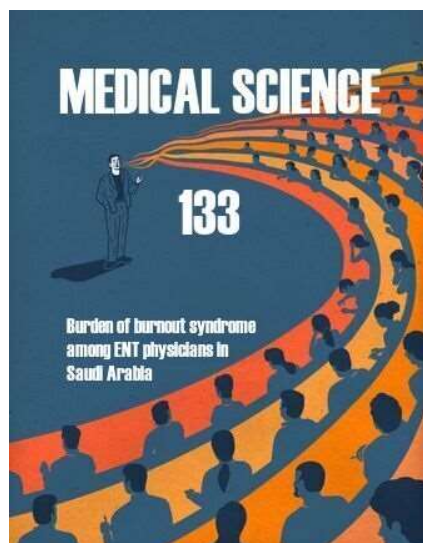


# MEDICAL SCIENCE

## About the Cover



*Background:* Burnout syndrome (BOS) has been associated with serious consequences on the healthcare providers as well as the healthcare system. ENT medical staff experience stressful work circumstances as this specialty is sometimes demanding. *Aim:* This systematic review and meta-analysis aims to identify and assess the burden of BOS among ENT medical staff in Saudi Arabia. *Methods:* The study was conducted following the guidelines and recommendations of the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) 2020. Studies were retrieved by searching the PubMed, EBSCO, Scopus, Web of Science through Clarivate and Google Scholar using keywords and Mesh terms related to BOS and ENT medical staff. Rayyan – Intelligent Systematic Reviews was used for managing citations and duplicate removal. We used Review Manager 5.4 for quantitative data synthesis. *Results:* Primary search yielded 101 articles, of which only 3 were included in the quantitative meta-analysis. The pooled prevalence of high emotional exhaustion was 48.7% (95% CI: 34.9%-62.5%), whereas the pooled prevalence of high depersonalization was 44.5% (95% CI: 29.7%-59.2%) and low personal accomplishments was 48% (95% CI: 40.5%-55.6%). The pooled prevalence of the overall BOS was 47.8% (95% CI: -11.4%-106.9%). There was significant heterogeneity ( $I^2 > 50\%$ ) in all of the pooled analyses. *Conclusion:* The aim of this study was to assess burnout syndrome among ENT physicians. The study found that nearly half of ENT residents in Saudi Arabia are burnt out. We recommend implementing measures to reduce and prevent burnout among ENT physicians in Saudi Arabia. (Ref: Assiri AM. Burden of burnout syndrome among ENT physicians in Saudi Arabia: A systematic review and meta-analysis. Medical Science 2023; 27: e144ms2919).

**Communication barriers in emergency departments perceived by Saudi population, KSA**

Hadi Mohamed Hadi Alsharyah, Suheir AM Sayed

*Introduction:* One of the most important aspects of nursing care in the emergency room is effective communication. Communication obstacles at the emergency department in Saudi Arabia must be overcome with great effort. Because the majority of emergency department staff in various parts of the Kingdom is immigrants from other countries who speak other languages, there is a communication barrier that must be overcome in order to be able to overcome the communication hazards in ER. *Aims:* To identify the communication barrier in emergency departments perceived by Saudi population. *Methods:* Descriptive community-based survey, samples were taken from each person's inter emergency department. During study sampling time, 1507 samples were collected from adults over the age of 18, between Augustus and November 2022. The information was gathered by standardized, close-ended questionnaire. Before data collection, the study had received approval from the Al-Taif University ethical committee. *Results:* Environmental factors, according to emergency nurses, are the primary barrier to effective nurse-patient communication. The following were knowledge-related and psychological elements. As with younger nurses versus older nurses, knowledge-related variables were seen by male nurses to be a larger communication barrier. Languages and educational attainment also had a significant impact on environmental factors. *Conclusion:* There are differences in language, culture and education between Saudi patients and foreign nurses, which have led to obstacles in communication between them. I recommend continuous training for nurses to improve their communication skills.

*Medical Science, 2023, 27, e121ms2876*

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**Awareness about Colorectal Cancer (CRC) among the primary health care attendees in Qassim province**

Thamer Saleh Tofail Al Hassan, Chandra Sekhar Kalevaru

*Background:* As per the ministry of health statistics, among the non communicable diseases, cancers prevalence is increasing globally as well as in Saudi Arabia specially Colorectal Cancer (CRC). In our regular primary health care (PHC) practice, we also observed some patients with spectrum of various clinical presentation of gastro intestinal symptoms among adults. *Methodology:* A cross sectional study was conducted among the PHC attendees during the period from June 2021 to December 2022 among 379 sample. Data entered and analysed by using SPSS. Statistical tests like simple proportions, for categorical analysis chi square test, risk factors association with CRC, logistic regression analysis was applied. *Results:* In the current study, nearly fifty percent (50.9%) of the participants were having good CRC knowledge about common symptoms. Close to two thirds of the study population (69.5%) presented their perceptions as dietary factors, fast foods and oily foods for the causes of CRC. Also, 2/3rds (68.6%) were having knowledge about screening test for CRC. Regression analysis applied and shown significant association observed between risk factors of fast-food consumption, daily red meat consumption and physical inactivity with CRC knowledge respectively (P - 0.026, 0.012 and 0.004). *Conclusions:* Based on the results, relatively less CRC knowledge among the primary health care attendees. Nearly one third (35.6%) of people to undergo FOBE test for CRC. There is a need to increase awareness about risk factors and screening of CRC and reinforcement of existing awareness program. Need further studies to substantiate the present study findings in our population.

*Medical Science, 2023, 27, e122ms2922*

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**Correlation between premenstrual syndrome and body mass index among reproductive females**

Heba El-Sayed Mostafa, Abdullah A Alkurdi, Mohammad Sanousi, Faisal Aljuhani, Muaz Abdullah, Badr S Aljohani, Waleed K Aljohani

*Background:* Premenstrual disorders are characterized by emotional and physical symptoms. Millions of women around the globe who are of reproductive age experience premenstrual symptoms. Premenstrual syndrome (PMS) and premenstrual dysphoric disorder are two examples of these illnesses (PMDD) which have insightful effects on quality of life and major health consequences. *Objective:* This research set out to evaluate the occurrence and intensity of premenstrual syndrome (PMS) and to find the correlation between PMS and the body mass index (BMI) among reproductive females in Al-Madinah Al-Munawwara, Saudi Arabia. *Methods:* A cross-sectional study was carried out on 392 females in the reproductive period. The diagnostic and statistical standards for measuring PMS served as the foundation for the Premenstrual Syndrome Scale (PSS). PMS was diagnosed when five or more symptoms were present. PMS subsided after menstruation (adapted from the American Psychiatric Association). The data were analyzed descriptively using (SPSS). *Results:* 77% and 55% of the 392 participants reported emotional or physical PMS, respectively. Also, there was a statistically significant link (p=0.048) between increasing BMI and increasing the severity of the emotional and psycho-behavioral symptoms. *Conclusion:* According to the findings of the current study, there was a direct relationship between PMS and BMI among reproductive females in Al-Madinah Al-Munawwara, Saudi Arabia. Obesity should be incorporated into the PMS management plan as a modifiable risk factor, especially for those with severe symptoms that impair their quality of life.

*Medical Science, 2023, 27, e123ms2926*

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CASE REPORT

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**Post COVID-19 recurrent rhino ocular cerebral mucormycosis: A curse like no other**

Chrisann Saldanha, Sachin Daigavane, Vadlamudi Nagendra

Coronavirus disease 2019 (COVID-19), caused by SARS-CoV-2, has been linked to a number of opportunistic bacterial and fungal infections. Aspergillus and Candida have been identified as the primary fungal pathogens for COVID-19 co-infection. Recently, several cases of mucormycosis in COVID-19 patients have been reported worldwide, particularly in India. Now, remember that mucormycosis can be of different types like rhino-ocular-cerebral (ROCM), pulmonary, gastrointestinal, etc., here we are dealing with a case of rhino-ocular cerebral mucormycosis which not only occurred once but twice post covid-19 infection. As we recover from the epidemic and the pandemic, it is essential to look back and understand what led to the insane surge of mucormycosis in post-covid-19 patients, especially in our country, India. Mucor is ubiquitous and present constantly around us, so no single factor but an array of elements is responsible predominantly being the incorrect use of corticosteroids in uncontrolled diabetics, which led to severe immunosuppression, injury to the beta cells of the pancreas by the SARS-COV-2 in newly diagnosed diabetics. In such cases, it is important to evaluate the patient thoroughly and orbital exenteration is done depending upon the doctor's judgment and MRI findings. Following is a case report of one such patient with recurrent post COVID mucormycosis predisposed by uncontrolled diabetes mellitus and managed by orbital exenteration.

*Medical Science, 2023, 27, e124ms2678*

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### **Continuous neuromuscular monitoring during scoliosis correction surgery in a case of idiopathic kyphoscoliosis: A case report and anaesthetic challenges**

Sambit Dash, Roshan Nisal, Vivek Chakole, Aruna Chandak

Scoliosis is a rotational deformity that affects the column in a sagittal plane, a coronal plane and an axial plane. It is a complicated condition that occurs in three dimensions. There are several possible causes, including congenital, neuromuscular or idiopathic. Back pain is the primary complaint; however, it is possible for it to be severe enough to induce additional symptoms, a deficiency in neurologic function or the requirement of surgical intervention. In situations like these, surgery poses a significant danger due to documented consequences, which include serious bleeding and harm to the nervous system, among other things. The preoperative assessment must be extremely thorough and the intraoperative preparation must concentrate on minimising the potential for complications. We present a case of a 20-year female with a complaint of idiopathic scoliosis with difficulty in walking and difficulty in breathing posted for scoliosis correction surgery. The patient was induced under general anaesthesia, the central and arterial line was secured and prone positioning was given, along with continuous neuromuscular monitoring during surgery, somatosensory evoked potential (SSEP) and motor-evoked potential (MEP) were used for monitoring in order to detect impending impairment of the functioning of cerebral and spinal cord motor pathways.

*Medical Science, 2023, 27, e125ms2831*

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### **Intra-arterial migration of a transcatheter patent ductus arteriosus occluder device: A case report**

Amreesh Paul Francis, Nikhil Bhalerao, Anjali Modak, Dnyanshree Wanjari, Sambit Dash

Patent ductus arteriosus (PDA) is the inadequate closure of the ductus arteriosus within three days after birth. Patients with PDA may be treated pharmaceutically, surgically, or conservatively. With the introduction of PDA occlusion devices, the management of PDA with occluder devices has gained immense popularity. Complications of the procedure range from infection to life-threatening complications like device embolization. We report a case of a ten-year-old female posted for patent ductus arteriosus occluder device deployment, complicated by device embolization. Embolization of the device was identified intra-operatively with the help of 2D ECHO and subsequent attempted transcatheter retrieval of the device resulted in the rupture of the iliac artery. This resulted in a drastic change in the hemodynamics of the patient. The patient was then administered general anaesthesia and an internal jugular venous access catheter and a radial arterial cannula were placed. This was followed by surgical retrieval of the device and evacuation of the clot with iliac artery repair.

*Medical Science, 2023, 27, e126ms2859*

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## **ANALYSIS**

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### **Prevalence of frozen shoulder among diabetic patients in Western region of Saudi Arabia**

Abdulmalik B Albaker, Obadah Suhail Mishiming, Daifallah Mohammed Alharbi, Manal Mazyad Alenazi, Saud Ali Alsuwat, Adel Omair Alqarni, Fahad Mohammed Albaqami, Sarah A Alsulaiman, Khames Alzahrani

*Background:* It has been proven that the prevalence of diabetes is increasing worldwide and is seen as a major public problem in the previous 3 decades. It is defined as a metabolic condition marked by high sugar levels due to defects in insulin production, insulin action, or both. There has been little research in this issue in our region that will aid our study to fill this gap. The aim of this study to assess prevalence of frozen shoulder among diabetic patients. *Methods:* This study was a cross-sectional online questionnaire survey. Based on a structured questionnaire that was developed through literature review. The study's population consisted of diabetic patients in Jeddah, Saudi Arabia and the sample size was estimated using the Qualtrics calculator with a confidence level of 95%; a sample size of 384. *Results:* The study included 681 participants 24.4% of them aged 20-30 years. Diabetes was diagnosed in 31.4% of participants 5 years ago, 23.8% in 6-10 years and 12.6% in 11-15 years. Frozen shoulder illness has been detected in 19.8% of patients, 36.9% have difficulties moving their shoulders and 47.7% suffer shoulder pain. There was significant relation between having frozen shoulder and age ( $P < 0.05$ ). *Conclusion:* A significant association between diagnosis with diabetes and frozen

shoulder among the studied population. Co-morbidities, severity and the course of the condition's natural-history should all be taken into consideration when making management decisions, which should also be discussed with the patient.

*Medical Science, 2023, 27, e127ms2903*

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### **Estimating correlation of body mass index with Nottingham's prognostic index in carcinoma breast**

Ketki Wajpeyi, Sunita Vagha

*Background:* Carcinoma breast, with its rising prevalence, is the cause for high mortality all over the world. Obesity plays a vital part in spread and development of cells of the tumour. It is a modifiable risk factor. Thus, lifestyle modifications including modifications in diet and increased physical activity may aid in weight loss induced alterations associated with proliferation and aggressiveness of tumour cells, their sensitivity to insulin and apoptotic ability. The present study aimed at correlating Quetelet's index (BMI) which is the most widely used indicator for obesity with Nottingham Prognostic Index (NPI). *Objectives:* To analyse BMI in determining proliferative potential and aggressiveness of tumour cells by establishing its correlation with the NPI in Carcinoma Breast. *Methods:* Prospective, observational, analytical and cross-sectional study, conducted over 60 cases of carcinoma breast that underwent modified radical mastectomy for duration of two years in the Department of Pathology in coordination with the Department of General Surgery, AVBRH, Sawangi (M), Wardha. BMI and the NPI were determined in each case and their correlation was studied through a well-tabulated master chart. *Results:* Statistical analysis was conducted using two tailed chi square test and Pearson's correlation coefficient. It was observed that significant association existed between BMI and tumour size, lymph node stage, BR Grade and TNM stage. Statistically significant correlation was established between BMI and NPI. *Conclusion:* This correlation can be used to predict outcome of patients; thus, becoming an adjunct in prognosis of breast carcinoma as well as to scheme out cost-effective strategies to reduce the plight of breast carcinoma.

*Medical Science, 2023, 27, e128ms2871*

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### **Assessment of the visual acuity among medical students who use the electronic devices during study 2022-2023**

Saad Asiri, Amani Badawi, Rasheed AM, Majed Marshad Alanazi, Qusai Majed Alsulaiman, Sohaib Awadh Ashour, Ali Bader Almutairi, Bandar Abdulrahman Alomar, Mohammad Ahmad Al Boukai, Yousef Ahmed Aldobikhi, Bander Sultan Almeahmadi  
Refractive errors, especially myopia, have been more common in recent years and are continuing to rise internationally. Information on the causes of vision decline provide a solid foundation for recommendations in public health policy, such as national budgeting and health-care planning, as well as scientific research. *Objective:* Our aim is to assess the relation between Visual acuity and time of studying on electronic devices among deferent academic level of the medical student. This study will be cross-sectional. The target population is medical students' males and females in Riyadh, KSA with a total sample of 253. *Methods:* A cross-sectional design was conducted; the study was based on a visual acuity examination and questionnaire that is prepared especially for it. The data was cleared, coded and entered by using (SPSS). *Result:* The study included 253 medical students who completed the visual examination and the study questionnaire in which 53.8 %were female and 46.2% were males mean age of participants was 22 years. We found that 32.42% of participant had 6/6 of visual acuity. *Conclusion:* The study concludes that there is association between visual acuity and the time spent on studying using electronic devices.

*Medical Science, 2023, 27, e129ms2915*

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### **Symptomatology and clinical approach for suspected cases of nasopharyngeal carcinoma among Primary health care clinics in Riyadh, KSA, 2022-2023**

Saad Asiri, Majed Marshad Alanazi, Mansour Mohammed Alalyani, Yousef Ahmed Aldobikhi, Bander Sultan Almeahmadi, Mohammad Ahmad Amer Alboukai, Abdulrazaq Mohammed Alshammari, Qusai Alsulaiman  
Nasopharyngeal carcinoma (NPC) account for 33% of all head and neck malignancies diagnosed in Saudi Arabia each year. Early recognition of the such serious medical illness by family physicians and general practitioners play vital roles to improve the outcomes. *Objective:* The aim of this study was to explore the common symptoms and clinical approach for suspected cases of NPCs in primary health care clinics. *Methods:* This cross-sectional study focuses on general practitioners in the Riyadh region. A questionnaire on several aspects of NPC was given to 190 general practitioners and family physicians, based on the literature and interviews with head and neck surgeons. A validity and reliability probing test was performed on this questionnaire. SPSS was used to analyze the data. *Results:* This study included a total of 190 participants form a variés primary health care center in Riyadh region. Starting with acknowledging nasopharyngeal carcinoma as a serious problem in Saudi arabia (15.26%) strongly agreed and (25.79%) only agreed, while the remaining participant were either neutral or disagreeing. Unilateral nasal obstruction was a reason enough to refer the patient to an ENT clinic for (70%) while it was not for (30%). *Conclusion:* Our study revealed that there are few areas to be improved regarding to the knowledge among primary health care physicians related to nasopharyngeal carcinoma.

*Medical Science, 2023, 27, e130ms2916*

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### **Beneficial role of olive extract on cyclophosphamide-induced skin cellular injury**

Salman Bin Dayel, Ali Hassan A Ali, Mansour M Alajmi, Turki Saad Alsubaie, Nasser Hassan Alswedan, Musab Alrezehi, Nawaf Saad Alarfaj, Maan Omar Alzuhairi, Emad M Al-Otaibi, Abdullah N Al-Khanfoor, Roaa Salem Alharbi  
For centuries, countries in the Mediterranean and all of Europe have employed olive leaves in traditional medicine. This substance has antioxidative stress and anti-inflammatory properties. In this work, the potential protective effects of olive extract were investigated in relation to the histochemical and histological alterations in the skin of rats following exposure to cyclophosphamide.

Thirty-six mature male albino rats served as the subjects for the current study. There were three equal groups formed from them. The control group received no medical treatment. Animals in the cyclophosphamide group were given 100 mg/kg BW one dose of cyclophosphamide intraperitoneally. Rats in the third group received daily dosages of 15 mg/kg body weight of olive extract for one week prior to and one week following the injection of cyclophosphamide. Various stains were used to examine the histopathological as well as histo-chemical alterations in skin tissue. Cyclophosphamide-exposed rats' skin underwent a number of histological and histochemical alterations. Administering Olive Extract helped to improve these changes. The current study demonstrated olive extract's curative and preventive effects on albino rats' skin against cyclophosphamide-induced skin damage.

*Medical Science, 2023, 27, e131ms2934*

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### **In World Diabetes Day, assessment of the chronic diseases among general population in Riyadh, KSA**

Saad Asiri, Abdulrhman Mustafa Rasheed, Abdulaziz Albatati, Abdulrahman Bashir Ahmad Hussamuldin, Mohammed S Alsadun, Jana Sameer Sendy, Lina Fouad Serhan, Yara Majed Al Zahrani, Abdullah Moheeb Alabdullah, Abdulrahman Laith Alzuhair, Mahmoud Khaled Mahmoud Eliwi

*Background:* Every year World Diabetes Day (WDD) is celebrated on 14 November all across the globe to raise awareness about the diabetes and its prevention, complications and treatment. Complications include macrovascular conditions, such as coronary heart disease, stroke and microvascular, including diabetic nephropathy, retinopathy and peripheral neuropathy. We aim to assess the relationship between random glucose blood glucose and chronic diseases. *Methods:* A cross-sectional study in Riyadh on November 2021 and January 2022 at a public shopping center. Data collection sheet was prepared for age, weight, gender, hypertension, diabetes mellitus, ischemic heart disease, random blood glucose and Glucometer devices were used to gather the data. One of the volunteers took a visitor's random blood glucose reading and weight in kilograms using a mechanical scale. Data analyzed using SPSS. *Result:* Majority of participants was male (54%) with age group from 30-39 years old (29.3%) with weight in kilo gram from 60-79 (43.4%). Prevalence of diabetes was (18%) and hypertension (17%) and ischemic heart disease (1.8%). Relation between age and RBG (p value= 0.000) and between weight and RBG (p value=0.243). *Conclusion:* According to this study, Saudi Arabia is one of the average countries in terms of the number of diabetic patients. High prevalence of diabetics, especially men in the 30- to 39-year-old age group who weight between 60 and 79 kg. Almost majority of the patients had hypertension in addition to diabetes. The statistical relationship between age and random blood glucose was significant.

*Medical Science, 2023, 27, e132ms2834*

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### **CASE REPORT**

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#### **Anaesthetic challenges in a case of polytrauma with hypovolemic shock, pneumothorax and anticipated difficult airway**

Deeksha Mishra, Vivek Chakole

Beginning at the site of the injury, the continuum of resuscitation extends through the operating room and onto the intensive care unit (ICU). The key to high success rates understands the importance of early resuscitation and trauma management in the resuscitation continuum. Securing the airway, careful fluid management, anaesthesia and anaesthetic drug selection are essential for achieving the best results. In our case report, we discuss the management of a 39-year-old man who was involved in a road accident that resulted in a crush injury to his right leg and massive subdural haemorrhage in the left frontal and temporal lobes. We also analyse how careful selection of drugs and resuscitation was used to maintain hemodynamic stability along with facing and managing a "can't intubate, can't ventilate" situation.

*Medical Science, 2023, 27, e133ms2862*

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#### **Scrub typhus and dengue infected pregnancy: A rare encounter**

Nidhi Avinash Patel, Kiran Borkar, Twisha Patel, Chinmay Patel

Pregnancy is associated with many physiological and biochemical adaptations in the body of the women. Many immunological changes occurring during various trimesters of pregnancy make pregnant women more vulnerable to infectious agents. Infections acquired during pregnancy adversely affect the maternal and foetal wellbeing. Immediate detection and treatment of infections play an important role for good maternal and foetal outcome. Scrub typhus also known as tropical Rickettsioses are one such rare bacterial infection caused by *Orientia tsutsugamsuhi* transmitted by mites. Similarly, dengue viral fever might also occur during pregnancy by the bite of aedes mosquito.

*Medical Science, 2023, 27, e134ms2686*

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#### **A tailor-made rehabilitation for patients with talofibular and talocalcaneal ligament tear: A case report**

Samruddhi Karanjkar, Pratik Phansopkar, Nikita Deshmukh, Roshni Nandanwar, Ritika Bhagwani

Ailments to the ankle contribute to 10% to 30% of all sports-related sprains and players who experience ankle ailments place a financial strain on Medicare systems each year irrespective of the individual characteristics, the overwhelming of ankle injuries cause damage to the ankle's lateral ligaments. The preponderance of ankle ailments impacts the lateral ligaments. Athletes who have lateral ligament ailments may see a considerable decline in their performing skills, which might lead to complement losses and financial losses for both the player and the club. Ankle sprains with acute inversion rank amongst the most frequent musculoskeletal ailments. Since most recorded incidents are often categorized as lateral ligament injuries, isolated CFL ailments are uncommon. High-grade sprained ankles like those to the anterior talofibular ligament (ATFL) and calcaneofibular ligament (CFL)

can be particularly challenging to cure. There are both internal and external possible causes for the emergence of persistent destabilization. Damage processes that occur in sporting and/or professional situations are associated with external components, which also arrange specific information, primarily anatomical, with its fluctuations (bone, ligament and posture). A 48-year-old male patient was referred to the physiotherapy department with chief complaints of pain and swelling over the right ankle joint. The physiotherapy session for the patient was started with appropriate physiotherapy protocol using thera-band and wobble board training for strengthening and proper weight-bearing training. The home program was given to patients' i.e use of cryotherapy for inflammation if seen again due to overexertion, use of sandbag for strengthening of the lower limb.

*Medical Science, 2023, 27, e135ms2872*

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### **A variant of Jefferson like fracture at C7 vertebrae without any sensory deficit in a traumatic sub-axial cervical spondylolisthesis**

Chava Aravind Kumar, Chandrashekhar Mahakalkar, Pareshe Korde, Shivani Kshirsagar, Abhishek Chowdary, Ashwin Jain

The management of cervical sub axial spondylolisthesis is a challenging task for all spinal care specialists because there is a lack of literature on the disease's diverse clinical presentations. Sub axial spondylolisthesis is a freak injury with a wide range of clinical manifestations. Particularly decision-making concerning the monitoring of such patients is difficult in a secondary trauma centre. The spinal column is a dynamic system that protects nervous innervation throughout the body while also enabling the head and neck to move freely. Spinal cord fractures are a major cause of mobility and mortality in trauma patients and a skeletal fracture is linked to 56% of cervical spinal cord traumas. Cervical spines fractures are classified based on the degree involved and are traditionally divided into three groups: C1, C2 and sub-axial spine (C3 to C7). Severe spinal cord injury and quadriplegia are commonly associated with trauma-related high-grade spondylolisthesis in the sub axial cervical spine. In rare circumstances, such pathology has resulted in minimal to no neurological deficits. We present a case of 45-year-old male presented with alleged history of fall from bike and is associated with history of injury over neck and over head with no other significant clinical complaints.

*Medical Science, 2023, 27, e136ms2893*

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### **Transient hip synovitis in an early adolescent: A rare case report**

Sahil Dhaka, Onkar Dighe, Priyanka Yadav, Harshith Gowda KB, Parihar PH

Transient hip synovitis (THS) is a sudden and self-limiting inflammation targeting the synovial lining of the hip. It is the commonest cause of nontraumatic hip pain and limping in kids in the age group of 3-8 years, where males are more prone than females and very rarely seen in adults, hence not regarded as an adult illness and most often affects one hip joint. Hence, the patient mainly presents with unilateral hip or groin pain which may worsen on walking and lead to limping; however, some patients also report medial thigh and knee pain. The exact pathology of THS is not known. Still, many patients have reported a pre-existing viral infection. In this case a 24 years old male patient presented with the complaint of acute left hip pain which was further examined and diagnosed as a rare case of THS in adults by using MRI as the primary diagnostic strategy; the patient was shifted to the ward and was managed conservatively with symptomatic treatment and was discharged with good outcomes.

*Medical Science, 2023, 27, e137ms2894*

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## **REPORT**

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### **Role of IL-6 and IL-8 polymorphisms in Type I Diabetes mellitus**

Eman K Rashwan

*Background:* Type I Diabetes mellitus (DM type-I) is the second most frequent chronic disease. Inflammation has a critical role in DM and its complications. Genetic discrepancies of pro-inflammatory cytokines (as IL-6, IL-8) might converse susceptibility to DM and/or its complications by altering the function and/or expression of these cytokines. The current study aimed to evaluate the role of IL-6 rs0795(C/G) SNP and IL-8 rs7306 (C/T) SNP in T1DM among Egyptian patients. *Subjects & Methods:* The current study enrolled 100 persons; 50 DM-type1 patients and 50 age and gender matched healthy persons as a control group. Fasting blood sugar (FBS), postprandial blood glucose (PPBG), random blood sugar (RBS) and Hemoglobin A1C (HbA1C) were measured for all participants. Genotyping of IL-6rs1800795 and IL-8rs2227306 SNPs was done using real-time PCR. *Results:* IL-8rs2227306 T and IL-6rs1800795 G alleles showed higher frequency in DM-1 patients than controls (38% vs. 7%; OR = 8.25; 95% CI = 3.45-19.73; p <0.001\* and 32% vs. 10%; OR = 4.18; 95% CI = 1.92-9.10; p <0.001\*, respectively). Evaluation of the haplotype frequency of IL-6 and IL-8 SNPs declared that the risk of developing DM-1 increases 28 times if both alleles are present together in the same patient (P<0.001\*). Correlation analysis did not show any significant relation between these SNP and sugar pictures among diabetic patients. *Conclusion:* IL-8rs2227306 T and IL-6 rs0795 G alleles frequency is very high among T1DM patients. They could be risk factors for DM-1, particularly if presented together but did not have any effect on the severity of DM.

*Medical Science, 2023, 27, e138ms2658*

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## **RESEARCH**

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### **Rate and pattern of prescription for osteoporosis and non-alcoholic fatty liver disease among patients with diabetes mellitus in Tabuk City, Saudi Arabia**

Waleed Badoghaish, Hyder Mirghani, Lafia Djeradi, Hanan Aljammaz

*Background:* Diabetes mellitus, non-alcoholic fatty liver disease (NAFLD) and osteoporosis are common serious diseases with high morbidity and mortality. When co-exist they increase each other deleterious consequences. This is the first study to assess the same in Saudi Arabia. *Objectives:* The study aimed to assess the rate and pattern of prescription for osteoporosis and NAFLD among patients with diabetes mellitus in Saudi Arabia. *Methods:* This cross-sectional study was conducted among 84 diabetic patients (above 60 years of age) at the Diabetes Center, Tabuk City, Saudi Arabia during the period from August 2022 to January 2023. A structured questionnaire based on demographic data, duration of diabetes, exercise, HbA1c, macro vascular complications, smoking and Dual-energy x-ray absorptiometry (DEXA) scan was used. The Q-fracture risk was used to assess the risk of fracture, and NAFLD was assessed using ultrasonography. *Results:* There were 84 diabetic patients (52.4% were women and 80.5% were obese or overweight, central adiposity was found in 77.8%); mean age, 62.38±7.56 years, NAFLD was found in 45.2%, osteoporosis and osteopenia were present in 28.6% and 41.7% respectively. No patient was receiving osteoporosis treatment and the uptake of glucagon-like peptide agonists (GLP-1) agonists and sodium-glucose co transporter's inhibitors (SGLT-2) was negligible (4.8% and 7.1% respectively). *Conclusion:* Osteoporosis, osteopenia and NAFLD were prevalent among patients with diabetes in Tabuk city, Saudi Arabia. The uptake of osteoporosis treatment, GLP-1 agonists and SGLT-2 inhibitors was low. Physicians might need to strictly follow the treatment guidelines and screen patients with diabetes mellitus for osteoporosis.

*Medical Science, 2023, 27, e139ms2935*

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## ANALYSIS

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### **Do university students have enough knowledge of epistaxis management? A cross sectional study at Hail region in Saudi Arabia**

Abdullah D Alotaibi, Khaled Fraih Alshammari, Ghadah Fayad Alrwaali, Atheer Mohammed Alanizy, Meshari Fahhad Alshammari, Mohammed Ahmed Altufaif, Abdulaziz S Al Qahtani, Abdullah N Alrasheedi, Ali I Swaid

*Objective:* Epistaxis is a common condition encountered in primary health clinics and emergency departments. The present study aimed to assess awareness and knowledge of epistaxis management among students at the University of Hail. *Methods:* This study used a descriptive cross-sectional approach targeting Hail University students from January to June 2022. Questionnaires were used to collect the data from the participants. *Results:* Of the 824 participants, 62.4% were men and 37.6% were women. Most of the participant 71% had suffered from epistaxis. Majority of participants 28.4% believed that the main cause of epistaxis is fingernail trauma, followed by hypertension 18%, nasal fracture 11.3% and bleeding disorder 7.6%. The source of knowledge about epistaxis for most participants 67.5% was direct experience, followed by mass media 18.6%. Overall, Hail University students showed intermediate levels of knowledge of epistaxis management. *Conclusion:* Knowledge of epistaxis management among Hail University students was intermediate, with similar levels of knowledge among medical and non-medical students. This suggests the need to implement programs to increase awareness of epistaxis among university students, including medical students.

*Medical Science, 2023, 27, e140ms2878*

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### **Does a two-stage approach to treat tibia pilon fractures have a favorable consequence?**

Sager Holy1 Alruwaali, Fares Almarek, Mohammed Saeed Alharbi, Mohammed Alharbi, Ahmed Onayzan Alshammari, Saadeldin Ahmed Idris, Moaath Abdulaziz Alamir

*Background:* Tibial pilon fractures are generally challenging to manage. The pattern of trauma and skin status all contribute to greater management outcomes. Despite the existence of numerous treatment techniques, no one has yet evolved the perfect method. Due to extended immobility, casts are frequently increasing the probability of non-union, malunion and joint stiffness. *Aim:* The study intended to assess the function and quality outcomes as well as the prevalence of sequelae in those who underwent the two-staged procedure in adults. *Methodology:* The research employed 21 patients with pilon fractures consecutively. The whole patients who were included in the study were older than 18 years and were given two staged processes of treatments for their fracture through the period between April 2019 and March 2022 at King Saud Medical City. The AO-OTA Classification is used to categorize fractured sides. The patients were followed up at predetermined intervals of 1,2,3,4,12,18,24 and 36 months and functional outcomes were reviewed utilizing AOFAS. *Results:* With a mean follow-up of 24.7 months (range, 12-36), a total of 21 pilon fractures (2 type 43-A, 10 type 43-B and 9 type 43-C) were studied. The average AOFAS score was 86.91. Thirteen individuals (61.9%) showed early, late, temporary or permanent concerns. *Conclusion:* All varieties of Pilon fractures are best treated with a two-stage orthopedic surgery owing to the high perceived functional result and briefer length of hospitalization.

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### **Sciatica pain in Saudi population: Knowledge and attitude towards sciatica pain and treatment methods among the population of Hail in Saudi Arabia**

Fatimah Fahad Alreshidi, Reem Falah Alshammari, Shroog Hashim Alenazi, Tahani Eid Alshammry, Tahani Nasser Altamimi, Ebtehaj Saud Almughais, Zahid FK Balouch, Rana Aboras, Rasha Alarfaj

*Background:* Pain that exudes and radiate to lower back side and towards the back of leg is defined as sciatica. Aim of this study is to assess the level of knowledge and attitude towards sciatica pain and treatment methods among the population of Hail in Saudi Arabia. *Methods:* A well-defined questionnaire was conceded among the general population. The study subjects include both male

and female gender involving the age above 18 years. The data was collected and questionnaire was used to assess public knowledge and awareness of sciatica symptoms, causes, risk factors, complications and treatment. Duration of study was six month and after collection of data, it was analyzed using the Statistical Package of Social Science Software (SPSS). *Results:* Among 298 respondents, 206 (69.1%) were females and 148 (49.7%) aged between 18-30 years old. Regarding sciatica pain, 64.4% of participants defined that *most distinctive sign of sciatica is pain that radiates from your lower back into the back or side of your leg*. According to multiple regression variables are statistically significantly predicted  $VO_2max$ ,  $F(6, 291) = 5.131, p < .0005, R^2 = .096$ . Sciatica was known to of the respondents and 32% were use *Physiotherapy and steroid injections are methods to reduce/treat sciatica*. *Conclusion:* Saudi populations have less knowledge about sciatica, as knowledge score ( $mean \pm SD$ ) is  $3.6 \pm 2.48$  its causes and the nature of pain and treatment remedies. Patient education is crucial to treating sciatica. Sciatica can have a variety of reasons.

*Medical Science, 2023, 27, e142ms2906*

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### **Diagnostic accuracy of real-time shear wave elastography in the evaluation of prostatic lesion**

Avinash Dhok, Sandeep Chude, Aisha Lakhani, Prashant Onkar, Priyanka Mane, Yash Jakotia

This research aims to compare the diagnostic accuracy of ultrasound elastography to histology in evaluating prostate masses and assess its ability to distinguish malignant from benign diseases. The research involved 60 individuals with elevated PSA values ( $> 4$  ng/ml) and aberrant DRE results were sent to our department. The trial lasted from August 2020 until February 2022. All patients gave informed consent and were aware of the potential complications of the biopsy. All the patients had B mode. Transrectal Ultrasonography, colour Doppler imaging, and transrectal real-time strain elastography were performed. The final diagnosis was confirmed with histopathological examination. The institutional ethics committee approved the study, and all patients obtained informed consent. In our study, the strain ratio has a sensitivity of 81.4%, a specificity of 83%, a positive predictive value of 88.4%, a negative predictive value of 83.5%, and an accuracy of 91.5% when a cut-off point of 5 is used to differentiate benign from malignant lesions. According to our results, prostate Ultrasonography coupled with elastography could be a valuable method for diagnosing malignant lesions and helps in targeting biopsy.

*Medical Science, 2023, 27, e143ms2094*

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### **Burden of burnout syndrome among ENT physicians in Saudi Arabia: A systematic review and meta-analysis**

Abdullah M Assiri

*Background:* Burnout syndrome (BOS) has been associated with serious consequences on the healthcare providers as well as the healthcare system. ENT medical staff experience stressful work circumstances as this specialty is sometimes demanding. *Aim:* This systematic review and meta-analysis aims to identify and assess the burden of BOS among ENT medical staff in Saudi Arabia. *Methods:* The study was conducted following the guidelines and recommendations of the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) 2020. Studies were retrieved by searching the PubMed, EBSCO, Scopus, Web of Science through Clarivate and Google Scholar using keywords and Mesh terms related to BOS and ENT medical staff. Rayyan – Intelligent Systematic Reviews was used for managing citations and duplicate removal. We used Review Manager 5.4 for quantitative data synthesis. *Results:* Primary search yielded 101 articles, of which only 3 were included in the quantitative meta-analysis. The pooled prevalence of high emotional exhaustion was 48.7% (95% CI: 34.9%-62.5%), whereas the pooled prevalence of high depersonalization was 44.5% (95% CI: 29.7%-59.2%) and low personal accomplishments was 48% (95% CI: 40.5%-55.6%). The pooled prevalence of the overall BOS was 47.8% (95% CI: -11.4%-106.9%). There was significant heterogeneity ( $I^2 > 50%$ ) in all of the pooled analyses. *Conclusion:* The aim of this study was to assess burnout syndrome among ENT physicians. The study found that nearly half of ENT residents in Saudi Arabia are burnt out. We recommend implementing measures to reduce and prevent burnout among ENT physicians in Saudi Arabia.

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### **Gender difference in pain presentation among patients with acute coronary syndrome: A systematic review and meta-analysis**

Hamdan M Al Shehri

*Background:* Acute coronary syndrome is the leading cause of death worldwide. Chest pain is vital for immediate diagnosis and intervention. Few studies evaluated the effect of gender on chest pain in the setting of acute coronary syndrome. This meta-analysis assessed gender differences among patients with acute coronary syndrome. *Methods:* We searched three databases for relevant articles. The searching engine was limited to the period from January 2013 up to January 2023. The keywords acute coronary syndrome, typical chest pain, atypical chest pain, clinical characteristics, gender differences and sex differences were used. *Results:* Out of the 933 studies, 811 were eligible after the removal of duplication, of them, 64 full texts were screened and only seven studies were included in the final analysis (27886 patients (20301 males and 7585 males)). No difference was evident between women and men regarding chest pain as a symptom of the acute coronary syndrome (odd ratio, 1.24, 95 CI, 0.91-1.70, P-value for overall effect, 0.18). Substantial heterogeneity was found  $I^2$  for heterogeneity, 91%, the Chi-square, 64.76, the mean difference=6. In addition, atypical chest pain was not different between males and females (odd ratio, 0.72, 95 CI, 0.48-1.08, P-value for overall effect, 0.11). Substantial heterogeneity was found  $I^2$  for heterogeneity, 92%, the Chi-square, 39.48, the mean difference=3. *Conclusion:* No significant difference was evident across gender regarding chest pain (typical or atypical) among patients with acute coronary syndrome. Future research on diagnostic tools for acute coronary syndrome and focusing on sex differences in chest pain presentation are needed.

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**Rampant caries management using Silver Diamine Fluoride (SDF): A case report**

Sara Kalagi, Azzam Almeshrafi, Kim Diefenderfer

The present study aims to demonstrate the efficacy of silver diamine fluoride (SDF) for the management of dental caries and to identify its potential drawbacks in a dental clinic setting. A 14-year-old female accompanied by her mother came to the clinic with a complaint of mild pain when drinking water and wanted to restore her carious teeth. Medical history was insignificant. History taking revealed poor oral hygiene with a highly cariogenic diet. Radiographic examination showed multiple caries lesions with severe decay of anterior teeth. Clinical examination revealed rampant caries of all upper and lower anterior and posterior teeth. The proposed treatment was to prevent further decay of teeth by applying silver diamine fluoride on the decayed teeth and restoring them with glass ionomer due to financial and time limitations. Glass ionomer restorations were placed during multiple visits over few weeks. The patient's discomfort and anxiety diminished substantially and she experienced no new primary or secondary caries lesions. Tooth discoloration was minimized by selective removal of superficial SDF-hardened tooth structure, followed by glass ionomer restoration. To conclude, silver diamine fluoride can be a safe and effective treatment option to address rampant caries in the young population if it is applied safely and its potential side effects addressed accordingly.

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**A rare case of VACTERL association in new born**

Rasagnya M Reddy, Bhavana B Lakhkar, Mahaveer S Lakra, Sagar Karotkar, Kiran Khedkar, Amar Taksande, Revat J Meshram, Mayur B Wanjari

VACTERL Association is complex, non-random sporadic association of various birth defects. It includes vertebral, anal anomalies, cardiovascular, tracheoesophageal, renal anomalies, radial anomalies and limb abnormalities. It is first described in 1970s. Full spectrum association is a very rare entity. VACTERL is considered to be present if any three of the above-mentioned abnormalities are present. Along with these features, patients might present with other external anomalies like lung lobation defects, external ear anomalies etc. However, the full spectrum of VACTERL association is very rare diagnosis mainly by clinical approach. Multidisciplinary approach and treatment of surgically correctable anomalies provide a better outcome for this association in new born period. Tracheoesophageal fistula is associated in more than 70 percent of the cases. Limb defects are also present in 70 percent of the cases. Anal atresia is present in 55 percent of the cases. VACTERL Shows phenotypic overlap with various conditions like Goldenhar syndrome, Fanconi anaemia, CHARGE syndrome etc. Here in we are reporting a case of VACTERL with presence of cardiovascular abnormality, Tracheoesophageal fistula and limb abnormalities.

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**Rehabilitation of lateral gaze palsy in a patient with 'Choroid Plexus Papilloma'**

Leksha Patel, Pallavi Harjpal, Ragini Dadgal, Kratika Dubey, Komal Mandhane

Choroid Plexus Papilloma (CPP) is infrequent, neuroectodermal originated, intraventricular tumour of central nervous system that develops from lining of choroid plexus lining. Choroid plexus is responsible for production of cerebrospinal fluid. Patient with CPP therefore presents with symptoms of hydrocephalus due to increased intracranial pressure (ICP). In this case report we have presented an 11-year-old female patient who developed CPP mimicking meningioma in third ventricle. She came with complain of headache, vomiting and diplopia. MRI and CT scan results confirmed the diagnosis. She was initially operated on for ventriculoperitoneal shunting to reduce the elevated intracranial pressure after approximately 25 days of onset of symptoms. Her tumour was removed subsequently, 10 to 15 days after the initial surgery, using a supracerebellar infratentorial approach, with an incision running from her occiput to 6 cm downward. Her primary complaints after surgery included loss of lateral eye movement, poor coordination and balance problems. Early evaluation and rehabilitation for the same were initiated. Exercises for lateral gaze palsy comprised of eye movement exercises by utilising radium objects and target-oriented gaze stabilisation exercise using colourful peg board pieces. The regimen also includes upper and lower limb coordination exercises and balance training. The effects of our treatment strategy were observed during post-rehabilitation follow-up, including improvements in gaze, balance and coordination.

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**Atrial fibrillation patient with sleeve gastrectomy had pulmonary embolism even with the usage of apixaban**

Osama Abdullah Abdulrahman, Mohammed Ibrahim Alshinkity, Fawaz Saeed Baalaraj, Raghad Majed Hariri, Abdulhalim S Serafi  
Our patient is a 48-year-old male known case of atrial fibrillation for 15 years, adherent to his medications, which are apixaban and beta-blocker. He has a history of sleeve gastrectomy two years ago and thereafter, developed a pulmonary embolism. There are studies that revealed that bariatric surgeries had an effect on some medications, especially in absorption. Most of the Direct oral anticoagulants (DOACs) are absorbed in the stomach and proximal intestines. This study demonstrates the possible relation between sleeve gastrectomy and reduced apixaban drug absorption, which can result in a risk of pulmonary embolism and *deep vein thrombosis* (DVT).

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**A rare case of scrotal haematoma-unusual presentation of a classical testicular seminoma**

Dhaval Patel, Yeshwant Lamture, Nidhi Pugalía

Testicular seminomas are one of the most common solid, extra-abdominal tumours in young males. The most common clinical symptom is a hard, painless mass in the scrotum that may or may not cause discomfort. We report a very rare case of incidental testicular seminoma presenting itself as a hematoma diagnosed after surgical intervention for chronic hydrocele and subsequent orchidectomy and partial scrotoectomy done for parenchymal damage.

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#### **Dyke-Davidoff-Masson in a pregnant woman: A rare case report**

Sonali Chauhan, Deepti Shrivastava, Kamlesh Chaudhari, Rajasbala Dhande, Vivek Jadawala

*Background:* The first examples of this syndrome were identified and described by Dyke, Davidoff and Masson in 1933. The global incidence of the condition is still uncertain, even though 100 cases have been reported worldwide almost a century after its discovery. Clinical symptoms include mental retardation, hemiparesis or hemiplegia, facial or bodily asymmetry with atrophy and localised and/or widespread drug-resistant epilepsy. *Case description:* 23-year-old G2A1 (gravida 2 abortion 1) presented with history of amenorrhoea since 9 months and pain in abdomen since 6 hours and she later developed complex partial status epilepticus and had a history of recurrent seizures since 10 years of age. MRI brain was done which revealed Dyke Davidoff Masson Syndrome. *Conclusion:* DDMS, a condition characterized by frequent and persistent seizures, is rare and can be difficult for medical professionals to diagnose accurately due to its rarity. However, specific imaging findings related to this disease can be revealed using MRI.

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#### **Role of dual plate fixation for the distal femur fracture to avoid varus collapse in a patient having multiple ipsilateral compound long bone fractures: A case report**

Vivek Jadawala, Aditya Kekatpure, Sanjay Deshpande, Shivshankar Jadhav, Parth Shah, Abhiram Awasthi

Open high velocity long bone fractures with bone loss and extensive soft tissue damage in poly-trauma patient presents unique challenges when the course of limb salvage procedure is recommended. The complexity of managing multiple fractures of ipsilateral long bones arises from the need to consider various management factors, such as the open fracture care, method of stabilization, soft tissue covers and bone-grafting technique, while also taking into account the possibility that the implant chosen for one fracture may not be optimal solution for another. In reality, unilateral fracture of the femur neck, femur shaft and floating knee injuries present numerous challenges and dilemma during fixation that surgeons need to take into consideration; yet, reports of patients presenting with such injuries are extremely rare. We present a case of 41-year-old male who sustained ipsilateral fracture of the femoral neck and shaft femur along with fractures of tibia and fibula (floating knee) following a high-velocity two-wheeler collision. He was managed with operative fixation but 3 months post-operatively, the patient developed varus collapse at distal femur fracture site. Patient was then operated again with medial buttressing along with bone-grafting for distal femur fracture. At his most recent 6 weeks follow-up, patient was walking without assistive devices in October 2022. The decision regarding the sequence in which to fix fractures should be based on judgement of the operating team and circumstances at hand. Although these cases are infrequent and challenging to manage, each case requires individualized, tailored approach since no standard protocol exists.

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#### **A physiotherapy rehabilitation programme for patient with thermal burn injury: A case report**

Shubhada Dhait, Chaitanya Kulkarni, Prasad Dhage, Shubhangi Patil

Burns is one of the most usual and deadly injuries to the human body. About 450000 people suffered from burn injuries in a year, out of which 86% of cases are thermal burn injuries, 4% are electric types of burns, 4% are chemical burns and the remaining 6% are other types of burn injuries. Almost 8 lakh people per year need to be hospitalized for the treatment of burn injury, out of them, 2.8 lakh people become disabled due to burning injury. In this scenario, we report a 48-year-old male who received a thermal burn while doing household chores. He was taken to the local hospital immediately after the trauma. On the next day, he was then referred to a tertiary care hospital for further specific burn management. Where he was assessed and diagnosed with a 45% thermal burn injury case and management was started accordingly. The patient was referred to the physiotherapy unit for further management. Carefully planned physiotherapy rehabilitation protocol including thorough assessment and management via acute phase, sub-acute phase and maturation phase was found to be very effective on the general mobility, strength and functional performance of the patient.

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#### **Mild epithelial dysplasia: A case report and review**

Ismail Mahmoud Abdouh, Hattan Zaki, Hamzah Babkair, Basem Akily, Ahmad Othman, Shahad Almutairi, Rola Aljohani, Lamis Lmrabet Mohamado, Abdulrahman Alsani, Rahaf Almukslifi

*Background:* Leukoplakia is an abnormal patch of white tissue that forms on mucous membranes in the mouth and other areas of the body. It may transform to dysplasia or cancer. Epithelial dysplasia is a growth anomaly due to abnormal growth of the epithelium. *Case report:* A 35-year-old Pakistani male was referred by his dentist to the Oral Surgery clinic due to the presence of diffused white patches in the oral mucosa. Medical history is non-significant and for the social history, the patient has used betel nuts. Intraoral examination revealed diffuse white patches in the lower right and left alveolar and buccal mucosa. Incisional biopsy was taken for

the mixed white and red lesion which showed a cellular atypia in the basal and parabasal cell layers. The diagnose was mild epithelium dysplasia. *Conclusion:* Dentists and general practitioners are important in detecting leukoplakia early because It's easy to eliminate a potential cause of the condition.

*Medical Science, 2023, 27, e154ms2927*

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## ANALYSIS

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### **Awareness of asthmatic patients to the association between the environmental risk factors and asthma exacerbation in Al-Qassim region, Saudi Arabia**

Sami M Alrasheedi, Mousa N Alrashdi, Ahmad Alkhdairi, Haneer Mateg Alrashidi, Abdullah Alrasheedi, Emad Bani Alharbi, Faisal Abdulaziz Almutairi, Khalid Saad Alrashdi, Farah Saleh Allabun, Ghada Abdullah Aljutaily

*Background:* Asthma is the chronic airway inflammatory illness that exhibits substantial etiological, clinical and historical heterogeneity. Current knowledge of prevalence, aetiology and management is crucial for appropriately managing respiratory allergies. Consequently, the current study's objective was to determine the asthmatic patients in the Al-Qassim region of Saudi Arabia who were aware of environmental risk factors and their link with asthma exacerbations. *Methodology:* A cross-sectional study was conducted in the form of a survey. Data was gathered using a semi-structured questionnaire. The information covered sociodemographic traits, knowledge, previous asthma-related medical history and awareness of aggravating factors besides family history. *Results:* In the current study, we were able to collect data from 106 asthmatic patients, where 67.9 % of them were females. We discovered that 88.7% of the participants who were asthmatic patients were aware that environmental risk factors contribute to asthma exacerbations. Air pollutants (95.3%), respiratory illnesses (90.6%), house dust mites (90.6%) and excess utilization of detergents and other household pesticides (90.6%) were the most well-known environmental risk factors. According to 65.1% of the participants, house dust mites were the main cause of asthma flare-ups. This was followed by respiratory illnesses (62.3%), air pollutants in 59.4% of the participants' reports and excessive detergent use (46.2%). *Conclusion:* In the Qassim region, we identified that asthmatic patients had good understanding of the environmental aggravation. However, this information is not linked to the frequency of asthma attacks; rather, it was linked to patients' growing propensity to avoid these circumstances.

*Medical Science, 2023, 27, e155ms2711*

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### **Comparing mortality outcomes of early versus late intubation in COVID-19 patients admitted in the ICU: A systematic review and meta-analysis**

Abdullah I Aedh

The goal of this systematic review and meta-analysis was to assess whether there is a difference in mortality rates between COVID-19 patients in the ICU who receive early intubation versus those who receive it later. The study also considered potential factors that could affect the results, such as patient characteristics and the length of time that mechanical ventilation was needed. A total of 18 studies were included in the final analysis, comprising a total of 11,228 patients. The meta-analysis did not find a statistically significant difference between the mortality in early versus late intubation, with a risk ratio of 0.97 (95% CI: 0.87-1.07). Subgroup analysis revealed that this result was consistent across various subgroups, including patient age and severity of illness. However, the included studies had moderate to high risk of bias and the possibility of publication bias cannot be ruled out. Further high-quality studies are needed to confirm these findings.

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### **Prognostic factors of cardiac arrest in the emergency department**

Mazi Mohammed Alanazi, Faheem Mohammed Alanazi, Ossamah Ata Abdulqader, Dawood Abdulrahman Alduraywish, Salal Bader Alotaibi, Saud Mohammad Y Alqahtani, Abdulrahman Mansour Aljarbou, Mujahid Nasser Almuhammad, Maram Abdullah Ahmed, Lama Yousef Alharbi, Faridah Khalaf Awadh Alharbi

*Background:* Cardiac arrest is a problem that has gotten surprisingly little attention in the ER. ER Patients are more likely (29%) than patients in the intensive care unit (25%) or on telemetry (25%), to encounter an initial ventricular fibrillation rhythm or pulseless ventricular tachycardia. Our research aims to identify the prognostic factors for cardiac arrest in the ER at KSMC. *Method:* From January 2022 to Jun 2022, a retrospective study was done in the tertiary care hospital KSMC in Riyadh, Saudi Arabia. The ministry of health introduced and oversees the hospital records system, which was used to collect data, in 2015. All persons over the age of 18 who experienced an in-hospital resuscitation attempt after cardiac arrest were eligible to take part in the study. *Results:* We included 98 people who received resuscitation techniques after suffering ER cardiac arrest. Patients who had ER cardiac arrest had an average age of 69.5 + 23.4 years. Overall, 60.2% of the patients were men. The two most common concurrent comorbidities were hypertension (43.8%) and coronary artery disorders (41.8%). The average time spent performing CPR was 22 minutes (IQR 11-49 minutes). When the factors influencing the success of resuscitation were determined using multiple regression analysis, resuscitation lasting fewer than 30 minutes was the most component that could predict the restoration of spontaneous circulation. *Conclusion:* Our study concluded that ER cardiac arrest more common in male gender. About one third of patients affected with ER cardiac arrest discharged home well.

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### **Pervasiveness sunscreen use and knowledge among university students in Riyadh, KSA, 2022-2023**

Sami Fathi Abdullah, Rasheed AM, Majed Marshad Alanazi, Yazan Jaber, Abdulrazaq Mohammed Alshammari, Khalid Issam Alhoms, Rakan Abdullah Alzabadin, Mohammed Shar Alahmari

An essential tool for sun protection is sunscreen. Only a few studies on the usage of sunscreen were carried out in Saudi Arabia, despite widespread research on the topic. Our research aims to evaluate the prevalence, behaviors and knowledge related to use of sunscreen among Saudi university students. *Objectives:* Our study aim is to demonstrate the knowledge and use of sunscreen among university students. *Methodology:* A cross-sectional study was carried out among university students, Riyadh Saudi Arabia. After obtaining permission from the college authority, participants were given prevalidated questionnaires about sunscreen knowledge, attitude and practice and were distributed to 600 university students. The Chi-square test and one-way analysis of variance were used to evaluate the data. *Result:* The study included 600 university students who completed the study questionnaire. In which the majority of the participants are between the ages of 21 and 23, making up 42.6% of the total. Participants are divided on whether or not they use sunscreen, with 291 (48.4%) stating they do and 310 (51.6%) saying they do not. *Conclusion:* Our study revealed that Sunscreen use in Saudi Arabian university students is higher than in previous studies, but it is still lower than in other countries.

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### **Topical corticosteroid phobia among high educational students in Al-Madinah region: A cross-sectional study**

Mosab Tariq Mohanna, Rawabi Ahmed Albeladi, Esraa Khalaf Alshareef, Showq Abdullah Alsaedi, Afnan Fadhel Aljawi, Ahmed Adnan Ozbuk

*Background:* Topical corticosteroid (TCS) phobia refers to patients' negative beliefs and ideas related to TCS use. This phenomenon is mostly caused by misinformation rather than an irrational fear, suggesting that the term TCS phobia is a misnomer. *Objectives:* To assess the prevalence of topical corticosteroid phobia among high educational students in Al-Madinah, Saudi Arabia. *Methodology:* A cross-sectional study was conducted in the 2022-2023 academic year using a pre-designed online questionnaire distributed through social media applications among university students in Al-Madinah, Saudi Arabia. The survey was composed of 13 questions. The data were analyzed by Statistical Package for Social Sciences (SPSS). *Results:* Among 485 participants, 46% of them were aged between 21-23 years old and 68% were female. Almost a quarter (22.5%) of them has used a topical corticosteroid; 22.9% of them were self-prescribed. Half of the users did not experience side effects and the most reported side effect was local skin irritation. Among non-users, fear of complications and concerns regarding its effectiveness were the most reported reasons that would prevent them from using TCS. Overall, TCS phobia and concerns were reported by 42.7% of the participants. The internet was the most common source of information. *Conclusion:* TCS are commonly used among young population in Al-Madinah. A considerable proportion was self-prescribed. TCS phobia is observed with misconceptions regarding the safety and efficacy of TCS. Health education is needed for this population to correct these misconceptions with involvement of healthcare professionals.

*Medical Science, 2023, 27, e159ms2943*

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### **Physician knowledge of radiation exposure and risk in medical imaging in Al-Qunfudha region**

Alaa Jameel A Albarakati, Medhat Taha, Hassan Alsuhabi, Mohammed salah almoiedy, Fatmah Hussein Alshardy, Talal Alnaemi, Abdulaziz Zaid Mohammed Alhayli, Zahra Aqeel Ibrahim Alzubaidi, Amal Abdulmalik Zaid Alrizqi, Hatim Abdulmalik zaid alrizqi, Raghad Saleh Abdullah Alqarni

*Background:* Radiation is a recognized and essential component of medical practice, X-rays and radiological procedures related to their use are becoming important diagnostic and therapeutic tools in medicine. Participants and *Methods:* A cross sectional observational study was conducted in Al- Qunfudhah Saudi Arabia from November 2022-January 2023 on 189 of the 5<sup>th</sup>, 6<sup>th</sup> year medical students, medical interns and residents' males, females at three governmental hospitals: Al- Qunfudhah general hospital, south Al-Qunfudhah general hospital and Al-Mudhaylif general hospital. Data was collected using an electronic form of self-administered questionnaire. *Results:* The prevalence of poor, fair and good knowledge about radiation exposure and risk in medical imaging among the participants was 82%, 17% and 1% respectively. 77% reported that MRI is a non-ionizing radiation, 63% classified mammography as ionizing radiation and 52% reported Uranium as the biggest source of radiation in daily life. About 65% reported that the most health risk caused by radiation exposure was cancer and 71.5% agreed that leukemia result from large radiation exposures. Only 29% reported that the amount of radiation dose induced cataract is 2.5 Gy, 33.5% reported gray is the unit of the equivalent dose and 28.5% reported the annual recommended dose to the whole body is 50 mSv (5rem). 37% of the medical staffs knows the ALARA principle, 35.5% of them aware about the radiation exposure hazards papers and 36% of them knows carcinogenic medical X-rays. *Conclusion:* A low level of knowledge about radiation exposure and risk was found among participants.

*Medical Science, 2023, 27, e160ms2936*

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### **Assessment of QTc interval changes in patients undergoing spinal anesthesia for elective surgery**

Mohsen Sahebanmaleki, Mahdi Basirimoghadam, Reza Ghasemi, Mahdi Pirzadeh Aval Baghciahi, Sepideh Karkon Shayan

*Background and Aim:* A prolonged QT interval is one of the causes of sudden death and the occurrence of arrhythmias. It is needed to revision more the increasing frequency of spinal anesthesia and unidentified causes of some of its complications, such as sudden and preventable death. This study aimed at examining the QTc interval changes in patients undergoing spinal anesthesia for elective surgery. *Materials and Methods:* This is an analytical study conducted from March 2020 till Feb 2022. We studied QTc interval changes before, during and after the spinal anesthesia. 177 patients aged 20-60 years selected for spinal anesthesia. The

electrocardiogram (ECG) performed three periods before and 10 and 150 minutes after anesthesia. Data collected and analyzed via SPSS ver. 14.5. The significance level was  $P$ -value $<0.05$ . *Results*: The average QT interval before operation, during operation and after operation was respectively  $(365.35 \pm 30.32)$ ,  $(374.36 \pm 28.99)$   $(377.74 \pm 30.52)$  and this difference is statistically significant. It was significant ( $P=0.01$ ). The average QTc interval before operation, during operation and after operation was respectively  $(407.88 \pm 29.11)$   $(408.13 \pm 26.22)$   $(408.13 \pm 26.22)$  which was statistically significant ( $p = 0.03$ ). *Conclusion*: Marcaine increased the QTc interval during spinal anesthesia, which was statistically significant. But spinal anesthesia had no significant effect on PR interval.

*Medical Science, 2023, 27, e161ms2708*

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### **Health benefits of mixed recreational team games on untrained males in post COVID-19 scenario**

Rakesh Tomar, Jhalukpreya Surujlal, John Ainsworth Allen

Objective of the study was to examine the effect of small-side mixed recreational games on physical characteristics of university youth. *Methods*: Twenty-six male chosen and divided randomly into experimental ( $n=16$ ) and control group ( $n=9$ ). Experimental group was offered mixed recreational games thrice a week for 12 weeks. Mixed games included small sided football, basketball and handball. Training was given for 30 minutes. Independent T-test was used to check group differences at start and post intervention. Product Moment Correlation was used to check correlation between aerobic capacity and body fat. *Results*: Body fat percent ( $t_{23} = -2.123$ ,  $P = 0.045$ ), aerobic capacity ( $t_{23} = 2.220$ ,  $P = 0.037$ ), oxygen saturation ( $t_{23} = 2.182$ ,  $P = 0.040$ ) and resting heart rate ( $t_{23} = 2.123$ ,  $P = 0.045$ ). Significant relationship between body fat and aerobic capacity was seen in the intervention group ( $r = -0.675$ ,  $n=16$ ,  $p = 0.004$ ). *Conclusions*: It can be concluded that mixed recreational games are effective and should be promoted among youth for better health. Unstructured and supervised recreational games are effective in promoting physical health and are enjoyed by young participants.

*Medical Science, 2023, 27, e162ms2842*

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### **The relationship between sleep quality and dietary intake among pregnant women in Saudi Arabia**

Rana Qanaq, Essra Noorwali

*Objectives*: Sleep quality deteriorate during pregnancy due to hormonal and physical changes. Studies reported that poor sleep quality during pregnancy is associated with an increased risk of adverse pregnancy outcomes. This cross-sectional study aims to examine the factors associated with sleep quality and dietary intake and their relationship in Saudi pregnant women. *Methods*: Sleep quality was measured by the PSQI. Dietary intake was measured by using food groups and serving sizes from a validated Food Frequency questionnaire (FFQ) for Saudis. *Results*: 140 pregnant women living in Saudi Arabia were included. Pregnancy stage was significantly associated with PSQI, the higher the pregnancy stage (trimester) the higher the PSQI score (poorer sleep quality). In adjusted logistic regression, family income predicted a higher intake of the recommended number of fruits and vegetables ( $p = 0.03$ ). No associations were observed between sleep quality and dietary intake. *Conclusion*: Our results may help in developing strategies to improve sleep quality and dietary habits among pregnant women. Prospective and clinical trials are warranted to draw conclusions.

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### **Knowledge, attitudes and practices of parents of children with sickle cell disease towards vaso occlusive crisis in Tabuk area, Saudi Arabia: A cross-sectional study**

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Our objective is to assess the knowledge, attitudes and practices of parents of children with sickle cell disease (SCD) towards vaso-occlusive crisis (VOC). Cross-sectional study, administered to patients following up in King Salman Armed Forces Hospital (KSAFH), Saudi Arabia. The study included 134 participants. Data analysis performed using Statistical Package for the Social Sciences. Regarding assessment of the participant's knowledge only 0.9% had a low knowledge level, 54.3% had a moderate level and 44.7% had a high level. Evaluation of the participants' practices, 7% had a low level and 77.2% had a high-level practice. Participant's attitudes level toward the VOC was good in 97.4% of participants, while 2.6% had a poor attitude. There was a good level of general knowledge among parents of SCD patients. However, their knowledge about the role of vaccines and hospital admission was inadequate. The adequate knowledge of the parents was transformed into good practices, where the highest percentage of the participants had high practices and attitude scores. We recommend establishing more education meetings with parents as this is the preferred source of information by the parents.

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### **Robotic mastectomy versus open mastectomy in patients with or at high risk of breast cancer: A systematic review and meta-analysis**

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*Objective*: This study aimed to compare the efficacy and safety of robotic versus open technique in patients undergoing mastectomy for breast cancer treatment or risk-reduction. *Methods*: The literature search included English-published studies from inception to

the 3rd of February 2023. The search included MEDLINE/PubMed, Cochrane Library, the Web of Science and Scopus, using the terms “robotic mastectomy” AND “open mastectomy”. We calculated the odds ratio (OR) with 95% confidence intervals (CI) for categorical outcomes and standardized mean difference (SMD) for numerical outcomes. *Results:* Five studies were included. Robotic mastectomy was significantly associated with longer operative time (SMD=0.92 (95% CI: 0.34, 1.50), p-value=0.002) and hospital stay (SMD=0.53 (95% CI: 0.03, 1.02), p-value=0.04), but lower rates of overall complications (OR=0.56 (95% CI: 0.42, 0.75), p-value<0.001) and nipple-areola complex necrosis (OR=0.45 (95% CI: 0.24, 0.87), p-value=0.02). There was no significant difference between robotic and open mastectomy in terms of the involvement of surgical margin or locoregional recurrence of breast cancer. *Conclusions:* Robotic mastectomy can be considered a safe procedure. It may possibly reduce the probability of postoperative complications. The better aesthetic results accomplished with robotic mastectomy enhances the patient satisfaction. Yet, robotic mastectomy can lengthen the total operative time and increase the duration of hospital stay. The included studies showed several limitations, so there is a need to conduct large size, randomised, clinical trials with adequate follow-up before recommending the routine use of the robotic technique for mastectomy.

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## CASE REPORT

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### **Pellagrous encephalopathy and alcohol withdrawal delirium: A case report**

Aditya Mahindru, Ruthshee Suresh, Pradeep Shriram Patil

Chronic alcohol consumption is a common etiology, for pellagra is frequently under-diagnosed and thus not adequately treated. A 30-year-old gentleman presented with a history of consumption of alcohol in a dependence pattern for the previous 10 years with altered sensorium and hallucinatory behavior for 3 days. He exhibited skin lesions over sun-exposed regions of both the upper and lower extremities. He was diagnosed to have complicated alcohol withdrawal syndrome and alcoholic pellagra. He was treated with oral diazepam and multivitamins containing thiamine and niacin. The patient's behavioral problems and skin lesion improved gradually. Pellagrous encephalopathy was most likely a contributing cause of behavioral abnormalities and altered sensorium in our case and it could be recognized due to the presence of the typical rash. Pellagrous encephalopathy may manifest even without skin lesion. Niacin supplementation along with standard thiamine therapy is recommended in all cases of altered sensorium in heavy alcohol users.

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### **Acute onset psychosis in a patient of tuberous sclerosis: A rare entity**

Vaishali Sehgal, Apoorva Yadav, Isha Ahluwalia, Pradeep S Patil

The Tuberous Sclerosis Complex (TSC) is a multisystem autosomal dominant condition occurring due to mutations in the TSC1 or TSC2 genes affecting around 1 in 20,000 people. TSC is inclusive of tumours of skin, kidney, brain, lung and heart as well as neurological conditions like seizures, autism spectrum disorder and intellectual disability. An array of neuropsychiatric illness known as TSC-associated neuropsychiatric diseases (TAND) are identified in around 90% of people with TSC. Among them, psychosis has been reported only in around 2.3% of cases globally and rarely from India. The Indian data of psychosis in patients of TSC is very sparse. Hereby, we report a case of a 20-year-old male who presented with symptoms of acute psychosis, catatonia and drug induced extrapyramidal symptoms (EPS) and MRI brain showed features suggestive of tuberous sclerosis complex.

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### **A rare case of Guillain barre syndrome with overlapping cerebral sinus venous thrombosis masquerading as acute psychosis following COVID-19 vaccination**

Apoorva Yadav, Vaishali Sehgal, Isha Ahluwalia, Pradeep S Patil, Ateeba Ahmed

Guillain barre syndrome (GBS) is a rare autoimmune condition that has a prevalence of 1-2 per 100,000 people each year. Cerebral sinus venous thrombosis (CSVT) occurs at a rate of three to four cases per one million individuals annually. Both have variable clinical presentation with significant morbidity. The therapeutic management of CSVT and GBS presents unique challenges due to peculiar relationship and overlap in presentation. Reports suggest that psychosis may result from autoimmune encephalitis after receiving the COVID-19 vaccination. Hereby the reported case is of a female who is 18 years of age presenting with acute psychotic and catatonic symptoms following covid 19 vaccination with weakening of limbs which suspected an underlying organic pathology. Magnetic resonance imaging was normal but magnetic resonance venogram showed transverse and sigmoid sinus thrombosis and later GBS with CSVT after Covid-19 vaccination was diagnosed. The case was chosen to report a rare condition with an atypical presentation.

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### **Tackling infertility in a case of bicornuate bicollis uterus with longitudinal vaginal septum: An arduous clinical challenge**

Nidhi Goyal, Manjusha Agrawal, Deepika Dewani, Manila Reddy, Dhruva Halani

Bicornuate bicollis uterus is a congenital Mullerian anomaly which is comparatively rare. It is associated with about 25% of women having early miscarriage and infertility. The incidence of the bicornuate uterus along with vaginal anomalies is infrequent and unknown. We are presenting an unusual case of 25-year-old female with long-term primary infertility that was diagnosed with Bicornuate Bicollis uterus along with longitudinal vaginal septum. She underwent resection of vaginal septum and fallopian tubal

recanalisation for tubal blockage, after which the patient conceived spontaneously and delivered a healthy male child later. Although these uterine anomalies are uncommon, they can still have profound medical and psychological implications.

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**PNAM (Presurgical Nasoalveolar Molding) therapy-first step in preparation of infant for cleft lip and palate repair**

Jeni Ann Mathew, Ranjit H Kamble, Pallavi S Daigavane, Ruchika Pandey

A month-old male infant along with parents had reported to Sharad Pawar Dental College. The infant's parents had complained of lip and palate deformity in the child. On examination, it was found that the patient had unilateral cleft lip and palate on the left side. *Objective:* The aim was closure of the defect to prepare the child for surgery with better esthetic results. *Case presentation:* A month-old infant had reported with parents who had been traumatized mentally as the child had lip and palate deformity since birth. They wanted to get it corrected. The child had been advised to undergo PNAM therapy before surgery. *Conclusion:* As a result of PNAM therapy defect was closed to a greater extent from 15 mm to 5mm in lip and palate, to avoid greater tension while surgery.

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