revealed that, compared to baseline, acetazolamide significantly improves the SF-36 physical score (MD=3.54, (95% CI [-2.014%, 9.107%]), SF-36 mental score (MD=2.593, (95% CI [-2.238%, 7.424%]), reduces papilledema grade (MD=-0.687, (95% CI [-1.795%, 0.420%]), and HIT6 score (MD=-5.675, (95% CI [-14.745%, 3.395%]). *Conclusion:* Acetazolamide is an effective medical treatment for idiopathic intracranial hypertension. However, more studies are still required to provide clearer evidence about the drug efficacy and safety.

Medical Science, 2021, 25(114), 1827-1836

Abnormal Vaginal Discharge (AVD) among women of Saudi Arabia: Community based cross sectional study

Aqila Homood S Al Shammari, Reem Hamoud S Alshammari, Dnya Saleh A Alanazy, Atheer Bader F Alanzi

Background: Abnormal vaginal discharge (AVD) is common in women during their reproductive life, and if it isn't treated well it may lead to severe complications as pelvic inflammatory disease. *Objectives:* to investigate the prevalence of abnormal vaginal discharge, its associated symptoms and the doctor diagnosed causes among women in different areas of Saudi Arabia. *Methods:* A cross-sectional study was carried out. Data was collected from Saudi women using a pre designed online disseminated questionnaire which include questions designed to fulfil the study objectives. Risk factors were determined using X² test. P value of less than 0.05 was considered statistically significant. *Results:* the total incidence of AVD was 47.7%. The color of discharge was clear white in 44.3%, cheesy whitish in 35.3% and yellow discharge in 20.5%. Fungal infection was found in 23.4%, protozoa in 22.7%, bacterial vaginosis in 11.5%, chemical irritation in 3.7% and chronic cervicitis in 1.2%. The majority of cases (41.7%) used medications and 28.5% used herbal remedies. Recurrence after treatment occurred in 31.1% of them. There was a significant correlation between AVD and age, marital status; dysuria and keeping the genital area dry (P< 0.05). *Conclusion:* In our study, the total incidence of AVD was 47.7%. The most frequently reported causes were fungal infection, trichomonas vaginalis and bacterial vaginosis. So, we recommend health education about the preventive measures and prompt treatment of the cases to prevent the recurrence.

Medical Science, 2021, 25(114), 1837-1843

Medical students' knowledge of child abuse and neglect in Saudi Arabia: A cross-sectional study

Omar A Alshouimi, Musaad N Almusaad, Meshari M Aldawood, Ahmad M Khalaf, Rheem Abdulla Almhizai

Background: Child abuse and neglect are considered one of the problems that affect the child and lead to various psychological problems. *Methodology:* This was a cross-sectional questionnaire that included all medical students in Saudi Arabia. *Results:* Total of 403 of medical students participated in our study. About 54.8 % and 54.3 % of them were male and aged between 22-24 years old, respectively. About 55.8 % of participants indicated having an educational training about child abuse and neglect during their study. Our participants believed that the main risk factors for child abuse were alcoholic parents (82.9 %), parents with mental conditions (74.4 %), marital and family problems (72.2 %), low socioeconomic status (70.2 %), and low level of education of parents (67 %). *Conclusion:* Good knowledge was observed among medical students regarding risk factors and symptoms of child abuse and neglect but with lack of confidence. The medical students believed that developing a curriculum for under-graduate students and further specialized training is required to gain more experience with diagnosing and referring children who have been abused or neglected.

Medical Science, 2021, 25(114), 1844-1850

RESEARCH

Exploring health care' experiences on how to inform the patient to get infected with COVID-19: A qualitative study

Ali Gholami, Golbahr Iri, Iraj Ahmadi, Yosof Jamshibeygi, Soudabeh Aloustani, Mohammad Reza Sedi, Milad Borji

Background: COVID-19 disease is a new disease that is very important how informing the patient about it. This study was conducted with the aim of investigating the experiences of the nurses' staff on how to inform the patient to get infected with COVID-19. *Methods:* Twelve health care providers (8 nurses and 4 anesthesiologists) in an educational and medical center in the city of Ilam in From February to June 2020 participated in the study with purposeful sampling. Semi-structured interviews were used to collect data, and the study began with the open question, "Describe your experience of identifying the disease in patients with COVID-19". To analyze the data, the conventional qualitative content analysis was performed. *Results:* Participants in this study included 12 medical personnel, of which 7 (58.4%) were male and 5 (41.6%) were female. Based on the findings, 2 main themes and 7 sub-themes were extracted. The main themes extracted from this study include A) Passing the patient of the purgatory of COVID-19 diagnosis including four sub-themes: 1) Waiting for a diagnosis, 2) Announcing step by step the diagnosis, 3) giving information, 4) acceptance or resistance; B) Entering the important others to the purgatory of COVID-19 diagnosis including three sub-themes: 1)

Entering the key family members, 2) Entering the physician, 3) Entering the relatives working as medical staff. *Conclusion:* Diagnosing the disease of COVID-19 is like a purgatory for patient and staff. To help the patient get through this purgatory, important others are introduced by the staff. Eventually the patient either accepts the disease or resists accepting it.

Medical Science, 2021, 25(114), 1851-1856

ANALYSIS

Knowledge, attitudes, and perceptions of dental students towards artificial intelligence in Riyadh, Saudi Arabia

Sanjeev Khanagar, Mohammad Alkathiri, Rakan Alhamlan¹, Khalid Alyami, Majed Alhejazi, Ahmed Alghamdi

Introduction: The pace of advancement of artificial intelligence (AI) in dentistry is accelerating rapidly. Thus, it's very difficult for individuals to conclude that they can fully understand it. The aim of this study was to assess the knowledge, attitudes, and perceptions of dental students in Riyadh, Saudi Arabia towards (AI). *Materials and Methods:* A cross-sectional study was conducted using an online-based questionnaire sent to dental students in Riyadh, Saudi Arabia. The questionnaire used in this study was Google Forms. Furthermore, it was developed after referring a pre-validated questionnaire and distributed to students through social media platforms. The data collection was after 3 weeks. *Results:* Out of 423 participants, 50.1% had no basic knowledge about the working principle of AI. Also, the majority was not aware of the usage of AI in dentistry (55.8% No). The students get their knowledge about AI from social media and it was the most chosen answer by 40.9% (n=324). When questioned about whether AI applications should be part of undergraduate or postgraduate dental training, the agreement response was higher in postgraduate training (48.9%; n=207) compared to the undergraduate training (40.4%; n=171). *Conclusion:* Despite the fact that the knowledge of AI among dental students was considered to be low, dental students were enthusiastic to learn more about new technologies related to dentistry. Also, participants believed that AI will play a vast role in dentistry. In order to improve the dental students' knowledge about AI, lectures, curricular courses, and scientific meetings should be highly considered.

Medical Science, 2021, 25(114), 1857-1867

Prediction of psychosocial adjustment based on Covid-19 stress, Covid-19 anxiety, acculturation, and perceived discrimination in Iranian students living abroad

Dorsa Baharloo, Maryam Bakhtiari, Maryam Aslzaker, Abbas Masjedi Arani

Introduction: The prevalence of pandemic has led to an increment of psychological problems, moreover decrement in psychosocial adjustment. These conditions may be more severe for immigrants. The present study aimed to predict psychosocial adjustment according to Covid-19 stress, Covid-19 anxiety, acculturation and perceived discrimination in Iranian students living abroad. *Method:* In this cross-sectional study, which was conducted in Jan 2021 during quarantine, 480 Iranian students living abroad were selected by purposive sampling. The participants completed a variety of questionnaires, such as the COVID-19 Anxiety Scale (CAS), Iranian acculturation, Adjustment Strain in International Student (ISAS), Acculturative Stress Scale for International Students, and COVID-19 Student Stress Questionnaire (CSSQ). The achieved data was analysed with the coefficient of correlation and simultaneous regression (entry method). *Results:* Psychosocial adjustment had a significant negative correlation with Covid-19 stress, Covid-19 anxiety, and perceived discrimination, while it has a significant positive correlation with acculturation. In addition, the predictor variables in the current study predict 48% of the variance of psychosocial adjustment. *Conclusion:* Organizations and centres of the populations in question should survey training and psychological interventions for psychological symptoms caused by Covid-19.

Medical Science, 2021, 25(114), 1868-1877

CASE REPORT

Fatal HELLP syndrome in pregnancy: A sequelae of Long COVID?

Ojas Mahajan, Dhruv Talwar, Sunil Kumar, Arpita Jaiswal, Sparsh Madaan, Shivam Khanna, Divit Shah

The coronavirus disease resulted by infection with severe acute respiratory syndrome-Coronavirus 2 (SARS-CoV-2) was initiated in China in during the end of 2019 and spread exponentially as a global health Pandemic. The current pandemic (COVID-19) caused by SARS-CoV-2 novel coronavirus lead to high mortality and morbidity in terminally ill patients. We present a link between maternal severe acute respiratory syndrome-Coronavirus 2 (SARS-CoV-2) infections in the peripartum period and rapid maternal deterioration with coagulopathy. Also, we wish to draw attention towards the overlap which is significant between the clinical findings of COVID19 and HELLP Syndrome along with importance of persistence of inflammation over 3 months after COVID19 known as "Long COVID".

Medical Science, 2021, 25(114), 1878-1881

ANALYSIS

Sensitivity, specificity, positive and negative predictive value of nasopharyngeal and throat swabs in detection of Sars-Cov-2 among infected patients

Nuha Alsaleh

Background: In the care of patients, early and accurate respiratory virus identification (RRI) is critical. We have previously demonstrated the feasible and responsive self-recollected nasal swabs (NS) to detect RV, but the additive advantages of the self-collected throat swabs are unknown. *Objectives:* To test the rise in auto sufficient nasal yields to the throat swabs in patients with upper respiratory (URTI) symptoms for PCR identification of RV. *Study design:* Between April 2020 and September 2020, Patients with signs of URTI self-collected NS and nylon-floated polyurethane foam swabs, completed an enquiry. Swab's reverse transcription (RT)-PCR was checked for 12 RVs in real-time. Statistical measures were used to identify, McNamara and Wilcoxon signed level. *Results:* The sample was made up of 115 paired swab nasals and throat, with at least 1 specimen being positive for RV (71/115 (62 percent), including 51 positive for both specimens, 17 positive for NS only and 3 favorable for RV only with throat swab. NS was 96 percent sensitive (95 percent CI: 88-99) compared with 76 per cent in throat swabs, $p < 0.001$ (95 percent CI: 65-85). The median PCR period threshold (Ct) of 51 concordant samples was lower in NS (25.1) than in swabs of the throat (32.0). The three positive samples were high Ct (33.8, 36.2 and 38.8 both rhinoviruses) by the throat swab only. *Conclusion:* Auto collection of NS is far more susceptible to the identification of RV with RT-PCR than auto collection of throat swabs. Added neck samples do not seem to raise the diagnostic pressure in the research setting.

Medical Science, 2021, 25(114), 1882-1886

CASE REPORT

A novel, non-invasive approach in management of inflammatory dentigerous cyst in young child: A case report and review of literature

Neeta Padmawar, Viddyasagar Mopagar, Vinay Vadvadgi, Sourabh Joshi, Jayshree Vishwas, Meghna Padubidri

Introduction: Developmental and inflammatory are the two variants of dentigerous cyst which is the second frequently reported odontogenic tumour. Displacement, mobility of tooth, swelling are the clinical characteristics. *Case report:* A six year old child reported to the department of Paediatric dentistry with history of swelling since 2-3 months in maxillary right anterior region, associated primary lateral incisor & canine were non-vital. Orthopantogram showed well defined radiolucency in apical region of #53 region, deviated path of eruption of permanent canine. On fine needle aspiration straw coloured fluid was collected. Diagnosis of Inflammatory dentigerous cyst was done. *Treatment:* Primary maxillary right lateral incisor and canine were extracted. This was followed by marsupialization through the extracted socket by novel, non-invasive and cost-effective approach successfully. After nine months of follow-up; new bone deposition and change in path of eruption of canine was observed.

Medical Science, 2021, 25(114), 1887-1893

ANALYSIS

The hemodynamic variability after transverse abdominal block in lower abdominal surgeries

Maytham M Kadhim, Khaleel Jumma Kareem, Muthana Abdul Kadhim Saad

Objective: Investigate the effects of pre-incisional bilateral transversus-abdominis plane block on intraoperative hemodynamics and analgesia in patients undergoing general anesthesia for elective lower abdominal surgery. *Methods:* The study included the selection of a total of 50 women who undergone general anesthesia for elective lower abdominal surgery and randomly allocated to one of two groups: Group A had 25 women who received pre-incisional transversus abdominis plane block, and group B included 25 women who didn't receive the block and taking into consideration matching for age with group A. Obese patients, those with a known allergy from drugs used in the study to perform transversus abdominis plane block, patient with cardiovascular or neuropsychiatric disorders, and on long-term analgesic therapy were excluded from this study. Before incision (basal), ten minutes, twenty minutes, and thirty minutes after incision, blood and pulse rate were measured, and the results were compared between research groups. *Results:* There was no discernible age difference between the study groups. Patients with transversus abdominis plane block had considerably lower mean arterial pressure (MAP) and heart rate (HR) 30 minutes after incision than controls. *Conclusions:* The transversus abdominis plane block is valid and can be used safely to polish up the pain resulting from the surgical incision which help stabilization of HR and BP of the patient transversus abdominis plane block a painkiller that has analgesic effect intraoperatively and postoperatively.

Medical Science, 2021, 25(114), 1894-1899

RESEARCH

Evaluation of anticancer activity of Paclitaxel (PLT) and D-L Sulfarophane (SFN) as natural vegetable derivative against colon cancer cell line: In vitro study

Ali Hassan A Ali, Abdulrahman M Almalki, Talal A Alharbi, Musaad H Alanzy, Muath A Alghuwainem, Fahd M Alanazi, Nasser I Alshumaymiri, Aly Fahmy Mohamed

Paclitaxel (PTx) and D-L Sulforaphane (SFN) natural derivatives could inhibit many types of cancerous cells proliferation through apoptosis and autophagy. Toxicity of PTx and SFN to Caco-2 cells was concentration dependent using MTT assay. Sole SFN was significantly toxic than sole PTx. PTx and SFN combination induced a synergetic potential of PTX toxicity than sole form and the recorded IC50 in $\mu\text{gm} / \text{ml}$ was in the order of (862.8, 2.8 and 22.37) for sole PTx, SFN and combined form respectively. PTx and SFN sole and combined form induced Caco-2 cells DNA accumulation at the G2/M phase but not significantly at the G0/G1 and S phases. Apoptosis was proved via a significant up regulation of P53, Cy-c, Bax, casp-3 and down regulation of Bcl-2 with elevated Bax/Bcl-2 ratio. Antioxidant activity supported apoptotic potential showed significantly elevated ROS, MDA and reduced GSH.

Medical Science, 2021, 25(114), 1900-1909

CASE REPORT

Post covid fatal antibody dependent enhancement of dengue infection in a young male: Double trouble

Iqbal Beig, Dhruv Talwar, Sunil Kumar, Sourya Acharya, Vidyashree Hulkoti

Antibodies against Dengue virus (DENV) have been postulated to act against Severe Acute Respiratory Syndrome Coronavirus 2 (SARS CoV 2) which might reduce the severity of COVID19 in a patient who previously had dengue fever. However, we report a case of 30 year old male who presented with dengue shock syndrome two months after contracting COVID19. The patient had no history of dengue fever in the past and had no IgG antibodies against Dengue Virus whereas he tested positive for IgG SARS CoV 2 antibodies. Therefore, we highlight a rare case of Antibody Dependent Enhancement of Dengue fever as a result of antibodies against SARS CoV2 in a young male which proved to be fatal. In our knowledge this is the first case in the world to report dengue shock syndrome as a result of SARS CoV2 antibodies.

Medical Science, 2021, 25(114), 1910-1914

Multimodal physiotherapy program in treatment of post-operative femoral condylar stiffness: A case report

Mansi Karwa, Tajuddin Chitapure, Rinkle Malani

Post traumatic restricted range of motion in knee joint is termed as knee stiffness and is the most significant complication after intra articular or extra articular injury. Physiotherapy treatment includes cryotherapy, mobilization techniques, muscle energy techniques which are effective in reducing knee stiffness. The aim of this current case report is to improve pain, the knee range of motion (ROM), prevent secondary complication and improve the function. 23 year male provided the combination of manual therapy and isolytic muscle contraction approach to the knee joint. In this case report we used the outcomes like VAS for pain, knee ROM, muscle strength and Lysholm knee scale to evaluate the functional capabilities of the patients to check the improvement in pre and post treatment measurements. The conclusion included that though the post-operative femoral condylar knee stiffness is challenging to manage we can get the positive results by using multimodal physiotherapy program.

Medical Science, 2021, 25(114), 1915-1919

RESEARCH

The protective effect of icariin in testosterone-induced benign prostatic hyperplasia in rats via suppression of macrophage infiltration

Thikryat Neamatallah, Basma G Eid

Benign prostatic hyperplasia (BPH) is a disorder that affects males at the age of 40. Icariin (ICA) is a flavonoid reported to treat impotence, atherosclerosis, and osteoporosis. This study aimed to investigate the potential protective effect of ICA in rats with testosterone-induced BPH. ICA prevented increased prostate weight and prostate index levels compared to animals with BPH. Histological examination showed that ICA significantly ameliorated histological changes in the prostate tissues compared to the BPH group. In addition, ICA significantly improved testosterone-induced oxidative stress evidenced by lowering MDA levels, as well as enhancing the levels of antioxidants including GSH, CAT, GPx and SOD. Moreover, compared to the BPH group, ICA prevented the accumulation of collagen fibres and the expression of α -smooth muscle actin (α -SMA). ICA was also able to prevent testosterone-increased macrophage accumulation in prostate tissues evidence by reducing the expression of F4/80 marker. In conclusion, this study provides a new evidence that ICA experimentally attenuates testosterone-induced BPH in rats, partially by inhibiting macrophage accumulation.

Medical Science, 2021, 25(114), 1920-1930

Corpus alienum – A rare case of tablespoon in the rectovesical pouch

Lukáš Čuchráč, Jana Šimonová, Jozef Firment, Róbert Šimon, Janka Vašková

Ingestion of foreign bodies, mostly common household utensils, is not unusual in adults, with higher prevalence in individuals who are intoxicated, incarcerated, or mentally handicapped. These objects pass through the digestive tract in most cases, although some require medical intervention to aid their removal. A small number of detained objects can remain unnoticed for a long time until they cause complications through perforation and migration from the gastrointestinal tract. We describe the case of patient that was admitted after approximately one day of abdominal pain. The patient denied the admission of a foreign object into the abdominal cavity in any way. Ultimately, a tablespoon of 20 cm was taken from fibrous adhesions in the rectovesical pouch and septic shock developed as a result of perforated jejunum. For reasons of respiratory insufficiency and circulatory instability, treatment was more complicated for the patient.

Medical Science, 2021, 25(114), 1931-1937

ANALYSIS

Nanoparticles loaded with garden cress (*Lepidium sativum* L.) extract induce apoptosis in breast cancer

Al-Abbas Nouf S, Shaer Nehad A

Garden cress herb (*Lepidium sativum* L.) extract has recently gained attention in research over the past years. Many of the published research articles discuss its use in treating different types of cancer. Nanoparticles are a modern research tool that helps with targeting the drugs towards the cancerous cells while evading the healthy ones depending on properties that are present in cancer cells but not in normal ones. In this article, the authors examined the effect of garden cress (*Lepidium sativum* L.) extract on breast cancer cell lines (MCF-7 and MDA-MB-231) with and without being loaded onto nanoparticles. The viability of the cells was measured at the beginning, after treatment with the extract alone, and after treatment with the extract-loaded nanoparticles. Wound healing assay results showed better effect of the nanoparticles loaded with the extract. The entrapment efficiency of the nanoparticles was calculated based on electron microscopy results. Our team used the FACS assay to measure cell death by either apoptosis or necrosis. Detection of necrotic and apoptotic cell death was carried out by using Annexin V and propidium iodide (PI) staining and analyzed using flow cytometry. Results showed increased induction of apoptosis in cells treated with nanoparticles loaded with *Lepidium sativum* L. extract versus cells treated with the extract alone.

Medical Science, 2021, 25(114), 1938-1946

A prospective comparative study between prewarming and cowarming to prevent intraoperative hypothermia in spinal anaesthesia

Aruna V Chandak, Krishnendu S, Vijay Chandak, Vivek Chakole

Introduction: Temperature is one of the important parameters to be monitored in anaesthesia. Regional anaesthesia impairs thermoregulation as in general anaesthesia. There are several studies comparing different techniques to prevent intraoperative hypothermia. This study was done to compare the effect of prewarming and cowarming in preventing intraoperative hypothermia after subarachnoid block in cesarean section. *Methods:* A Prospective comparative study was conducted in a tertiary care hospital, 100 patients were enrolled and they were divided into 2 groups of 50 each, Group X (Prewarming) –Patients were pre warmed before induction in pre operative room. It was done by setting the temperature to 40°C for 30 minutes. Group Y (Cowarming) - Patient were warmed as soon as the patient is shifted to the operating room using forced air warming blanket. Core temperature (rectal temperature) and the peripheral temperature (axillary temperature) were measured before induction and intraoperatively and incidences of shivering in both groups were studied. *Results:* It was observed that Pre warming the patient reduced the rate of fall of temperature compared to cowarming group but, there were no significant difference in measurements between the two groups, with mean (SD) final rectal temperatures of 36.6(1.8)°C with group X and 35.9(1.1)°C with the group Y. The incidence of shivering observed in Group X was 8.3% and in Group Y was 14%. *Conclusion:* Warming the patient preoperatively along with intraoperative warming reduces hypothermia compared to only intraoperative forced air warming blanket. But, there is no significant difference between the two groups. Only cowarming is as effective as pre warming.

Medical Science, 2021, 25(114), 1947-1954

Assessment of care needs of the elderly living in Kermanshah province in 2020

Hamid Taghinejad, Alireza Abdi, Sattar Kikhavani, Akbar Ebrahimi

Introduction: The elderly often has complex and unknown needs that we have not yet been able to fully recognize in accordance with international standards in the country. Therefore, the present study tries to identify the types of care needs of the elderly living in the villages. *Methods:* This descriptive cross-sectional study was performed on 312 elderly people over 60 years old without any problems in cognitive status (such as Alzheimer's) living in 16 villages of Hamil district of Kermanshah province in 2020. Data were collected by a questionnaire consisting of two parts: demographic and needs assessment based on Cumberwell standard tool (CANE) and analyzed using SPSS software. *Results:* studies showed that 33% of the elderly had exercise, 67.3% had an underlying

disease, 32% had a history of surgery and 13.1% had smoking. According to the main findings of the study, the elderly had unmet needs that ranged from highest to lowest, including: benefits (37.3%), money and budgeting (30.8%), location (20.8%), nutrition (17.9%), sight / hearing (15.4%), daily activities (11.2%), physical health (10.6%), Home maintenance (8.3%), mobility (7.1%), information (6.7%), intimate communication (6.1%) and personal care (4.2%). *Conclusion:* Due to the greater need for care of the elderly, it is recommended to provide more support in all aspects at the national level and the support and attention of their relatives and families to these people.

Medical Science, 2021, 25(114), 1955-1962

Epidemiological estimation incidence and mortality from cancer of the larynx in Ukraine and Europe

Mazur Olha, Plaksyvyi Oleksandr, Chornenka Zhanetta, Biduchak Anzhela

Background: Cancer incidence among the world's population has a steady upward trend. Malignant tumours of the larynx are the most frequent in the structure of oncological morbidity of otolaryngological organs and occupy a leading position. Smoking and alcohol are the major behavioural risk factors. In 95% of cases of laryngeal cancer, tumours are squamous. *Methods:* Using statistical and medico-epidemiological methods, the analysis of the database of the National Cancer Registry of Ukraine for 2010-2020 and information on "Notification of a patient with a first-time diagnosis of cancer or other malignant neoplasm" (form № 090 / r). *Results:* The dynamics of incidence and mortality from laryngeal cancer by sex and age in Ukraine and Europe region in the period 2010-2020 was analyzed. *Conclusion:* The incidence and mortality rate of laryngeal cancer among men has been declining since the late 1990s, while for women, these rates remain virtually unchanged.

Medical Science, 2021, 25(114), 1963-1970

Prevalence of premenstrual syndrome among medical students in King Faisal University in Alahssa-Saudi Arabia

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Background: Premenstrual syndrome (PMS) is a collection of excruciating psychological and behavioral symptoms with or without physical (somatic) symptoms that are not caused by organic disease. PMS is associated with women's menstrual cycle specifically throughout the luteal phase. *Aim:* This study aimed to measure the prevalence of PMS among medical students, its effect on the quality of life, and the contributing factors. *Methods:* A cross-sectional study was conducted among female medical students at King Faisal University, Alahssa, Saudi Arabia. A self-administered questionnaire consisted of socio-demographic, gynecologic, and obstetric history including the presence of chronic diseases, body mass index, contraception use, and duration of usage; moreover, evaluation of the severity of PMS symptoms, their impact on the quality of life, and lifestyle behaviors. All statistical analyses were performed using SPSS version 21. *Results:* A total of 258 medical students were recruited with 20–23 years old was the dominant age group. The prevalence of premenstrual syndrome was 23.3%. Of them, 11.2% were moderate and 12.5% were severe to extremely severe which is defined as Premenstrual Dysphoric Disorder (PMDD). In a multivariate regression model, pain killers and high salt intake were the independent significant predictors of the increased risk of PMS, while older age at menarche, being single and overweight/obese were the independent significant predictors of the decreased risk of PMS. *Conclusion:* The presence of PMS among medical students on our campus was not widely prevalent. Abdominal cramps, back pain, weight gain, depressed mood, and anger were the most reported symptoms of PMS.

Medical Science, 2021, 25(114), 1971-1983

Knowledge and attitudes toward Do-Not-Resuscitate decisions among medical students in Jeddah, Kingdom of Saudi Arabia

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Objective: Do-Not-Resuscitate (DNR) order is made in certain situations where patients are terminally ill and CPR is not predictable to succeed. Furthermore, many controversial ethical challenges arise in the management of death because of patients' religious and cultural background. In the Kingdom of Saudi Arabia, KSA the DNR policies and strategies are guided by Islamic fatwa. Therefore, this study aimed to assess knowledge and attitudes toward DNR decisions among medical students Jeddah, KSA. *Methodology:* Cross-sectional study was conducted with a validated online questionnaire on 425 medical students in Jeddah, KSA. This study included medical students from all academic years in Jeddah, KSA, and excluded first-year college and medical students from Jeddah University and Fakeeh Medical College. *Results:* The questionnaire was completed by 425 participants; the majority of them were female (72.71%). Of the 425 participants, (82.8%) were familiar with the DNR term, which was significant with participants with higher academic levels ($P=0.000290$). However, only (28.69%) were able to choose the correct definition. Only (11.6%) participants had previous experience with DNR. Most respondents did not know if there was a policy (59.5%) or fatwa (62.6%) regarding DNR. *Conclusion:* Our results clearly showed a significant lack of understanding of DNR among medical students in Jeddah, KSA. Therefore, we suggest that more ethical education regarding DNR and its policies should be conducted during medical education in the KSA.

Medical Science, 2021, 25(114), 1984-1991

Awareness of Saudi population about sudden cardiac death in Arar, Northern Saudi Arabia

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Background: Sudden cardiac death (SCD) is death due to cardiovascular reasons in an individual with or free from foregoing cardiac disease. *Objective:* To explore the public awareness concerning the reasons, risk factors, and management of sudden cardiac arrest (SC) in Arar city, Northern Saudi Arabia. *Methods:* A cross-sectional study design was assumed. The study was conducted on the general population of Arar city, Saudi Arabia in the period from 15 January to 30 June 2021. Data was collected by using an online pre-designed self-administered questionnaire distributed via social media network. *Results:* Most of the participants (90.8%) had heard of sudden cardiac arrest, 78.3% reported that any age group can suffer from sudden cardiac arrest, 41.9% think that life style and dietary habits may predispose to sudden cardiac arrest and the majority 84.8% agreed that there is a difference between sudden cardiac arrest and heart attack. Regarding the symptoms; 55.1% reported chest tightness followed by 51.2% reported chest pain, 47.8% palpitations and 38.5% decreased conscious. About the cause of SCD, 35% of them thought its cardiomyopathies and 11.8% thought its congenital heart diseases. Regarding the CPR; 63.3% had heard of PCR but only 27.4% had ability to perform it skillfully, 49.5% stated that they should carry out CPR before calling emergency and 42.8% reported that they would call emergency before performing CPR. About the barriers to performing CPR; 45.4% reported feeling unconfident of their CPR skills and 13.6% reported fear of legal responsibility. There was no familiarity with the term "AED" that only 15.7% of the participants had heard of automated external defibrillator (AED) and only 7.2% of them knew that AED packages is available in public places of the city. *Conclusion:* In our study, most of the Arar population have heard about SCA and knew that SCA and heart attacks are two different conditions but only about quarter of them can perform CPR skillfully.

Medical Science, 2021, 25(114), 1992-2000

Knowledge, attitude, and practices of healthcare workers in Riyadh, Saudi Arabia regarding the use of face masks for limiting the spread of coronavirus disease

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Background: The World Health Organization (WHO) declared Coronavirus disease 2019 (COVID-19) a global pandemic in March 2020. Healthcare workers (HCWs) are at a higher risk of infection with the virus than other individuals. Therefore, among the recommended protective methods is the wearing of a surgical mask. There is limited information regarding the knowledge, practices, and attitude of HCWs in Saudi Arabia towards the use of face masks. To our knowledge, only one single-center study has investigated this subject. *Objective:* To investigate knowledge, attitude, and practices concerning the use of face masks among HCWs in Riyadh, Saudi Arabia. *Methods:* This was a cross-sectional observational study. We surveyed HCWs using a self-administered online questionnaire. The respondents provided information regarding their demographic characteristics and answered questions on knowledge, attitude, and practices regarding face mask use during the pandemic. *Results:* A total of 506 HCWs (men, 202; women, 304) were included. Of them, 273 (54.0%) participants had good knowledge, 304 (60.1%) had good practice, and 475 (93.3%) had a positive attitude towards using face masks. When knowledge was assessed, 463 (91.5%) had the knowledge to wear a face mask properly. Regarding attitude, 475 (93.9%) was confident that they knew the correct way to wear a face mask. *Conclusions:* The level of knowledge and the practice of using surgical masks were poor among HCWs. HCWs exhibited a favorable attitude but possessed low levels of knowledge and good practice. We highly recommend awareness campaigns and training programs on the proper use of surgical masks.

Medical Science, 2021, 25(114), 2001-2010

Knowledge and attitudes of family physicians towards coronavirus disease 2019 infection burden: A cross-sectional study

Molook Alotibi, Ola Alqudah, Safa Alqudah

Objectives: Investigate the knowledge and attitudes of family physicians towards coronavirus disease (COVID-19). *Methods:* Data were collected from family medicine residents at King Fahd Medical City in Riyadh, Saudi Arabia, using an online questionnaire that assessed demographics, knowledge about COVID-19, and attitudes towards the disease. Data were analyzed using Stata software version 14. *Results:* A total of 179 participants (median age: 28 years) responded; 94 (52.5%) were female. Average knowledge score on a scale of 0–10 was 8.64 ± 0.97 . Knowledge scores were similar between males and females (mean deviation [MD] = -0.14 , $p = 0.3$). Fourth-year residents had higher knowledge scores compared to those in their first (MD = 1.2 , $p < .001$), second (MD = 0.82 , $p = 0.001$), or third (MD = 0.69 , $p = 0.02$) years. Mean attitude score on a scale of 0–18 was 15.6 ± 1.3 . Females exhibited slightly higher positive attitude scores (MD = 0.44 , $p = 0.02$). *Conclusion:* Residents demonstrated high knowledge and positive attitudes towards COVID-19. More experienced physicians exhibited higher knowledge scores; attitude scores were independent of experience.

Medical Science, 2021, 25(114), 2011-2018

Acknowledging popular misconceptions about scabies in Aseer region, Saudi Arabia

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Background: Human Scabies is an intensely itchy dermatological disease caused by the mite *Sarcoptes scabiei hominis*. Scabies is a problem of all ages, races, and all socioeconomic groups are susceptible. It is influenced by many environmental factors. More than 300 million cases of scabies are reported worldwide every year. Accordingly, this study aims at measuring the knowledge and conception among society in Aseer region of Saudi Arabia. *Method:* A cross-sectional study. It targeted Saudi Adults in Asser region. A simple Arabic self-administered validated questionnaire was utilized for data collection in shopping centers and online

using the online applications. The data was collected and then entered using Statistical Package for the Social Sciences (SPSS) software version 20. The SPSS was also used to process and analyze the collected data. *Results:* The sample size was 670 individuals, of which 52% are males while 48% are females. Additionally, 642 (95.8%) reported they have heard about scabies, while only 14 (4.2%) reported the opposite. Moreover, the majority (36.1%) have known about scabies from their friends. While, 33.6% known from the internet and social media. Approximately 57.3% of the samples have a moderate level of awareness. The place of residence, educational level, occupation and income level have significant relationships with the level of awareness, with p-values equal (0.001), (0.019), (.034) and (0.000) respectively. *Conclusion:* There is a lack of knowledge and awareness in Aseer especially in rural areas and needs to be strengthened through different means.

Medical Science, 2021, 25(114), 2019-2024

CASE REPORT

An undue guest of thrombotic thrombocytopenic purpura with acute myeloid leukemia in an elderly patient with Crohn's disease

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Thrombotic thrombocytopenic purpura and acute myeloid leukemia are rarely associated with Crohn's disease. Early recognition of these conditions with timely referral to hematologist is paramount. Acute myeloid leukemia should be suspected despite the absence of blast cells from peripheral blood film. Although is rare, thiopurines like azathioprine have been associated with increased risk of acute myeloid leukemia. Therefore, patients should be given informed consent of this risk prior to initiation of thiopurines therapy.

Medical Science, 2021, 25(114), 2025-2029

ANALYSIS

Prevalence of skin problems and its health impact among adolescent school children in Majmaah, Saudi Arabia

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Background: Adolescents suffer the consequences of sudden spurt in their growth and development and one of them is the multitude of skin disorders. This creates a sense of physiological and psychological insecurity which hinders their day to day activities including academic progress. Skin disorders can range from acne, allergic reactions, and frequent infections to certain dermatological diseases. A study on the association of skin disorders and its psychological and physiological consequences was a felt need among adolescent school going children. *Objectives:* To study the prevalence of skin problems and its health impact among adolescent school children. To give recommendations based on the outcome of the study. *Methodology:* This is a cross-sectional observational study done on adolescent school children in Majmaah, Saudi Arabia. A pre-tested, close ended interviewee-based questionnaire was used to collect the data and analyze the information. *Results:* Most of the adolescent participants had skin disorders like acne (32.4%), dandruff (21.8%), dry skin (16.2%) and oily skin (14.6%). The associated problems for children that were prominent were itchy and scratchy skin (36.9%), being self-conscious and embarrassed (7.9%), not able to play certain sports (7.4%) and attending school regularly (6.2%). *Conclusion:* Prevention of skin disorders through health education, regular health checkup, proper diet and exercise would help in reducing the associated physiological and psychological health problems among the adolescent population.

Medical Science, 2021, 25(114), 2030-2037

CASE REPORT

Paranasal Mucormycosis in immunocompromised host (Early diagnosis is the key)

Bushra Al-qurashi, Ismail Khan Mohammed, Omer Al-nashiwaaty, Moataz Al-knawy

Mucormycosis is an emergent life threatening fungal infection that has potential risk of dissemination with significant morbidity and mortality rate particularly among patient with altered immune status. Here, we report a case with hematologic malignancy, who admitted with febrile neutropenia and developed left sided facial swelling on day five on his admission. Early nasal endoscopy lead to early diagnosis of mucormycosis with limited invasion. Treatment with Liposomal amphotericin B for 3month duration was administered intravenously with multiple nasal-endoscopic surgical debridement which result in good recovery without significant morbidity.

Medical Science, 2021, 25(114), 2038-2042

Unusual presentation of lupus erythematosus profundus in a young female treated by intralesional trimacinolone and oral methotrexate: A case report

Awadh Alamri, Sahal Samarkandy, Hatim Al-Maghraby, Hassan Huwait, Samir Alamri, Hebah Alahwal, Mazen Dajam

Systemic lupus erythematosus is a chronic autoimmune condition that can attack almost any organ. In fact, its clinical manifestations and serological abnormalities are the most diverse one among other autoimmune diseases. An uncommon distinctive entity of this disease is lupus erythematosus profundus. Herein, we report a case of 14 years old female complained of a progressive lesion over her right arm that was ulcerated later. Lupus erythematosus profundus diagnosis was confirmed through multiple histopathological examination. Patient was started on hydroxychloroquine 200 mg twice daily, but she could not tolerate it. Accordingly, she was switched to methotrexate in addition to trimacinolone injection, as she showed more tolerance and improvement. The patient was seen for almost two years.

Medical Science, 2021, 25(114), 2043-2047

ANALYSIS

Prevalence of eye refractive errors, strabismus, and amblyopia among children referred to eye clinic in secondary hospital, Majmaah city, Saudi Arabia

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Introduction: Refractive errors are a preventable cause of blindness in children, resulting in visual disabilities. This study was carried out with an objective to determine the prevalence of common eye refractive errors among children aged between (3 to 15) years and evaluate the number of common eye diseases, strabismus, and amblyopia related to refractive errors as well as preventable and treatable causes of visual impairment. *Materials and methods:* At King Khalid General Hospital Majmaah, a cross-sectional retrospective clinic-based study was conducted among 1477 children aged 3 to 15 years in the tertiary hospital in Saudi Arabia. A full eye examination was performed on 1477 children with both right and left eyes with a total of 2954 eyes. The mean and standard deviation, as well as the median, are descriptive statistics. The Shapiro-Wilk test was used to determine whether continuous variables were normal. *Result:* This cross-sectional retrospective study included 1477 individuals with 686 (46.4%) males and 791 (53.6%) females. Most children were aged between 11-15 years 833 (56.4%), followed by 7-10 years with 407 (27.6%) individuals. A family history of eye disease was noted in 943 (63.8%) of the children. Out of 1477 children enrolled in the study, Astigmatism was the most common refractive error (47 %), followed by hypermetropia (33%) and Myopia (20 %). While; strabismus in 516 children and amblyopia 427 of total refractive error cases. *Conclusion:* Early diagnosis and treatment of refractive defects, strabismus, and amblyopia reduce strabismus and amblyopia in children and improve their quality of life and education.

Medical Science, 2021, 25(114), 2048-2055

Knowledge and perception of bariatric surgery among physicians at King Saud University Medical City, Riyadh, Saudi Arabia

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Background: Bariatric surgeries were among the common solutions provided by nutritionists and physicians to avoid obesity complications, especially among chronic diseases patients. *Aim:* The present study aimed at identifying the level of perception among physicians working in King Saud University Medical City (KSUMC) about the role of bariatric surgery in managing obesity and at identifying factors influencing referral patterns. *Method:* A descriptive cross-sectional survey was administered over a sample of 127 physicians from King Saud University Medical City (KSUMC) in Riyadh city, Saudi Arabia. The study questionnaire consisted of 27 questions designed to explore the perceptions toward treating and managing of bariatric patients, total knowledge about benefits of bariatric surgery. *Results:* The findings of the study revealed that 70% (n=89) had an access to suitable resources and equipment to manage morbid obese patients. The findings indicated that 67.7% (n=86) of the recruited physicians had adequate level of knowledge regarding whom to contact when encountering difficulties related to the management of morbid obese patients. In the second rank were the causes related to poor awareness about procedures or benefits, concerns with follow up, and psychological issues (21.4%, n=6). The Univariate analysis showed that 5.7 times likelihood to refer patients to bariatric surgery among physicians aged 36 to 45 years (OR: 5.7, CI: 0.655-49.577, P=0.118). *Conclusion:* The study concluded that there is an adequate level of knowledge and positive perceptions of physicians regarding bariatric surgery. Nevertheless, the poor resources and poor awareness were main barriers for non-referral to bariatric surgery.

Medical Science, 2021, 25(114), 2056-2067

RESEARCH

A focus on abdominal sepsis: The problem of prognostic markers

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Background: Determining the prognosis of mortality from abdominal sepsis in patients with one surgical intervention is an urgent problem. *Methods:* It study was based on data from comparing of severity scores in 136 patients with abdominal sepsis who were operated one time with secondary peritonitis and the condition was assessed before surgery and after 72 h using most significant indicators. *Results:* According to the goals and objectives of the study all patients were divided according to the severity of the condition which was determined by the criteria of Sepsis-3: abdominal sepsis was diagnosed in 110 (80.9%), and septic shock in 26 (19.1%) The main finding of this study is that an increase of WBC count, lactate, C-reactive protein levels, and a decrease systolic

blood pressure, abdominal perfusion pressure after 72 h from the surgery were prognostic factors for patients with adverse outcome. It should be noted that qSOFA had the optimal cutoff value 2.5 points before surgery by criterion positive outcome/adverse outcome (AUC 0.842) with high sensitivity (93.9%) and low specificity (60.9%); APACHE II score had the optimal cutoff value 15.5 points (AUC 0.808), and SOFA score had the optimal cutoff value 9.5 points (AUC 0.754). In 72 h after surgery, the scores APACHE II (AUC 0.817) and SOFA (AUC 0.892) with the optimal cutoff 21.5 and 11.5 points had a good predictive value for the criterion positive outcome/adverse outcome, respectively. *Conclusions:* The assessment of effective biomarkers has made it possible to personalize surgical tactics and improve outcomes of the treatment.

Medical Science, 2021, 25(114), 2068-2076

ANALYSIS

Hypoglycemic and protective effects of *Boswellia carterii* against functions and structures of thyroid gland in rat model of type 2 diabetes

Dalia Domiaty, Anoud Althagafi, Muna Alamoudi, Haleema Al-Nahary, Saleh Fouaz Bakrshoom

Boswellia carterii extract has many beneficial pharmacological activities and various medicinal utilization. The scientific data about its effects on thyroid functions of type 2 diabetes is limited. This research was conducted to assess the hypoglycemic and antioxidant properties of *Boswellia carterii*. Its protective effects against type 2 diabetes induced dysfunction and structural changes of thyroid gland were also investigated. Wistar male rats (N=25) were indiscriminately allocated into four groups (N=5): G1 (Control), G2 (diabetic control), G3 (diabetic+ *Boswellia Carterii* extract), G4 (diabetic+ Metformin) and G5 (*Boswellia carterii* extract). *B. carterii* was given to G3 and G5 in a dose of 100mg/kg/BW and G4 received a dose of 150mg/kg of metformin. The treatment was continuing for 6 weeks. Oxidative stress was assessed by measuring superoxide dismutase (SOD), glutathione peroxidase (GPx), catalase (CAT), and lipid peroxidation (LPO) plus the blood glucose level (BGL) in all groups. The protective properties of the *B. carterii* extract was evaluated by estimation Thyroid stimulating hormone (TSH), triiodothyronine (T3) and tetraiodothyronine (T4) hormones and histological studies of thyroid gland. The results showed in *B. carterii* treated diabetic rats: BGL and LPO were significantly *decreased*, while SOD and CAT were significantly *increased* in comparison to the non-treated diabetic rats. Moreover, it was found that the extract has protective effects against diabetic induced (functional and structural) alterations of thyroid gland. In conclusions, this study showed that *B. carterii* extract has potential impact as hypoglycemic and antioxidant natural agents, inhibiting thyroid functional disturbance and conserving the thyroid histological architectures in the animal model of experimental type 2 diabetes.

Medical Science, 2021, 25(114), 2077-2087

The prevalence of obsessive-compulsive disorder and symptoms among medical students: A perspective study from Riyadh, Saudi Arabia

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Background: Obsessive-compulsive disorder (OCD) is a neuropsychiatric disorder portrayed by obsessions and compulsions that are distressing, tedious, or cause significant impedance. The most notable contents of obsessions incorporate excessive worry about contamination and diseases, which are an inducement to medical students since they are constantly exposed during medical school. This study aimed to evaluate the prevalence of obsessive-compulsive disorder among medical students in Imam University Riyadh, Saudi Arabia, and evaluate the common symptoms among those students. *Methodology:* A descriptive cross-sectional study is based on a questionnaire designed and distributed to medical students of the pre-clinical and clinical years. *Results:* An overall of 312 medical students have finished the survey, among whom 69.2% were males. The greater parts of the participants (90.4%) were between the ages of 18 and 24, with roughly 27.6% were in their third academic year. Moreover, we found that almost two-thirds of participants were satisfied with their academic performance (64.7%) while (74.7%) were happy with their social life, and 60.9 % did not have difficulties adapting to medical college. According to the Obsessive-Compulsive inventory used in this study, OCD was found to be prevalent in 36.2% of the population. Females and depressed students had considerably higher rates of OCD. *Conclusion:* OCD is abundant to a large extent among the females, those with depressive symptoms, and stress. Additionally, it is crucial to maintain their wellbeing with proper inductions, continuous support, periodic workshops, interactions with peers, and adjustment with society.

Medical Science, 2021, 25(114), 2088-2095

Efficacy of *Rhubarb* root extract on quality of life in patients with systolic heart failure: A randomized placebo controlled study

Zohre Gholami, Mohsen Bahrami, Mohammad Kamalinejad, Hassan Ahangar, Tara Reshadmanesh, Sepehr Gohari

Introduction: This study aimed to investigate the role of Rheum palmatum on quality of life and cardiac function in patients with systolic heart failure. *Material and Method:* This was a parallel double-blind, placebo-controlled trial study from April to August 2019. Total of 60 patients with systolic heart failure were randomly assigned to Rheum palmatum and placebo groups. The intervention group received Rheum palmatum capsules (containing 250 mg of dry extract of Rheum palmatum root and 250 mg corn starch) and the placebo group received capsules containing 500 mg corn starch twice-daily for 60 days. The primary outcomes were the enhancement of quality of life (QoL) based on the Minnesota questionnaire and the 6-minute walk test. The secondary

outcomes were the improvement of cardiac function and serum biochemical markers. *Results:* Before treatment, no significant difference between study groups in terms of clinical, laboratory, imaging and QoL results were seen ($P>0.05$). After treatment, none of the study groups had superiority considering the QoL parameters and patients' exercise tests ($P>0.05$). The echocardiographic findings showed significant improvement in LV and RV systolic function ($P<0.05$). *Conclusion:* Short term treatment with Rheum palmatum extract has beneficial effect on cardiac function but not on patients' quality of life.

Medical Science, 2021, 25(114), 2096-2104

CASE REPORT

Giant form of Molluscum Contagiosum: A case report

Eman M Bamoosa, Malak F Alshaebi, Khalid A Al hawsawi

Molluscum Contagiosum (MC) is a common, viral skin infection characterized by small papules that are spread all over the body and is resolved spontaneously within a year. In this article we present a 65-year-old male, with an atypical appearance of MC. He presented to the clinics with complaints of progressively large and firm bumps that were persistent. Clinical skin examination showed multiple papules that were skin-colored, variable in size and mostly located on the face. The patient's clinical history was significant for uncontrolled diabetes. Skin biopsy was taken and revealed the presence of molluscum bodies within the epidermis. The patient was diagnosed with giant molluscum contagiosum and therefore was screened for an underlying immunodeficiency with negative results. He was treated with cryotherapy which resulted in a successful outcome.

Medical Science, 2021, 25(114), 2105-2108