

# Medical Science

## About the Cover



*Background:* loss of smell is a common symptom of coronavirus infections. Studies have shown that patients following recovery from COVID-19 develop olfactory dysfunction which can persist for an extended period. The purpose of this study is to assess the long-term olfactory dysfunction and its associated factors in individuals with a history of infection COVID-19 infection, as well as the impact of olfactory dysfunction on quality of life in Saudi Arabia. *Methods:* A questionnaire based cross-sectional study was conducted targeting individuals with a history of COVID-19 infection. *Results:* A total of 174 participants were included in this study. The percentage of anosmia, hyposmia, parosmia, and phantosmia among the participants was 11.5%, 37.4%, 40.8%, and 33.3% respectively. Parosmia was significantly associated with olfactory training (P-value= 0.019). Olfactory training and age group from 46 to 55 years were showed significant association with phantosmia (ghost odors) (P-value= 0.008, 0.012) respectively. 28.7% of participants reported that their smell sense problems caused them to eat less than previously, and 21.8% reported that they ate out less. 13.8% stated that their smell sense issues have a negative impact on their daily social activities, and according to 5.2%, changes in the smell sense isolated them socially. *Conclusion:* Long-term olfactory dysfunction was shown to be common among individuals who had a history of COVID-19 infection. The quality of life of those who are affected by olfactory dysfunction is negatively impacted. Further research is recommended to understand the pathophysiology of anosmia, hyposmia, and phantosmia in COVID-19 patients. (Ref: AlHazmi WA, Alodheilah AA, Aldharman SA, Alandijani HA, Alhati MM, Alsalmi GM, Alahmadi RN, Alnafessah SM. COVID-19 infection related olfactory dysfunction in Saudi Arabia: Community-based study. Medical Science, 2022, 26, ms157e2161).

**Colostrum knowledge among mothers in Riyadh, Saudi Arabia**

Khalid Almahmoud, Abdulaziz Almousa, Lama Albalawi, Renad Althobaiti, Abdulrahman Alothman, Rheem Almhizai

*Background:* Colostrum is a secretion produced by a mother's mammary glands days before birth and lasts for a few more after. Colostrum is rich in various immunologic and nutritional content and is essential for the newborn. However, there are many misconceptions and a lack of knowledge about colostrum and its properties. *Aim:* This study aimed to measure the knowledge and attitudes towards colostrum among mothers in Riyadh, Saudi Arabia. *Subjects and methods:* A cross-sectional study was conducted among mothers in Riyadh, Saudi Arabia. A self-administered questionnaire was distributed among mothers using an online platform. The questionnaires include demographic data, general knowledge and awareness about colostrum, knowledge about colostrum formation, duration, color, and appearance, and general attitude and practice toward colostrum. *Results:* Of the 680 mothers who took part, 86.9% heard about colostrum, while 86.8% and 74% were aware of its correct meaning and benefits. The overall knowledge level of mothers regarding colostrum formation, duration, color, and management was good (91.8%), while only 8.2% had a poor knowledge level. Factors associated with increased knowledge level were having more than five pregnancies, having heard of colostrum, knowing its meaning and usage, and receiving advice to breastfeed a child with colostrum. *Conclusion:* Even though Saudi mothers' understanding of colostrum was rated sufficient, there is still space for improvement. Mothers who have had more than five pregnancies and have been encouraged to breastfeed a kid with colostrum are more informed than the rest.

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**COVID-19 infection related olfactory dysfunction in Saudi Arabia: Community-based study**

Waleed A AlHazmi, Arwa A Alodheilah, Sarah S Aldharman, Hamza A Alandijani, Maram M Alhati, Gharam M Alsalmi, Rayan N Alahmadi, Sama M Alnafessah

*Background:* loss of smell is a common symptom of coronavirus infections. Studies have shown that patients following recovery from COVID-19 develop olfactory dysfunction which can persist for an extended period. The purpose of this study is to assess the long-term olfactory dysfunction and its associated factors in individuals with a history of infection COVID-19 infection, as well as the impact of olfactory dysfunction on quality of life in Saudi Arabia. *Methods:* A questionnaire based cross-sectional study was conducted targeting individuals with a history of COVID-19 infection. *Results:* A total of 174 participants were included in this study. The percentage of anosmia, hyposmia, parosmia, and phantosmia among the participants was 11.5%, 37.4%, 40.8%, and 33.3% respectively. Parosmia was significantly associated with olfactory training (P-value= 0.019). Olfactory training and age group from 46 to 55 years were showed significant association with phantosmia (ghost odors) (P-value= 0.008, 0.012) respectively. 28.7% of participants reported that their smell sense problems caused them to eat less than previously, and 21.8% reported that they ate out less. 13.8% stated that their smell sense issues have a negative impact on their daily social activities, and according to 5.2%, changes in the smell sense isolated them socially. *Conclusion:* Long-term olfactory dysfunction was shown to be common among individuals who had a history of COVID-19 infection. The quality of life of those who are affected by olfactory dysfunction is negatively impacted. Further research is recommended to understand the pathophysiology of anosmia, hyposmia, and phantosmia in COVID-19 patients.

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CASE REPORT

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**A case report of transilluminant swelling in the neck a rare presentation in adult**

Raghupathy Thirunavikkarasu, Magesh, Abhirama R

Cavernous lymphangioma is a lymphatic vessel proliferative disorder resulting from abnormal lymphatic system development. As a congenital lesion, cystic hygroma is rather prevalent in children than in older age group. In the literature, barely a few occurrences of Cystic hygroma in adults have been described. Cystic hygroma is more prevalent in the cranio-cervical region, but it can occur however appear anywhere along the lymphatic channel's path. This case report is an example of an unusual presentation of Cystic hygroma, which manifested as a right-sided cystic neck swelling in an adult female. Clinical assessment, pathological identification, surgical management, and post-operative follow-up are all covered in due course.

*Medical Science, 2022, 26, ms158e1992*

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**Pulmonary inflammatory pseudo tumor in a severe superimposed pneumonia patient with Sars-Cov-2**

Thanh Van Phan-Nguyen, The Anh Nguyen, Duc Minh Nguyen, Tuan Vu Nguyen

*Background:* COVID-19 is known to induce a wide range of symptoms, most likely as a result of fast respiratory deterioration, which leads to rapid decompensation of the patient's clinical condition. Surprisingly, some patients have both the novel virus and a secondary bacterial infection, which makes disease management even more difficult. *Case report:* We reported a case of a patient with a positive polymerase chain reaction (PCR) test for SARS-CoV-2 presenting a rapidly worsening clinical course due to superimposed pneumonia diagnosed by laboratory markers and radiologic findings. The first Chest X-ray revealed a voluminous

dense homogenous mass located in the middle lobe of the right lung and scattered alveolar opacities in the left lung field. Non-enhanced chest computed tomography (CT) scanner showed nonspecific imaging features of COVID-19 pneumonia by consolidation with multifocal, diffuse, perihilar ground-glass opacities. Repeated chest X-ray showed this mass on the right is larger and more prominent of the alveolar opacities scattered across the two lung fields. *Conclusion:* CT findings are critical in assisting radiologists in quickly recognizing the characteristics of pulmonary lesions and their consequences. One of the imaging findings consistent with lung super infection consequences is the advancement of consolidation and multifocal nodular opacities, which presents the clinical symptom and laboratory testing required in these individuals.

*Medical Science, 2022, 26, ms159e2213*

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## RESEARCH

### **Assessment of global DNA methylation in peripheral blood of type 2 diabetic patients**

Amjad Yousuf

Type 2 diabetes mellitus (T2DM) is a challenge to global health. About 400 million people are affected globally, and this figure is expected to skyrocket steeply in the coming decades. T2DM patients are at risk of developing serious and life-threatening problems, necessitating increased medical attention, and detecting undiagnosed diabetes and preventing it is particularly important. T2DM's etiology and molecular causes have yet to be fully determined. Its development could be influenced by epigenetic alterations. Hence, in this work, the level of 5-methylcytosine (5mC), has been determined in DNA from the peripheral blood of T2DM patients. Global DNA methylation level was analyzed in peripheral blood leucocytes from 200 patients with T2DM and 120 control participants using a Global DNA Methylation Assay Kit. Levels of global DNA methylation increased in both controlled and uncontrolled T2DM patients compared to healthy controls. However, only the difference in global DNA methylation levels between uncontrolled patients and healthy subjects was statistically significant. In addition, global DNA methylation statistically insignificantly increased in uncontrolled DM patients compared to controlled DM patients. Clinical and biochemical factors had no effect on methylation levels in T2DM patients' DNA. This study has shown that T2DM patients have a higher level of Global DNA methylation on their peripheral blood leucocytes than healthy people, and the degree of methylation is significantly higher in uncontrolled T2DM patients showing that methylation is affected by the level of disease control.

*Medical Science, 2022, 26, ms160e2249*

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## ANALYSIS

### **Infants' swaddling practice in Jazan region: Medical students' knowledge and perspectives**

Ebtihal Eltyeb, Najwa Dahas, Njoud Osaysi, Maram Alshaikhi, Abdullah Ghazwani, Fatimah Ageeli

*Background:* Swaddling entails tightly covering an infant in a blanket, leaving just the head exposed. Swaddling is a common practice among Saudi mothers, but the risks and benefits between the practitioners received little attention. *Objectives:* This research seeks to assess the medical students' Jazan University knowledge of the swaddling practice regarding benefits and risks and assess their perspectives. *Methods:* A self-administered web-based questionnaire was distributed in the faculty of medicine among medical students at Jazan University. *Results:* The study involved 326 students about 91% saw the swaddling practice in real life, and 63% practiced it themselves. Our findings found that the medical students had a good knowledge level related to gender, marital status, knowing how to swaddle an infant, and practicing swaddling by them. *Conclusion:* While swaddling is a common practice, it has received little attention in evaluating the risks and benefits, particularly from a medical point of view. As a result, addressing medical students' knowledge of this practice could serve as a basis for future study and raise community awareness.

*Medical Science, 2022, 26, ms161e2174*

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### **Prevalence of Alopecia Areata and associated diseases in Hail Region, Saudi Arabia**

Fawwaz Farih Alshammari, Wael Saleh Alanazi, Sara Abdullah Aledaili, Turki Saad Aljuhani, Faisal Fahad Alshammari

*Background:* Alopecia areata (AA) is a multifactorial inflammatory autoimmune disease which causes pattern baldness on scalp and other body parts. Although it is not a life threatening condition it affects a person physiological health. It is not a rare condition and affects 2% of the global population. Up till now, status about its prevalence and gender distribution in Hail region, Saudi Arabia has not been surveyed. *Objective:* The study aimed to assess Alopecia Areata prevalence, characteristic, gender differences and associated diseases in Hail region, Saudi Arabia. *Methodology:* A cross-sectional questionnaire-based study was performed among Hail city population from September to November 2021. *Results:* Up to 813 participants completed the questionnaire; we found the prevalence of AA in Hail to be (18.21%). Allergic rhinitis was the most disease encountered to be related to AA (8.55%) followed by Thyroid diseases (7.24%). From the participant only 12 were diagnosed with COVID-19 (11%) of them noticed hair fall in the period after infected with COVID-19 and Only (4.20%) of patients affected with AA reported a relapse after receiving a vaccine dose. *Conclusion:* Overall, we found that AA is more prevalent in Hail compared to other studies done in Saudi Arabia and the west. The study showed that AA is more in males when compared to females. It also revealed that there is minimal chance of having AA relapsed either after infestation with COVID-19 or receiving a vaccine dose.

### **Assessment of acceptance, barriers, and facilitators of e-learning among trainees of Saudi board of preventive medicine during covid-19 pandemic**

Osama M Almutairi, Marwan A Bakarman, Hani A. Alghamdi

*Introduction:* When the COVID-19 emerged, and lockdowns were imposed, e-learning was adopted as an alternative teaching method. Our study aimed to assess e-learning acceptance facilitators and barriers among trainees of the Saudi Board of Preventive Medicine (SBPM) during the COVID-19 pandemic. *Methods:* A Cross-sectional study used an electronic questionnaire as Google Form, which included the E-learning acceptance measure (ELAM) with its three constructs and inquired about attitude, barriers, advantages, and disadvantages of e-Learning. Data analysis was done with descriptive statistics, the student's t-test and multiple linear regressions. *Results:* The studies showed an 83% response rate, and most (75%) of the trainees were satisfied with the e-learning experience. Around 65.6% of the trainees did not report any challenges securing the internet during the online learning period. The ELAM mean score was 111.97±23.04. Trainees with difficulty securing the internet for learning had a significantly reduced total ELAM score and its three constructs ( $p<0.001$ ). Of respondents, 72.6% preferred a combination of e-learning with traditional classrooms as unsuitability for some courses to be online was reported. *Conclusion:* Three-quarters of trainees welcomed the new learning method because of its flexibility and cost reduction. Around a half preferred the e-learning coupled with physical training because of limitations line internet issues.

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### **CASE REPORT**

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#### **Unusual Snake bite complications in a 70 year-old woman: A case Report**

Fahad Khalid ALQuwaiay, Hessa Abdullah Alshammari, Abdulhafeez Osman Eltoum, Hani Abdulrahman Almutairi, Jaser Sultan Alshamari, Hussain Gadelkarim Ahmed

*Introduction:* Snake venoms trigger a range of potentially fatal clinical toxicity syndromes. These include coagulopathy and associated hemorrhage, thrombotic microangiopathy, microangiopathic hemolytic anemia, thrombocytopenia, acute kidney injury, and neurotoxicity. *Case:* The present case experienced unusual complications with an old female presented with a snake (*Vipera berus*) bite. A 70-year-old diabetic female presented to our emergency department (ER) at 11:00am complaining of a snake bite. *Conclusion:* Snakebite (*Vipera berus*) can cause brain ischemic changes/infarction in large hypodense involving the left occipital-temporal region with attenuation of the temporal horn of the left lateral ventricle. Besides coagulation impairment, a snake bite can result in diverse, progressive complications, such as unconsciousness, and prolonged impairment in coagulation parameters, especially among elderly individuals with comorbidities.

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#### **The bad contretemps causes mid-shaft tibia and fibula fracture with traumatic amputation of 2<sup>nd</sup> toe: A case report**

Neha N Bhagdevani, Madhu G Lakhwani, Pratik A Phansopkar

*Background:* The most complicated type of open bone fracture is a tibia-fibula diaphyseal fracture and an average of twenty percent mid-age with eight % affection of elderly. Depending on the size of the wound, bony injury and the level up to contamination, Gustilo and Anderson assigned Compound fractures grading it into 3. The standard treatment approaches used daily are Open reduction with internally or externally fixate, as well as intramedullary nailing gathering momentum to speed up early recovery and resuming normal functioning here are some techniques covered in this article. After a road accident, a 65-year-old male patient was diagnosed on x-ray with a compound Grade IIIB right mid-shaft tibia and fibula fracture with soft tissue destruction, compound grade 3B proximal phalanx fracture of great toe right side, traumatic amputation of 2nd toe right side, and nail avulsion of index finger right side, which required open reduction and external fixation. Pain, restricted ranges for the right lower extremity with the inability of weight-bearing on the same were some of the specific chief complaints informed by the patient. Following surgery, the patient received physiotherapy for 10 weeks, which included exercises, electrotherapy, proprioception training, and gait training, and resulted in pain relief, increased mobility and improved functional activities. *Conclusion:* The case study demonstrates that a traditional surgical approach combined with early structured physical rehabilitation resulted in a significant and progressive improvement in functional goals, which is an important factor in a successful recovery.

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#### **Physiotherapy approach for well-differentiated squamous cell carcinomas of upper anterior alveolus: A case report**

Sakshi K Kariya, Nikita H Seth, Shubhangi Patil

HNCs are the sixth most prevalent type of cancer in the globe oral squamous cell carcinomas (SCCs) account for more than half of all reported neck and head cancers, with an estimated 3.1 million cases diagnosed each year and is responsible for 3% of all cancer deaths. We present a case of a 58-year-old woman admitted to the hospital with complaints for 9 years, she has had a non-healing ulcer on the upper front of her jaw and a burning sensation while eating, as well as a change in saliva consistency, on further history she revealed that the patient had a painful, non-healing ulcer on the upper front region of the jaw. On further investigation,

the histopath report was suggestive of pseudo epithelial hyperplasia after the review of the slide and block of the right side of well-differentiated squamous cell carcinoma so, under general anesthesia, she had composite resection of the lesion, substructural maxillectomy to pterygoid plates, modified radical neck dissection, and reconstruction with temporalis flap on the right side. After which physiotherapy call was noted and on examination found out that patient has restricted range of motion of the jaw, cervical and shoulder movements with pain. So Physiotherapy management along with other conventional modes of treatment is essential to recuperate from orofacial cancer.

*Medical Science, 2022, 26, ms166e2185*

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### **Impact of balance retraining and electrotherapy modality on unilateral osteoarthritis of knee - Case report**

Medhavi Vivek Joshi, Pratik Arun Phansopkar

Osteoarthritis of knee is a condition that leads to painful joints if left untreated. Its development in the early stages of life due to excessive weight bearing, sedentary life style and early articular cartilage destruction has made it one of the major disabling arthritic conditions. Reporting a case of elderly female with medial side knee pain since a month hampering her everyday activities, for which she visited the clinical setting. Physiotherapy rehabilitation included ultrasound therapy for the pain and a modified Otago exercises targeting strength, range of motion and balance. Improving these aspects lead to an overall improvement in the functioning of everyday activities, reduction in pain and an improved patient reported quality of life concluded from various outcome measures.

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## REPORT

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### **Evaluation of the association between progesterone levels on the day of HCG injection and the clinical outcomes of IVF treatment cycles in infertile women**

Masoumeh Rezaei, Fariba Seyedoshohadaei, Nasrin Soufizadeh, Mohamad Jafar Rezaei, Tayyeb Ghazavi

*Introduction:* Progesterone has a major role in menstrual cycles as well as implantation of fertilized oocytes and induction of pregnancy, but its effects on controlled ovarian stimulation cycles are still debated. The aim of this research was to investigate the association between progesterone levels on the day of HCG injection and the clinical outcomes of IVF treatment cycles in infertile women. *Materials and Methods:* The present research is a cross-sectional descriptive-analytical study. The study population included 300 infertile women, and then had IVF by GnRH agonist and antagonist cycles in the infertility clinic of Besat Hospital in Kurdistan. Patient records and researcher-made checklists were used for collecting the data, and SPSS 24 software was implemented for analyzing the data. *Results:* Of the total patients studied, 224 people (74.7%) had progesterone levels less than 1.5, and 76 (25.3%) had progesterone levels greater than 1.5. The average age of patients was 33 years old and the mean duration of infertility was 5.73 years. 79.3% of women had primary infertility and 20.7% had secondary infertility. There was no considerable association among progesterone levels and type of infertility, agonist and antagonist cycles, age and oocyte count ( $P > 0.05$ ), implantation rate, clinical pregnancy, and spontaneous abortion. However, the progesterone levels had a considerable association with the grading and quality of oocytes. *Conclusion:* The findings indicated that cases with progesterone level less than 1.5 have higher fertility rates compared to cases with progesterone level greater than 1.5 ( $P$ -value = 0.6).

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## CASE REPORT

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### **Physiotherapy rehabilitation post posterior cruciate ligament avulsion fracture with emphasis on relaxation techniques for anxiety - A case report**

Mayuri Zoting, Medhavi Vivek Joshi, Pratik Arun Phansopkar

Posterior Cruciate Ligament avulsion fracture from its attachment at tibia is a rare occurrence and accounts for only a small percentage of injuries related to the ligaments of the knee. The most common cause of such avulsion fracture is road traffic accidents, often dash board injuries that lead to posterior translation of the tibia. This case report presents a 46 year old female professor sustaining injuries due to vehicular accident a month back, along with frequent episodes of anxiety. Post radiological investigations and operative procedure physiotherapy rehabilitation focused on both patient education to reduce patients' apprehension to move the limb post operatively and on regaining mobility of patellofemoral and tibiofemoral joints. Lyhom scale was used as an outcome measure to assess the progression of the condition.

*Medical Science, 2022, 26, ms169e2138*

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### **A case report on the perks of physiotherapy rehabilitation for restoring facial function following parotidectomy paralysis**

Tasneem Mustafa Lakkadsha, Shubhangi Patil, Rupali Thorat, Shivani Satish Lalwani, Sakina Shoeb Hussain Saiffee

Bell's palsy and temporomandibular joint (TMJ) pain are uncommon post-parotidectomy, but they should be handled as soon as feasible to avoid lasting deformities and disability. The following case is of a patient who has experienced this event. On

postoperative day 3, he presented to the physiotherapy department with symptoms of loss of function on the left side of the face along with discomfort in the left TMJ while opening the mouth beyond a certain point. He was evaluated using a variety of outcome measures when he first started his physiotherapy regimen; after a month, a follow-up was conducted, and all of the outcome measures were analyzed again, showing favorable changes. For the treatment of Bell's palsy electrical stimulations is fairly common but, in this case, due to the financial situation of the patient it could not be given hence he was managed using conventional and traditional physiotherapy methods including strengthening, range of motion exercises with proprioceptive neuromuscular facilitation and roods which are not given much importance but have resulted extremely beneficial in this kind of situation. To conclude, a well-planned physiotherapy regimen can help a patient recover from Bell's palsy and TMJ pain caused postoperatively to a total parotidectomy through conventional and traditional physiotherapy methods and brings it back to normal functioning.

*Medical Science, 2022, 26, ms170e2207*

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### **The predictive validity of comprehensive pulmonary rehabilitation in patient with usual interstitial pneumonia and concomitant respiratory complications: A case study**

Neha N Bhagdevani, Rashmi Walke, Anam R Sasun

Usual interstitial pneumonia is the most frequent and fatal of the idiopathic interstitial pneumonias which had a radiological and/or histological characteristic. Dyspnoea with exertion, a dry cough, and, eventually, respiratory failure are all signs of lung parenchyma damage and fibrosis. Pleural and pericardial effusions develop as a result of a disease. The 41-year-old female patient in this case had been suffering from MMRC grade 1-2 dyspnoea for the past 10 years, which had progressed to grade 3 and a dry cough for the previous 7 days. According to chest radiography, interstitial pneumonia (Usual Interstitial Pneumonia/UIP), bilateral pleural effusion, pericardial effusion and cardiomegaly features of pulmonary arterial hypertension were suggested. TheILD was relieved by medical intervention, but our goal was to increase pulmonary ventilation and oxygenation, airway hygiene, exercise tolerance, and breathing work so that the patient could return to his normal activities without difficulty. To accomplish the patient's goals, a comprehensive pulmonary rehabilitation strategies was developed and implemented over the course of a month. Among the therapies were breathing exercises, airway clearance procedures, physical mobility activities, and posture retrained. On both the MMRC dyspnoea rating scale and the WHO-QOL, the patient showed significant functional improvement. It has also been proven in this case that medicinal management combined with pulmonary rehabilitation will lead to significant outcomes.

*Medical Science, 2022, 26, ms171e2214*

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### **Pre-operative physiotherapy impact in early post-operative recovery in a case of bilateral avascular necrosis secondary to sickle cell disease in rural India - Case report**

Nikita Hitesh Seth, Medhavi Vivek Joshi, Pratik Arun Phansopkar

An inherited disorder of red blood cell, Sickle cell disease is characterized by inadequate amount of healthy red blood cells in the blood to therefore reducing the body's oxygen carrying capacity. In sickle cell disease RBC are crescent shaped so while passing through the blood vessel they block the blood flow and reduce the oxygen supply to the tissues. Normally the average lifespan of RBC is about 120 days but in sickle cell anemia it is reduced to only 10 to 20 days. So leading to various complications, out of all of them Avascular necrosis of femoral head is the most common due to precarious blood supply to that region. Presenting a case of 45 year old elderly male, who visited our hospital with the major complaints of pain in both hips since 1 month along with difficulty in walking and after investigations was diagnosed with bilateral Stage 4 avascular necrosis of femoral head. Pre-operative Physiotherapy was started. Due to low economic status patient underwent only unilateral total hip replacement. Post-Operative physiotherapy was started on the same day of operation and rehabilitation was progressed into 3 phase that is immediate post-surgical phase, motion phase and advanced strengthening and higher level function stage. The outcomes were satisfactory and pre-operative physiotherapy was found to be highly beneficial in post-operative period in gaining early recovery. Multidisciplinary approach and patients positive attitude was the key to get the favorable outcomes.

*Medical Science, 2022, 26, ms172e2139*

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## **ANALYSIS**

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### **Evaluation of infection and immunity in children of mothers with HBS antigen**

Manijeh Jozpanahi, Zahra Hatami, Samira Akbarieh, Pegah Saeed, Nooshin Jalili

*Introduction:* One of the main chronic diseases in developing countries is Hepatitis B, which is of particular importance due to the underlying cirrhosis of the liver and hepatocellular carcinoma. Therefore, this study was conducted to evaluate the incidence and immunity of children of mothers with hepatitis B. *Material and Methods:* The present study as a cross-sectional one was performed on HBsAg positive mothers referred to Suhrawardi Infectious Diseases Clinic in Zanjan, Iran, February 2008 to September 2020, during 12 years. In our study 129 medical records of HBsAg-positive mothers referred to the Infectious Diseases Clinic were reviewed and the extent of infection and immunity of their children were analyzed according to various factors such as maternal age, maternal gravid A, and mother HbeAg, as well as receiving or not receiving vaccine and neonatal immunoglobulin. *Results:* Achieved data from the present study revealed that 76.1% of the offspring of mothers with hepatitis B had a level of protective

antibody above 10 international units. Furthermore, 94.1% of vaccine recipients with HBeAg-negative mothers showed a level of protective antibody at least above 10 international units. In children of mothers with HBeAg positive, this rate was 42.9%. In both offspring of both HBeAg positive and negative mothers, the response rate in both vaccine and immunoglobulin recipients were 100% (positive). *Conclusion:* Among vaccine recipients alone, 94.1% and 42.9% of offspring of HBeAg-negative and -positive mothers were immune. While both vaccine and immunoglobulin recipients had 100% immunity in both groups.

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## REPORT

### **Possibilities of using polarizing microscopy for diagnosing pathological conditions of heart muscle**

Viacheslav Voronov

*Introduction:* A powerful technological breakthrough in recent decades has provided instrumental solutions to important medical problems. The increased attention of many researchers was drawn to the evaluation and implementation in various medical specialties of a wide range of modern laboratory methods based on the achievements of biology, biophysics, morphology, mathematics and other sciences. This article provides information on the possibility of studying the physiological state of myocardial tissue, taking into account its optical activity and ability to be birefringent. The method of statistical Mueller-matrix analysis is analyzed, which is derived from the process of polarization visualization of the architectonic construction of normal heart muscle and influenced by pathology. The biological tissue from an optical point of view as a combination of amorphous and polycrystalline components are theoretically substantiated. The results of scientific research on the possibility of using the method of polarization microscopy for the diagnosis of pathological conditions of the heart muscle are presented.

*Medical Science, 2022, 26, ms174e2093*

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## CASE REPORT

### **Rehabilitating a patient with ischemic stroke & epileptic disorder: A case report**

Pratik Raman Jaiswal, Ragini Dadgal, Moh'd Irshad Qureshi, Pallavi Harjpal

Strokes are among the leading causes of serious physical and mental impairment in adults. The far more prevalent type of stroke is ischemic stroke, which accounts for around 80% of all cases. These can be formed by a cardiac embolism, arterial embolism, or a minor blood vessel disease in the brain. Epilepsy is a severe neurological condition marked by spontaneous seizures. Physical therapies as well as occupational therapy are crucial components of treatment programs for increasing functional ability and avoiding deconditioning. The main clinical findings were limited range of motion, moderate tightness, and patient relying on someone else. Treatment strategies have been demonstrated to be beneficial in reducing difficulties and better patient outcomes. The physiotherapy program included a range of motion exercises, strength training, functional mobility exercises, posture control exercises, balance shift exercises, weight-bearing exercises, and the use of electric modality.

*Medical Science, 2022, 26, ms175e2231*

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### **Physiotherapeutic rehabilitation following JESS Fixator-treated proximal phalanx fracture along with isolated medial malleolar fracture - A case report**

Sakshi Palkrit, Madhu Lakhwani, Pratik Phansopkar

Compared to other fractures, for instance, the tri-, bi-, and lateral malleolar fractures, isolated medial malleolar fractures are rare. Their annual incidence varies from 107 to 187 per 100,000 persons. One of the most prevalent forms of upper extremity fractures is phalangeal fractures, with the proximal phalanx being the most commonly affected. Here we present an instance of a 28-year-old man, who gives a road traffic accident history which was a collision with a two-wheeler while riding his bike. On the left leg and hand, the patient complained of pain and couldn't put weight on his lower limbs or use his left hand to grip an object. X-ray showed a fracture of medial malleolus of left side and Compound grade II proximal phalanx fracture 4<sup>th</sup> and 5<sup>th</sup> digit on the left side. The patient was managed with operative measures along with Physiotherapy. The physiotherapy rehabilitation regimen conducted in this case study reduced pain, enhanced joint mobility, muscular strength, and endurance, and greatly benefited the patient's functional independence.

*Medical Science, 2022, 26, ms176e2212*

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### **Complex regional pain syndrome with radial nerve palsy: A multimodal rehabilitation approach**

Sakina Shoeb Hussain Saifee, Medhavi Vivek Joshi, Pratik Arun Phansopkar, Tasneem Lakkadsha, Shivani Lalwani

Complex regional pain syndrome (CRPS) is a type of neuropathic pain that is most commonly triggered by upper extremity injuries or surgery. The most prevalent symptoms of this illness include pain, edoema, vasomotor changes, stiffness, and impaired functioning. The origin of our patient's CRPS type II was known, namely radial nerve palsy following multiple upper limb fractures, as demonstrated by the investigatory findings of the x-rays, nerve conduction velocity test, and Strength-duration curve. With the healing of the fractures, the symptoms of CRPS worsened, as did joint stiffness. The physiotherapy treatment plan was

designed to alleviate symptoms and manage the nerve palsy, with the primary goal of achieving pain-free restricted motions in as much functional range as possible. The treatment yielded impressive results on the outcome measures used to assess after a month.

*Medical Science, 2022, 26, ms177e2204*

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### **Rehabilitation of a 75 year old female with Boyd and Griffin type 3 intertrochanteric fracture left side due to slip and fall along with right knee flexion deformity: A case report**

Purva Mundada, Madhu Lakhwani, Pratik Phansopkar

Intertrochanteric (IT) fractures are one of the most frequently encountered fractures in geriatric osteoporotic patients, and they are usually caused by trivial trauma such as a slip and fall. These fractures result in significant decrease in functional independence. Therefore, early physiotherapy rehabilitation post-operatively is crucial in regaining functional independence in ADLs. We present the case of a 75 year old female, who sustained injury to the left hip after experiencing slip and fall at home. Her relatives took her to the orthopaedics department of a tertiary care rural hospital, citing pain and swelling in her left hip as the main concerns. After investigations, patient was diagnosed with Boyd and Griffin type 3 IT femur fracture which was surgically managed by Open Reduction and Internal Fixation (ORIF) with Dynamic Hip Screw (DHS). Patient also had Fixed Flexion Deformity (FFD) over right knee. Post-operatively physiotherapy rehabilitation was initiated with the aim of restoring mobility, improving range of motion and muscle strength as well as reducing Flexion Deformity (FD) of right knee as much as possible. Patients endure secondary impairments such as diminished mobility, strength, and endurance, as well as increasing functional reliance, despite the fact that these fractures are effectively managed surgically. This case demonstrated that Physiotherapy rehabilitation as an adjunct to surgical management plays an important role in preventing secondary impairments and thus enhancing recovery.

*Medical Science, 2022, 26, ms178e2186*

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### **Novel physiotherapeutic approach for multiple fractures of lower limb managed by osteosynthesis plating and external fixator: a case report**

Anam Rajendra Sasun, Madhu Lakhwani, Pratik Phansopkar

*Introduction:* As substantial force is required to create lower extremity fractures, both femur and tibia/fibula fractures are typical outcomes of large, high-energy trauma. The modes of damage for tibia fibula fracture are divided into 2 groups: low and high energy injuries. The first one includes ground-level falls and athletic injuries, whereas the latter one occurs due to include Road traffic accidents. Supracondylar femur fractures are those that affect the femur's distal 15cm. Getting Knee movements back to their pre-injury level may be challenging due to the closeness of these fractures to the knee joint. *Case Presentation:* A 49-year-old male with compound grade II right-sided supracondylar fracture, and compound grade III B mid-shaft tibia fibula fracture of the right side was diagnosed by an orthopedic surgeon, on X-ray after a collision with a truck while the patient was riding a bike sustaining injuries to limbs and head. On which ORIF with osteosynthesis plating for femur and tibia inter-locking nailing was done followed by skin grafting for wound healing. Following surgery, the patient's limb movements were limited and were unable to conduct his daily activities. *Discussion:* After the operation, the patient was treated with physical therapy, which included static-dynamic exercises, breathing exercises, strengthening exercises, wheelchair mobilization followed by gait training. *Conclusion:* The patient benefited from physiotherapeutic techniques that allowed him to conduct his daily tasks independently, which improved his pain and functional results.

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### **Impact of multidisciplinary approach in managing pott spine - A case report**

Madhu Lakhwani, Anushka Raipure, Nikita Seth, Pratik Phansopkar

In approximately 40 to 50 % of tuberculosis cases, Pott's spine is the commonest musculoskeletal manifestation. Impoverished nutrition, addiction, the introduction of drug-resistant tuberculosis strains, ineffective tuberculosis control efforts, overcrowding, and increased migration appear to be contributing factors to the global increase in TB incidence. In humans, the earliest recorded infectious disease is spinal tuberculosis that has the potential for significant morbidity. Severe deformities along with neurologic impairments are frequently found in spinal tuberculosis. It usually results in angular kyphotic deformity and anterior wedging by damaging the disc space between two vertebrae and also damaging the bodies of the neighboring vertebrae. In this paper, we describe a case of a 36-year-old male who had low back pain and loss of sensation, and bilateral weakness in the lower extremities. On further investigations, the patient was diagnosed with Tuberculosis infecting the spine and was on anti-tubercular medications. Due to increased severity of symptoms patient was planned for D9 Costo transversectomy with D9 corpectomy with pedicle screw and rod fusion at D8-D10 and decompression surgery for the lumbar spine. So along with it, the patient was given planned goal-oriented physiotherapy pre and post-operatively which was found to be highly beneficial for the patient and improved functional independence and quality of life. The outcome measure used was the lower limb functional Scale.

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**A randomized control trial of the effectiveness of online Mindfulness-Based Cancer recovery program on psychological well-being, caregiver burden and resilience in cancer patients' caregivers**

Ahmad Yousefi, Parastoo Naeimijoo, Mojtaba Ghadiany, Maryam Aslzaker Lighvan, Maryam Bakhtiyari, Abbas Masjedi Arani

*Background:* Living with cancer patients causes a lot of psychological sufferings to their caregivers. Many caregivers lose their resilience and experience periods of mental distress during the long and tumultuous period of treatment. It seems that just as it is important to address the psychological problems of patients themselves, it is also important to help reduce the psychological suffering of caregivers. This study aims to apply online mindfulness-based cancer recovery (E-MBCR) program to improve psychological well-being, increase resilience and reduce caregivers' burden. *Method:* This is a clinical trial study. Fifty-three caregivers were recruited via purposeful sampling from three hospitals and were randomly divided into experimental (n=28) and control groups (n=25). The experimental group received a 9-week online format MBCR intervention. In order to examine the research variables, the Connor and Davidson resilience scale (CDRS), World Health Organization Well-Being Index (WHO-5), and Zarit Burden Interview (ZBI) were used. Both groups were assessed at three phase, baseline, post-test and three months follow-up. *Results:* The results of repeated measures analysis of variance showed that the treatment had improved the dependent variables in the experimental group. This effect was such that CDRS (F=19.55, P=0.00,  $\eta^2=0.32$ ) and WHO-5 (F=38.47, P=0.00,  $\eta^2=0.48$ ) increased and ZBI scores (F=41.31, P=0.00,  $\eta^2=0.49$ ) decreased. *Conclusion:* E-MBCR can be an effective way to improve the psychological states, capacity to cope and quality of the inner world of cancer patients' caregivers and can significantly reduce the mental burden of living and caring of this population during this difficult time.

*Medical Science, 2022, 26, ms181e2098*

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**Pattern of acute appendicitis during COVID 19 pandemic in Saudi Arabia**

Boshra Abdullah Alzahrani, Norah Sami Aljuhani, Saeed Abdullah Alzahrani, Abdalmajid Maezi Alanezi, Rakan Hamoud Alsukaybi, Khalid Rahil Alanazi, Halima Mustafa Elagib, Saadeldin Ahmed Idris

*Background:* As a result of the COVID-19 pandemic, acute appendicitis manipulation approaches as well as patient outcomes have been altered. *Aim:* To determine if the COVID-19 pandemic has an impact on complications among acute appendicitis patients matched to the pre-COVID-19 period. *Methods:* A cross-sectional study had been conducted using predesigned google form questionnaire during the period between September 2021 and March 2022. Participants were categorised in two groups, those being affected by acute appendicitis before and those during the pandemic. The collected data were managed by SPSS version 23.0. *Results:* A 2669 respondents (62.2% females and 37.8% males) from different region of the Saudi Arabia. The majority were overweight or obese as seen in 23.9% and 20.1% respectively. A 75.2% had developed appendicitis before, while 24.8% were during COVID 19. The main symptom was right lower abdominal pain (84.8%). Conservative management was employed in 31.9% (p=0.15). A 38.8% believed that their operation was replaced with antibiotic treatment due to pandemic. Complications were significantly reported in those developed acute appendicitis during COVID 19 pandemic (p= <0.001). A 72.1% of those with appendicitis during pandemic refrains from seeing a doctor due to the COVID 19 pandemic until their pain worsened. *Conclusion:* There is an ominously greater prevalence of complication related to acute appendicitis thru the COVID-19.

*Medical Science, 2022, 26, ms182e2265*

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**Evaluation of the effects of intravenous magnesium sulphate on haemodynamic parameters in patients undergoing laproscopic cholecystectomy**

Eshana Rasheed, Anjali Modak, Neeta Verma, Sheetal Madavi, Nikhil Bhalerao

*Background:* Within a decade since the first case of laparoscopic cholecystectomy was performed, it had become the gold standard for managing acute cholecystitis. However, laparoscopy has disadvantages of its own, mostly, secondary to the creation of pneumoperitoneum. *Aim:* To evaluate (and compare with Normal Saline) the effectiveness of intravenous Magnesium Sulphate (0.5mg/kg) on the haemodynamic parameters among patients undergoing laparoscopic cholecystectomy. *Material and methods:* This was a single centre, double-blinded, 1:1, parallel, placebo-controlled randomised control trial comparing magnesium sulphate (0.5mg/kg) and normal saline among a total of 40 participants. The duration of surgery, level of sedation, heart rate, and systolic and diastolic blood pressure among the participants were measured. *Results:* The mean, median and the range of 'duration of laparoscopy' in the intervention and the control group were almost equal. The median sedation score was lower in the magnesium sulphate group in comparison to the normal saline group. The mean heart rate in the magnesium sulphate group was lower than the control group and this difference was statistically significant. The SBP increased in both groups following pneumoperitoneum, however, the maximum increase in SBP among participants given MgSO<sub>4</sub> was 10%. Comparatively, in the normal saline group, the maximum increase in SBP was 16 %. No participants in either the intervention or the control group had an episode of arrhythmia, bradycardia, or hypotension in either group. *Conclusion:* Magnesium sulphate reduced the intensity of changes in haemodynamic parameters in comparison to normal saline during pneumoperitoneum.

*Medical Science, 2022, 26, ms183e2236*

**Rehabilitation of a sub-trochanteric fracture of a 43-year-old male with a permanent disability of right lower limb: a case report**

Sakshi K Kariya, Shivani Rajesh Utamchandani, Pratik Arun Pansopkar

Sub-trochanteric fractures occur between the lesser trochanter and 5cm distally on the proximal femoral neck. These fractures contribute for around 7% to 34% of all femur fractures. Fractures in younger people are more frequent by high-energy trauma and have a significant comminution; however, fractures in the elderly are more likely to be caused by low-energy traumas. To achieve a return to adequate functional independence and mobility, sub-trochanteric fractures generally demand a multidisciplinary approach that includes sufficient surgical fixation, early mobilization, and physical rehabilitation. Many studies, on the other hand, have validated intensive physical therapy in the acute care phase, stating that it improves recovery as compared to delayed physical therapy. Furthermore, patients in the early phase of hospitalization who received a high-intensity physiotherapy session met functional discharge criteria one week quicker than in the normal physiotherapy community. This report describes the effects of early rehabilitation before surgery for Sub-trochanteric fracture. So the Main Goal is educating and recovery of patients and prevents secondary complications. Patient motivation and goal-oriented therapy were beneficial in regaining baseline functional mobility.

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**Improving outcomes as a result of early inpatient cardiac rehabilitation in a child undergone surgical repair for congenital heart disease: A single case study**

Sanika Pravin Gade, Moli Jai Jain, Pallavi Rajeshwar Bhakaney, Vishnu Diwakar Vardhan, Vaishnavi Dilip Yadav

Congenital heart disease is a term used to describe a set of congenital defects that affect the heart's ability to function effectively. It is one of the most common birth disorders, with an estimated prevalence of 10% present in population. The patient in this case has patent ductus arteriosus, atrial septal defect combined with a ventricular septal defect with bidirectional shunt, come with complaints of fever, cough and cold. Investigations like Electrocardiography, 2D Echocardiography, Chest X ray were done to assess the patient's current state. Surgical procedures alleviated the congenital abnormalities i.e. atrial septal defect closure, ventricular septal defect closure, patent ductus arteriosus ligation. Intervention aimed for this case was Pediatric Cardiac rehabilitation; the primary objectives for the same were to maintain one's physical health and staying active, in addition to one's socio-emotional well-being. In the care of newborns, parents must be provided with appropriate knowledge about treatment options and their anticipated consequences so that they may make educated decisions about the child's medical care.

*Medical Science, 2022, 26, ms185e2206*

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**Emphasizing temporomandibular joint function with clinical and home based physiotherapy after surgical resection of a parapharyngeal schwannoma: A case report**

Pratik Raman Jaiswal, Priyanka Telang, Prasad Pramod Dhage

Tumors involving the parapharyngeal space are rare. This category accounts for about 0.5 percent of all head and neck tumors. Schwannomas encircling the higher parapharyngeal space (PPS) are complicated and complex abrasions because of the bodily intricacy of this section and the repeated involvement of the neurovascular systems of the jugular foramen. Surgical eradication of parapharyngeal space malignancies is limited due to the region's anatomical complexity. Few of the tissues in parapharyngeal space can also develop benign and malignant cancers. Imaging scans are important in diagnosing and preoperative management. Head and neck magnetic resonance imaging (MRI) and computed tomography (CT) using contrast are by far the most standard techniques being used to diagnose PPS malignancies. Surgical resection is the therapeutic option for PPS cancers. Physiotherapy plays a crucial role in preventing abnormalities during PPS and after surgery, as well as assisting patients in resolving deficits and regaining normal activity.

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**Combining graded motor imagery and traditional physical therapy regimens in postoperative lumbar canal stenosis- A case study**

Nikita Kachhwani, Madhu Lakhwani, Pratik Phansopkar

Lumbar Spinal stenosis which is the narrowing of the central canal might be part of a generalized disease process that affects several sections of the canal at different levels, or it can be limited or segmental. Characteristic clinical symptoms include pain, weakness in the lower limbs, and intermittent claudication when walking/ standing for a significant amount of time. In determining the diagnosis, the history along with the imaging techniques (X-ray and MRI) can be quite useful. This is a case report of a female complaining of severe chronic low back pain with radiculopathy, diagnosed with lumbar canal stenosis. She was operated with by L3-L4-L5 posterior decompression and L3-L4 discectomy. Along with the conventional approaches, this study included a unique set of technique called as "Monkey see, Monkey do" which is a Graded Motor Imagery training i.e. Cognition training is a process of physical exercises aimed at maintaining or improving one's cognitive abilities by exercising the brain, which may be hampered by limited physical mobility as a consequence of pain. Rehabilitation showed exceptional improvement in terms of pain and daily activities. This study suggests that the physiotherapy intervention those which are traditional and the advances as cortex reorganization training for lumbar stenosis are effective in management of symptoms. As a consequence, the patients' wellbeing improves.

### **Pseudohepatic (Hemosuccus Pancreaticus) as a presenting feature of fibrocalcific chronic pancreatitis managed successfully with angioembolization and coiling – A case report**

Prerna Verma, Neha Phate, Dhruv Talwar, Sunil Kumar, Sourya Acharya, Pankaj Banode

We present a case of a 28 years old young male who was admitted with complaints of pain in abdomen, black colored stools and hematemesis. His ultrasonography of abdomen and pelvis was suggestive of calcific pancreatitis. Digital subtraction angiography and gastroscopy revealed active pseudohepatic from pseudoaneurysm of left gastric artery. The bleeder was uneventfully embolized with by coiling.

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### **ANALYSIS**

#### **Uptake of human papilloma virus vaccine and intention to vaccinate among women in Saudi Arabia**

Alaa Sami Barhamain, Osama Mohammed Alwafi

*Background:* The burden of sexually transmitted diseases (STDs) is huge, and human papillomavirus (HPV) infection is one of the most common STDs. Considerable cases of HPV progress to cervical cancer and result in worse morbidity and mortality consequences. This study aims to estimate the HPV vaccine uptake rate and identify possible associated factors among women in Saudi Arabia. *Methods:* This is an analytical cross-sectional study. An online questionnaire was distributed between the 1<sup>st</sup> December 2021 and 1<sup>st</sup> January 2022 to collect data regarding participants HPV vaccine uptake, demographic characteristics, knowledge, attitude and practices. *Results:* A total of 609 female Saudi residents with a median age of 33 participated in the study. The majority appeared to have insufficient knowledge about HPV infection vaccine. Only 3% have been vaccinated against HPV, moreover 64% of those who did not take the vaccine reported that they were unaware of the vaccine availability. However, 86.5% are intending to vaccinate their daughters. Certain factors seemed to be associated with vaccine uptake such as, being in healthcare career (p-value= .049) and having a sufficient knowledge about HPV infection (p-value<.001). *Conclusion:* The reported HPV vaccine uptake among the study participants is only reaching 3%, and the main reason is lack of awareness among the general population. Promoting health and increasing public awareness regarding HPV vaccine through healthcare practitioners and social media may contribute profoundly to the vaccine uptake.

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#### **Phone consultation during COVID-19 in the outpatient clinic at King Khalid University Hospital: What can we infer from this exciting experience for future practice?**

Sulaiman Alshammari, Naif Alalshaikh, Ziyad Alhosan, Yazeed Alghtani, Khalid Alkublan, Mohamed Alquhidan

*Objectives:* To evaluate patients' satisfaction with phone consultation in KKHU during COVID-19 and to identify the advantages and limitations of phone consultation. *Methods:* Researchers conducted this analytical cross-sectional study between March 2020 and March 2021. Stratified systematic sampling was employed to recruit the patients randomly who had a phone consultation experience in the outpatient clinic at KKHU in Riyadh, Saudi Arabia. In addition, all patients who received at least one phone consultation received an online validated questionnaire. The data collected consisted of demographic characteristics, level of satisfaction, advantages and disadvantages, and future attitudes toward phone consultation. *Results:* Overall, 307 patients completed the questionnaire; 51.8% were male, 79.8% were ≥40 years old, 73.0% were married, and 43.0% had a university degree. The patients' overall satisfaction with virtual clinics was 58.6%. Age group ≥40 years and married status were statistically significant favorable satisfaction with a phone consultation p-value < 0.02 and 0.03 respectively. Most participants 54.7% thought that the best advantage of phone consultation is accessibility. However, the inability to meet the healthcare professional face-to-face was reported by 56.1% as the most important disadvantage. *Conclusion:* The majority of KKHU patients 60% were satisfied with phone consultations. The positive satisfactions were associated with older age group and being married. Therefore, whenever feasible, phone consultation should promote access to health care services, especially for individuals who may find difficulty in a face-to-face consultation. This strategy would save patients time, reduce follow-up time, and allow more patients to be served.

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### **REPORT**

#### **Subjective Score for Oral Mouth Dryness (SSOD)**

Samira Osailan

*Background:* Due to the obvious adverse effect of a reduced flow rate of Salivary on a person's quality of life and oral health, it has been proposed that salivary function testing be included in routine dental examinations. To design a score that semi-quantitatively assesses the degree to which patients are affected by their dry mouth condition and to determine whether this SSOD correlates with different measures of dryness. *Methods:* A cross-sectional study was conducted from March 2021 - January 2022. Two questionnaires were designed: (a) SSOD2 consisted of 5 questions about the severity of dry-mouth and any psychological effect on the patient. (b)

SSOD1 contained score from 0-10 on assessment of the patient after clarification. The surveys were issued via interview to 90 control subjects and 90 patients who had historically been examined and shown by sialometry. *Results:* One-way ANOVAs demonstrated that the two SSOD indices showed a highly significant difference between dry mouth patients and controls (mean value  $\pm$  SEM for SSOD1 in patients was  $6 \pm 0.31$  and in controls was  $0.3 \pm 0.07$ ) and values were high and correlated, with a coefficient of 0.88 ( $p < 0.001$ ). In patients with dry-mouth, the indices were inversely correlated with UWM flow rate of salivary and MW; (SSOD1: -0.62 correlation coefficient; SSOD2: -0.55 correlation coefficient;  $p = .001$ ). *Conclusion:* The two SSOD indices were significantly higher in patients with low UWM flow and can be used in the assessment and monitoring of dry mouth.

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## ANALYSIS

### **Prognostic value of serum free light chain at diagnosis of multiple myeloma**

Phan Nguyen Thanh Van, Cao Thi Loc

*Purposes:* To determine the prognostic value of serum free light chain (sFLC) at the diagnosis for patients with multiple myeloma at Ho Chi Minh City Hospital of Hematology and Blood Transfusion. *Methods:* A retrospective study was carried out on 74 patients who were diagnosed with multiple myeloma at Ho Chi Minh City Hospital of Hematology and Blood Transfusion from January 2019 to December 2021. *Results:* Three-year OS of patients in the low sFLCR group was higher than that in the high sFLCR group (96.7% vs. 74.7%, respectively). Median survival time of patient with low sFLCR was 21.5 months while 16.5 months in the high sFLCR group. Three-year PFS of the low sFLCR group was higher than that in the high sFLCR group (87.2% vs. 64.2%, respectively). The median progression-free survival time in the high sFLCR group and low sFLCR group was 16.5 months and 19 months, respectively. The difference of OS and PFS among 3 groups NSS1, 2 and 3 was not significant. However, the 3-year PFS among the NSS-1 and NSS-3 groups was significant when considering each group separately. *Conclusion:* Serum free light chain at diagnosis is a good marker to predict the outcomes of myeloma patients.

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### **Prevalence of spinal disorders in Saudi population using conventional radiology: Age and gender correlation**

Hanan Elnour, Shmookh Khalid Alsalmi, Rana Abdulkiram Al-salmi, Sarah Atiah Aljohani, Alya Mohmmad Alshehry, Awadia Gareeballah, Wisal B Hassan, Mona Elhaj, Amel FH Alzain, Samih Kajoak, Hamid Osman

*Background:* Despite its limitations in diagnosing certain spinal cord and spinal column disorders, conventional radiography can be employed as the first imaging modality in patients presenting with spinal disorders caused by bone abnormalities. *Material and methods:* A retrospective study conducted in Taif City-Kingdom of Saudi Arabia's King Abdul-Aziz Specialist Hospital and King Faisal Hospital from November 2020 to February 2021 to evaluate spinal diseases in Saudi population using conventional X-ray in Al-Taif city. The data was collected after receiving ethical approval from the administration of research and studies in the directorate of health affairs-Taif, and then analyzed using SPSS version 23, descriptive statistics were used to assess the frequency and percentage of disorder, and then Pearson's chi square test was used to correlate the prevalence with age and gender. *Results:* Scoliosis is the most common spinal disorder among the selected sample (73.4 percent), scoliosis occurs more frequently in females, while transitional lumbosacral vertebrae affect males more than females regardless of the number of females in the study sampling, no There was a substantial relationship found between age, gender, and spinal disorders seen on conventional radiography ( $p$  – value  $> 0.05$ ). *Conclusion:* The study concluded that the most common spine disorder diagnosed by conventional radiology among selected sample is scoliosis, with the younger age groups most affected.

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### **Evaluation of effect of intravenous dexmedetomidine infusion on intra-operative hemodynamic and recovery profile in patients undergoing intracranial surgery under general anaesthesia**

Harindranath S Kumar, Anjali Modak, Neeta Verma, Sheetal Madavi, Nikhil Bhalerao

*Background:* The brain is critically dependent on uninterrupted blood flow for the supply of nutrients and clearance of metabolites. Both an increase and decrease in the blood flow are harmful to the brain. *Aim:* This study aimed to evaluate the effectiveness of Dexmedetomidine (in comparison to normal saline) in maintaining haemodynamic parameters during laryngoscopy among patients undergoing elective intracranial surgery. *Material and methods:* This was a single centre, parallel-group, 1:1, and single-blind, placebo-controlled, randomised control study. 60 patients undergoing elective neurosurgery were randomised to intravenous dexmedetomidine (0.4mcg/kg/hr) or a similar volume of normal saline. Following outcomes were measured: heart rate, mean arterial pressure (MAP), the dose of thiopentone, time to extubation, and level of sedation. *Results:* The time for extubation in the Group D group was 5.23 minutes and in the Group C group, it was 8.6 minutes ( $p < 0.0001$ ). At endline, the sedation score among participants in group D was less in comparison to participants in group C. The mean dose of thiopentone required in group D participants was significantly less than those required by participants in group C ( $p < 0.0001$ ). Dexmedetomidine effectively blunted the increase in heart rate and mean arterial pressure both at intubation and extubation. There was a difference of 21% point between the MAP values between group D and group C participants at intubation. *Conclusion:* Dexmedetomidine has an anaesthetic sparing effect, and it reduced the time of recovery among patients undergoing neurosurgery.

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CASE REPORT

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**Ventricular septal defect (VSD) with Eisenmenger Syndrome in a pregnant female- A case report**

Sai Nupur Bhedodkar, Sudheer Babu, Manasa Reddy, Kuruva Shruthi, Tanmayee Y, Anusha G, Dondapat Sony, Poojita Reddy, Sravanthi T

Eisenmenger syndrome (ES) is a condition where a previous congenital heart disease with right to left shunt eventually because of development of pulmonary arteria hypertension converts into a left to right shunt bypassing the lungs. Patients who were previously acyanotic become cyanotic and hypoxic. ES when associated with pregnancy increases the maternal and foetal risk. There is a 50% risk of sudden maternal death in ES. The overall estimated foetal wastage is reported to be up to 75%. Therefore patients with ES are advised not to conceive and if they become pregnant should terminate pregnancy by the end of first trimester. Treatment of these patients requires a multi-specialist care when termination of pregnancy is inevitable. We present an antenatal case of VSD with ES.

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**Cervicobrachial syndrome in conjunction with osteomyelitis in the forearm**

Daniela Ogurčáková, Marek Tomčo, Janka Vašková, Ladislav Kočan, Katarína Plachá

Upper limb pain is one of the most common manifestations of pain. The origin can vary widely and can be the result of several aetiologies. In this work, we present a case of a patient with cervicobrachial syndrome who overlapped with another nosology unit. Despite the treatment provided, worsening and unrelenting pain in the right forearm led to hospitalization of the patient. A rare case of osteomyelitis without previous history of accident or surgical intervention was diagnosed as a result of the detection of inflammatory changes and with imaging techniques. Knowledge of the characteristic clinical picture and findings of the physical examination in conjunction with imaging and laboratory examinations can help identify the source of patient difficulties; accurate clinical diagnoses will facilitate the appropriate diagnostic measures and treatment.

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ANALYSIS

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**Prevalence and risk factors of burnout among medical students during coronavirus disease 2019 pandemic online teaching: Cross-section**

Abdulmohsen Alqurashi, Turki Alhassani, Emad Alsaedi, Abdulrahman Alhassani, Saif Alqurashi, Rania Zaini

*Background:* Burnout is considered a work-related stress syndrome. We investigate the burnout prevalence and the risk factors associated with burnout during the coronavirus disease-2019 (COVID-19) pandemic online teaching at Umm Al-Qura University (UQU) medical school. *Method:* During online teaching, an analytical cross-sectional study was conducted among UQU medical students. Data were collected between February to March 2021. Burnout was assessed using a validated tool. *Result:* About 568 students from year two to six medical school completed the survey. The study revealed that a total of 224 (39.44%) students experience burnout. Multiple logistic regression exhibited students with chronic disease were 2-times likely to have burnout. Moderate GPA students (GPA of 3–3.4 out of 4) scored high burnout compared to peers with GPA 3.4–4. There was a statistically higher likelihood between burnout and students who reported negative effects of studying on their social life, high family expectation, and dissatisfaction with blended learning experience. *Conclusion:* The overall burnout prevalence was 39.44% among UQU medical students. Many factors were associated with student's burnout, such as chronic disease, moderate GPA, and high family expectations.

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**Assessment of knowledge and perception towards vitiligo in Northern Saudi Arabia**

Fatmah Fahad Alreshidi, Ebtehaj Saud Almughais, Dalal Alayed, Rasha Mohammed Alarfaj, Samiah Ahmed Almeahmadi, Abrar Humoud Fahad Al Lafi, Hussain Gadelkarim Ahmed

*Background:* There is a prevalence of vitiligo in Saudi Arabia, with low reports regarding the burden of the disease. Thus, the current study aimed to assess the knowledge and perception of vitiligo in Saudi Arabia. *Methodology:* This cross-sectional study involved 1004 volunteers' participants living in the city of Hai'l, Northern Saudi Arabia. Contributors were selected randomly regardless of age or sex. A purposeful questionnaire was designed and used to collect data regarding vitiligo. *Results:* About 77% claimed to know what vitiligo is. The Odds Ratio (OR) and 95% confidence interval (95%CI) for Knowledge was OR (95%CI) = 1.193 (1.032-1.378), P-value = 0.007. The most common source of knowledge was the internet, followed by physicians and friends, constituting 25%, 23%, and 13%, respectively. *Conclusion:* The knowledge and perception of vitiligo are averages among the Saudi community. Distribution of educational and awareness materials through internet and social media can potentially reduce negative attitudes toward vitiligo patients and improves their life quality.

### **Leadership styles and job satisfaction among nurses of medical-surgical departments in the Qassim region hospitals in Saudi Arabia**

Mohammed Abdullah Alrasheedi, Fahad Moteb Alrashaidi, Mahmoud Abdel Hameed Shahin

*Objective:* To discover the type of leadership style (transformational vs. transactional) of nurse leaders and how it affects the work satisfaction of Medical-Surgical nurses working in public hospitals in Qassim Region, KSA. *Methods:* A cross-sectional design was used to collect data over three month's duration. The following tools were utilized to be able to have an outcome of the research study; a multifactorial leadership questionnaire (MLQ) and a job satisfaction survey (JSS) with a demographic's datasheet. The convenience sampling technique was employed for this study and the study recruited exactly 437 participants. This study was conducted in MOH hospitals; King Fahad Specialist Hospital (KFSH), Buraydah Central Hospital (BCH), and King Saud Hospital (KSH) in Qassim Region, KSA. The study used SPSS software to analyze the numeric data via using the following tests: descriptive analysis, Cronbach's alpha, Pearson correlation, and Linear regression. *Results:* The result showed that leadership style was significant predictor of nurses' job satisfaction; transformational leadership ( $t = 3.50, p < 0.01$ ) was more effective for predicting job satisfaction than transactional leadership ( $t = 2.43, p < 0.05$ ). The result of JSS was measured by 36 items using a 6-point Likert scale, and the overall score was  $M = 3.49 \pm 1.30$ , a moderate level. *Conclusion:* To sum up, this study recommended improving leadership style among nurse managers, administrators, and supervisors, more particularly, the adoption of the transformational technique to improve staff job satisfaction, encourage them to stay in their current job, and enhance their self-progress in the profession.

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### **Estimation of the psychological impact of covid - 19 diseases on recovered people in Taif city, Saudi Arabia**

Mohammed Saleh Almalki, Amal Abdelgadir Mohamed, Marwa Abd El-fatah Ali El-slamoni, Faisal Alharthi, Ebaa Marwan Felemban

*Background:* COVID-19 1st started in China and the World Health Organization has announced this to be a pandemic. Isolation measures are used everywhere to rule out the expansion of the virus, lead to the rapidly growing of assured cases and deaths, both, healthcare providers and general population have been suffering from psychological problems, including stress, depression and anxiety. *Aim:* study aimed to assess the psychological impact of Covid -19 disease on recovered people in Taif city. *Methods:* Cross-sectional study was conducted among people infected with COVID -19 and recovered at Taif city, Kingdom of Saudi Arabia, duration extended from February 2021 to June 2021. A self-developed electronic questionnaire was used with a total of 661 responses received. SPSS was used for data analyzed and Approval of institutional Review Board (IRB) at Taif health authorities was obtained. *Results:* Mild depression level of 17.4% of population and severe anxiety level of 3.2% were unveiled with a statistically significant relation between depression level and nationality, age, marital status, education and employee status  $p < 0.05$ . Depression, on the other hand, was significantly and positively correlated with stress and anxiety ( $r = 0.651$  and  $r = 0.683$ ) respectively. There was significant positive correlation between anxiety, stress and depression levels  $p = .0001$ . *Conclusion:* COVID-19 pandemic has created to some extended psychological challenges such as, stress, depression, and anxiety, for recovered people in Taif city of Saudi Arabia. There was statistically significant relation between anxiety, depression and stress levels and some characteristics of studied participants. In addition, significant positive correlation between anxiety level and depression was addressed statistically.

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