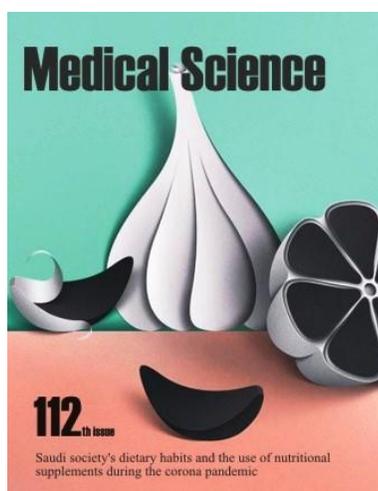


# Medical Science

## About the Cover



The Coronavirus pandemic is still the deadliest pandemic the world has ever seen. Even though several Coronavirus vaccines, everyone is still searching for other ways to prevent the disease. It is impossible to overestimate the role of good nutrition in maintaining a strong immune system against the virus. This study aimed to see whether people's eating habits changed due to the recent Coronavirus pandemic, and if people understood the importance of a nutritious diet rich in micronutrients for Coronavirus prevention and treatment. A retrospective cross-sectional was used in this study on 468 Saudi Arabian residents. 82.7% of the participants believed that healthy food prevents infection with Coronavirus, 49.1% changed their dietary pattern during the pandemic, and 177 reported their dependence on vegetables and fruits in their diet, 162 honey, 94 black seeds, 92 onions and garlic during the Corona pandemic. 46.7% of them consumed vitamin C, 24.4% vitamin D, 19.6% zinc, and 9.3% multivitamins. 78.5% of the participants consumed supplements and catch Coronavirus, while who did not consume supplements and were infected with the Coronavirus was 21.5%. The majority of the sample relies on non-medical sources to assess vitamins dosages, and the majorities of them are not using the proper dosages and are unaware that they may cause side effects. Especially during the Corona pandemic and the spread of many incorrect practices, it is advised to educate communities about the importance of a healthy nutritious diet, the benefits and risks of supplements to enable them to only take the recommended doses. (Ref: Abduljawad EA. Saudi society's dietary habits and the use of nutritional supplements during the corona pandemic: A cross-sectional retrospective study. *Medical Science*, 2021, 25(112), 1248-1260).

**Saudi society's dietary habits and the use of nutritional supplements during the corona pandemic: A cross-sectional retrospective study**

Eman A Abduljawad

The Coronavirus pandemic is still the deadliest pandemic the world has ever seen. Even though several Coronavirus vaccines, everyone is still searching for other ways to prevent the disease. It is impossible to overestimate the role of good nutrition in maintaining a strong immune system against the virus. This study aimed to see whether people's eating habits changed due to the recent Coronavirus pandemic, and if people understood the importance of a nutritious diet rich in micronutrients for Coronavirus prevention and treatment. A retrospective cross-sectional was used in this study on 468 Saudi Arabian residents. 82.7% of the participants believed that healthy food prevents infection with Coronavirus, 49.1% changed their dietary pattern during the pandemic, and 177 reported their dependence on vegetables and fruits in their diet, 162 honey, 94 black seeds, 92 onions and garlic during the Corona pandemic. 46.7% of them consumed vitamin C, 24.4% vitamin D, 19.6% zinc, and 9.3% multivitamins. 78.5% of the participants consumed supplements and catch Coronavirus, while who did not consume supplements and were infected with the Coronavirus was 21.5%. The majority of the sample relies on non-medical sources to assess vitamins dosages, and the majorities of them are not using the proper dosages and are unaware that they may cause side effects. Especially during the Corona pandemic and the spread of many incorrect practices, it is advised to educate communities about the importance of a healthy nutritious diet, the benefits and risks of supplements to enable them to only take the recommended doses.

*Medical Science, 2021, 25(112), 1248-1260*

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**Investigating the relationship between personality type and sleep quality in students living in dormitories of Behbahan Faculty of Medical Sciences: A study in southwestern Iran**

Alireza Rafi, Pouriya Darabiyani, Mina Rezaei, Manigeh Naderi

*Background:* Sleep quality is a clinical structure and a complex phenomenon that is subjective to measurement. Most psychologists consider personality as the most important and fundamental subject of psychology and this issue is undoubtedly effective in lifestyle and human behavior. Therefore, this study aims to investigate the relationship between personality type and sleep quality in students was performed. *Materials and Methods:* This is a cross-sectional descriptive-analytical study that was conducted in 2020. The study population consisted of all students living in dormitories of Behbahan Faculty of Medical Sciences. The instruments used in this study were the Pittsburgh Questionnaire (PSQI) to measure and evaluate the quality and patterns of sleep and the Ratus A and B personality type questionnaire to determine the personality type. Also, SPSS 22 statistical software was used to analyze the data. *Results:* Of 109 participants, 53.2% were boys and 46.8% were girls. 98.2% were single and the rest were married. The correlation between personality type and sleep quality was negative but not statistically significant ( $P = 0.37$ ). *Conclusion:* The results indicate that there is no significant relationship between sleep quality and personality types and it can be said that personality types are not effective on sleep.

*Medical Science, 2021, 25(112), 1261-1268*

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CASE REPORT

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**Obesity and systemic lymphedema: New concept evaluated by multisegmental bioimpedance analysis**

Jose Maria Pereira de Godoy, Henrique Jose Pereira de Godoy, Ana Carolina Pereira de Godoy, Maria de Fatima Guerreiro Godoy

The aim of the present study was to report these changes and correlate edema with the results of animal studies that describe changes in the lymphatic system in obese animals, identifying a new type of lymphedema that we denominate systemic lymphedema. A 31-year-old male patient sought our clinic for a routine evaluation. During the physical examination, obesity was the most important aspect and multisegmental bioimpedance analysis, which demonstrated an increase in total intracellular and extracellular fluid as well as in the limbs and thorax. No other clinical abnormalities were evident at the time. Weight loss and hydro gymnastics were proposed. In some cases of morbid obesity bodily can accumulate liquids beyond the limits of normality which we denominate systemic lymphedema.

*Medical Science, 2021, 25(112), 1269-1271*

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**Preserving pulp vitality with different types of pulpotomy medicaments: A report of case series**

Niharika Gahlod, Arun Sajjanar, Suryakant Kumar, Milind Wasnik, Sneha Khekade, Miranda George, Durga Bhattad

Deciduous teeth are the best known space maintainers. They are important to be preserved until their exfoliation and eruption of successor teeth. The procedure for pulpotomy is performed to preserve the vitality of pulp in cariously exposed primary teeth. Pulp could be exposed due to various reasons such as traumatic injuries, iatrogenic exposure and large carious lesions. Therefore, for preserving the vitality of pulp dentin complex, pulpotomy can be performed with suitable medicament. There are a lot of controversies for the use of different medicaments and which is ideal for pulpotomy. Pulpotomy has been suggested as a viable treatment for pulp exposures with pulpitis in several case series. If performed with adequate isolation and correct procedure, it gives promising prognosis.

### **Acute suicidal psychotic illness in mentally healthy patient: Is it COVID-19?**

Dhruv Talwar, Sunil Kumar, Sourya Acharya, Saniya Khan, Purna Verma

A 46 year old male previously healthy with no personal or family history of mental illness reported with a new onset psychosis after he was diagnosed with a symptomatic COVID-19 infection. His psychotic symptoms subsided substantially with antipsychotics along with benzodiazepines and improved further with resolution of his other COVID-19 symptoms. This case report showcases the importance of vigilance and monitoring of COVID-19 patients for development of neuropsychiatric symptoms leading to prompt diagnosis and management.

Medical Science, 2021, 25(112), 1277-1280

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### **COVID-19 presenting as myocardial infarction in a young female: A rare case report**

Vidyashree Hulkoti, Sourya Acharya, Dhruv Talwar, Shivam Khanna

COVID-19 has increased incidence of thrombotic incidents due to its pro thrombotic state. Ever since the initiation of this pandemic in 2020, there has been an increased mortality due to complications arising due to COVID-19 infection. One of the leading causes of mortality in COVID-19 patients besides the respiratory distress has been myocardial infarction. In the discussion of Acute Myocardial Infarction, posterior wall myocardial infarction has always been difficult to diagnose. It is a challenging to diagnose as well as manage Posterior Wall myocardial infarction which is often missed on routine electrocardiogram in the emergency department. We report a case of a young female aged 32 year old who presented with COVID-19 induced Posterior Wall myocardial infarction. Though the cases of myocardial infarction in people with prior comorbidities and in older age group are common this a rare case report show casing a young female who developed myocardial infarction which later turned out to be posterior wall myocardial infarction induced by COVID-19.

Medical Science, 2021, 25(112), 1281-1285

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### **Premature ovarian failure - A long COVID sequelae**

Sparsh Madaan, Arpita Jaiswal, Sunil Kumar, Dhruv Talwar, Dhruva Halani

Ever since its emergence since 2019, Coronavirus Disease 2019 (COVID-19) has brought the healthcare setup down with its burden of varied appearance and presentation. It can lead to a severe disease with respiratory distress syndrome along with hypercoagulability and various neurological complications. There has been an emergence of a large population of patients who develop a subsequent long term disease known as "long-COVID" which is thought to be secondary to chronic tissue inflammation. We Report a case a 34-year-old female who was infected with COVID-19 12 months back and presented with infertility as a post COVID sequelae. This is the first case report linking Ovarian Failure with COVID-19 in our knowledge.

Medical Science, 2021, 25(112), 1286-1290

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### **Asymptomatic Bradycardia in COVID-19: Premonition of a cytokine storm?**

Dhruv Talwar, Sunil Kumar, Sourya Acharya, Ayush Dubey, Vidyashree Hulkoti

Cardiovascular manifestations of COVID-19 are of paramount importance. Given the increasing load of COVID-19 patients there has been an increase in the thromboembolic events as well as arrhythmias. Though the relationship of COVID-19 with arrhythmias is well studied, Sinus Bradycardia as a presentation of COVID-19 is rare. Here, we report a case of 45- year-old female who tested positive for COVID-19 following exposure to COVID and was completely asymptomatic with bradycardia. The patient later developed features like fever, cough and hypoxia indicating this bradycardia to be a premonition of inflammatory cytokine storm.

Medical Science, 2021, 25(112), 1291-1294

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### **Happy hypoxia in COVID-19: The paradoxical killer**

Saniya Khan, Dhruv Talwar, Sunil Kumar, Sourya Acharya

Coronavirus Infectious Disease 2019 is an infectious disease with alarming international concern. It has led to a pandemic with profound mortality and morbidity increasing the stress of workload over healthcare all through the world. It presented with a broad spectrum of presentations ranging from a mild asymptomatic infection to acute respiratory distress syndrome. One of a major reason for mortality in COVID-19 is late presentation to the healthcare facility. Happy Hypoxia is a major reason for this late presentation as patient does not have any significant respiratory distress even at low oxygen saturations. Many of such cases only have mild to moderate disease and recover fully however in some cases critical patients with COVID-19 may require ICU admission with high case fatality rate. We report a case series of such patients who did not report to the hospital due to happy hypoxia but later turned out to have severe COVID-19 infection which turned out to be fatal.

Medical Science, 2021, 25(112), 1295-1300

**Comparison of the use of herbal and medicinal plants with surgery, drugs and exercise as methods of weight loss in Ha'il region in Kingdom of Saudi Arabia**

Fatimah Aqeel Alali, Bayan Hussain Alali, Aqeela Zahra, Sadaf Anwar, Halima Mustafa Elagib

*Background:* Obesity is a common and morbid disease. There are different methods to reduce weight. The most common surgical methods to reduce weight are bariatric surgical procedures which include gastric bypass, adjustable gastric banding and sleeve gastrectomy. Many drugs have been developed for the long-term management of obesity to cause a positive energy balance. Some herbal medicine products are taken as liquids or tea prior to eating, such as chamomile, green tea can assist in reducing weight. Others spices such as ginger help in weight loss. Many researches suggest that exercise is more effective in the prevention of overweight and obesity than its reversal. The aim of this study is to compare the use of surgery, drugs, exercise, and focusing on herbal remedies regarding weight reduction and to help in raising awareness among people to maintain healthy lifestyle. *Method:* A Cross-sectional study has been done among people in Ha'il, KSA. The data are collected by distributing online questionnaire. Statistical analysis has been done with (SPSS) V 23.0 (Chi-Square Tests considering level of significance  $P \leq 0.001$  and  $P \leq 0.05$ ). *Result:* The result of this study showed that a total 552 of participants in Hail, 29 (6.4%) female and 2 (2.2%) male had used herbs to reduce their weight and the most common used herbs were green tea, lemon, ginger and cinnamon respectively. 21 participants (4.6%) of female and 5 (5.6%) of male prefer surgery for weight loss. The 166 (36.4%) of female, while the male 36 (40.4%) make use of exercise to reduce the weight. Also, 3 (0.7%) of female used the drug, while male never used. *Conclusion:* The study concluded that the most common method used was exercise. The others were herbs, surgery and drugs, respectively.

*Medical Science, 2021, 25(112), 1301-1310*

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**Vascular Endothelial Growth Factor (VEGF) as biological markers expressed in ovarian cancer using immuno-histochemical technique**

Misaa Omer Mohamed, Elsadig Ahmed Adam, Banaga Mnsoor Abdlla, Sara Abdelghani, Lienda Bashier Eltayeb

*Background:* Vascular endothelial growth factor (VEGF) has vital role in tumor metastasis through triggering the accumulation of abnormal blood vessels. *Aim:* The study aimed to evaluate the expression of VEGF in ovarian cancer in Sudanese patients to assess the correlation between expression of this marker and patient's age. *Methods:* A vascular endothelial growth factor expression was detected by immune-histochemical method on total of 38 Paraffin blocks of which 24 cases previously diagnosed as serous carcinoma and 14 cases mucinous carcinoma using routine Hematoxylin and Eosin stain. *Result:* Using 38 (FFPE) block of ovarian tumor; histopathological diagnosis of samples revealed that 14(37%) of samples were mucinous, 24(63%) samples were serous carcinoma. Patients ages ranged between 26-70 years, majority of them (42.1%) were in age group 47-58 years old. The VEGF marker were expressed in 29 ovarian paraffin wax embedded blocks, 19(50%) positive in SOC, while MOC 10(26.3 %) were positive the result statistically insignificant (P-value 0.855). 9(23.76%) were positive in age group (26-36), and 12(31.5%) were positive in age group (48-58) the result statistically significant p-value (0.044). *Conclusion:* There is statistically significant association between VEGF expression and advance age, while didn't correlated with histological types of ovarian cancer. Further study should be done involving large sample size of ovarian cancer using more advance technique such as ovarian cancer Vm RNA testing.

*Medical Science, 2021, 25(112), 1311-1317*

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**Factors influencing the initiation of smoking among Taif University students**

Rania Mohammed Ahmed, Hamid Osman, Nahla. L Faizo, Razan Aliazidi, Marwa M. Eid, Mohammed Elsamani, Bahaedin A. Elkhader

*Background:* Tobacco is a leading source of death worldwide. *Objective:* estimating the prevalence, age groups, and factors influencing the initiation of smoking and varying types of tobacco. *Subjects and methods:* 1800 students, 18–24 years of age, from Taif University voluntarily participated in this study. An electronic questionnaire was administered to all students' WhatsApp groups at Taif University between May and October 2020. Statistical measures were performed using the Statistical Package for Social Studies (SPSS; version 25 for Windows) *Results:* 1080 students (60%) were non-smokers, while 720 (40%) were smokers. 400 students (55.6%) were males. A significant association existed between gender and smoking as well as ( $p \leq 0.001$ ). Males had a higher percentage of smoking. A significant association was existed between pocket money and smoking ( $p < 0.006$ ). The most frequent places for smoking was at chalets with friends (64.3%), followed by public places (45.3%), the most frequent factors influencing smoking were friends (27.8%), family problems, and stress (22.2%). *Conclusions:* Reducing the general population's smoking and educating families by observing the friends of their sons and daughters and implementing strong polices were important to be better role models for juveniles.

*Medical Science, 2021, 25(112), 1318-1325*

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CASE REPORT

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**COVID-19 associated Platypnea Orthodexia syndrome in a young male**

Dhruv Talwar, Sunil Kumar, Sourya Acharya, Sparsh Madaan, Vidyashree Hulkoti

Platypnea-orthodexia syndrome is a rare syndrome which is described as breathlessness during the upright posture which is relieved in supine position. Its causes range from cardiac causes to pulmonary causes with few non cardiopulmonary etiologies. COVID-19 can have a wide range of pulmonary manifestations ranging from acute respiratory distress syndrome to fibrosis of the lung. It is a rare finding of COVID-19. Here, we describe a case of 32 year old male who had respiratory distress due to COVID-19 infection and later suffered from platypnea-orthodexia syndrome during his recovery phase. He was managed with chest physiotherapy along with oxygen support with which he improved and was discharged in stable condition. Platypnea-Orthodexia is hence a rare manifestation of COVID-19 which must be diagnosed in time so that it can be managed in time with supportive therapy.

*Medical Science, 2021, 25(112), 1326-1330*

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#### **Mucormycosis as a complication of LONG COVID: A case series**

Divit Shah, Dhruv Talwar, Sunil Kumar, Sourya Acharya, Ayush Dubey

Severe coronavirus disease (COVID-19) has a profound inflammatory phenomenon thus calling for management with high dose corticosteroids. This along with immunomodulation with the SARS-CoV2 has led to increase in opportunistic fungal infections. While aspergillosis associated with COVID-19 is a well documented association we report a case series of COVID-19 induced Mucormycosis in patients who had COVID-19 more than 3 months ago. The term used for increased inflammation for more than 3 months after COVID-19 is known as "LONG COVID" and is emerging as an entity of great concern in the recent times due to recognition of increased number of complications in patients who had earlier recovered from COVID-19. It is important to note that Diabetes Mellitus has been recognized as an important co-factor with COVID-19 in inducing mucormycosis infections. Concurrent use of glucocorticoid not only hampers the sugar control but also has immunosuppressant effect leading to predisposition to mucormycosis as an important post covid sequelae. High level of vigilance with immediate management is required to prevent adverse outcome of this serious long covid complication.

*Medical Science, 2021, 25(112), 1331-1337*

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#### **ANALYSIS**

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#### **The awareness of parents on the relation of the quality of diet and its effect on the incidence of caries in primary school children in Riyadh**

Fatmah Almotawah, Hajer Al Obaida, Njoud Abuhaimeed, Rahaf Al Obaida, Sara Al Otaibi, Yara Altassan

*Background and Aim:* Dental caries is considered as a multifactorial disease and has been documented to be a major public health challenge in Saudi Arabia. Among the different factors associated with dental caries, the awareness of parents to the role of diet has received relatively little attention. This study was aimed to investigate the association between parents' awareness about the role of the quality of diet as a potential risk factor in causing dental caries in primary school children in Riyadh. *Methodology:* A total of 103 children (59 boys and 44 girls) aged between 5 and 12 years from different sociodemographic backgrounds in Riyadh region were examined to assess the caries incidence and severity. A validated questionnaire on diet and nutrition was administered to both fathers and mothers of the children examined. The associations between caries incidence, diet scores and sociodemographic variables were examined using logistic regression models while those between caries severity and diet were examined using linear regression models. *Results:* There was a significant association between diet and both the incidence of dental caries ( $B=-3.024$ ,  $p=0.007$ ) as well as severity of dental caries ( $B=-3.099$ ,  $p=0.002$ ). Among the sociodemographic variables, family income influenced the incidence ( $B=-1.204$ ,  $p=0.011$ ) and severity ( $B=-1.370$ ,  $p<0.001$ ). The age of the parents or their education did not have a significant association with the caries incidence or severity. *Conclusion:* Parental awareness of the diet of their children and their implementation of a healthy diet has a significant negative association with caries incidence and severity.

*Medical Science, 2021, 25(112), 1338-1345*

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#### **Health information seeking behavior of the population in Majmaah, Saudi Arabia**

Rayan G Albarakati, Abdulaziz Saqer Alanazi, Nawaf Fahad Alzaidy, Faisal Theeb Al-Qahtani, Ayidh Nashi Alotaibi, Faisal Hassan Alshammary

*Background:* The internet nowadays is the most popular and time-saving tool for gaining a lot of information. This is true for health knowledge also, because almost everyone is keen to know about their health disorders, treatment, healthcare centers and also how to stay healthy. There was a felt need to study the prevalence among the population of the access to internet for health-related information. *Objectives:* The main objective of this study was to investigate the different health information seeking behaviors among the population of the Kingdom of Saudi Arabia. *Methodology:* This is a cross-sectional, observational and population-based study in Majmaah city. Based on the (prevalence rate = 50%) previous articles, the sample size was calculated equal to 384. Data was collected by pre-tested, close ended, interviewee-based questionnaire to know people behavior in seeking health information. *Results:* The majority are using the internet as a source of health information (71.3%,  $n=321$ ) followed by friends who are health workers (31.3%,  $n=140$ ). Internet search engines (Google, Yahoo, etc.) being the most commonly used to gain health information through internet (68.2%,  $n=307$ ) followed by Social media (9.8%,  $n=44$ ). *Conclusion:* This study revealed that internet use for seeking

health information is in increasing manner with internet search engines (Google, Yahoo...etc) being the most used source. We conclude that internet use for seeking health information is still a common behavior in the population.

*Medical Science, 2021, 25(112), 1346-1354*

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### **Social knowledge of symptoms, risk factors, causes and complications of hypertension among Al-Ahsa population, Saudi Arabia**

Eman Elsheikh, Ali Al Gharash, Baqer Almohammed, Mohammed AlJumaah, Murtada Al Omaish, Abdulaziz Albahrani, Haider Al Musailleem, Sayed Ebrahim

*Background:* Hypertension is a major global health concern. Despite it is a leading risk of morbidity and mortality, most people with hypertension are unaware of their problem. The main aim of this study was to determine the knowledge of symptoms, risk factors, causes and complications of hypertension among AL-Ahsa population, Saudi Arabia. *Methods:* A cross sectional study of Saudi adults was conducted in the assigned primary health care centres in Al-Ahsa area of Saudi Arabia. A suitably designed questionnaire (standard self-reported questionnaire) was used for data collection. *Results:* Out of total of 660 participants, (55.3%) of the subjects were females and (44.7%) were males. Among those, most of the participants were at the age of 55 or below (86.4%). Level of knowledge about hypertension was low score in (28.3%), while (44.4%) are moderate and (27.6%) considered having a high level of knowledge. *Conclusion:* Although more than two third of the study subjects were having average to good awareness level about hypertension and its risk factors, patients do not have a comprehensive understanding of this global and preventable condition.

*Medical Science, 2021, 25(112), 1355-1363*

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### **Correlation of numerical pain rating scale with athletic shoulder outcome rating scale and range of motion restriction in chronic shoulder pain due to rotator cuff injury in badminton players**

Bodhisattva Dass, Rida Jilani, Rinkle Hotwani

The aim of this study was to evaluate chronic shoulder pain due to rotator cuff injury and the correlation between athletic shoulder outcome rating scale (ASORS), numerical pain rating scale (NPRS) and shoulder ROM. It was a correlational study using convenient sampling method with a sample size of 80 players chosen according to the inclusion criteria. Data was obtained through NPRS, ASORS and player's shoulder range of motion videos. The results included analysis on age, gender, dominance of hand, pain intensity on NPRS and ASORS. The mean±SD of age, gender, dominance of hand, pain intensity on NPRS, ASORS was 21.51±2.36, 1.66±0.476, 1.95± 0.219, 4.63±1.38, 77.2±0.739 respectively. Mean of all shoulder ROM was flexion – 172.43, extension – 57.43, abduction – 171.31, adduction – 171.43, medial rotation – 63.51 and lateral rotation – 88.12. The study showed the positive correlation in shoulder range of motion and not with the ASORS and NPRS.

*Medical Science, 2021, 25(112), 1364-1371*

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## **RESEARCH**

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### **Differences and similarities between COVID-19 and MERS-CoV: The prospect of co-immunization**

Abdullah Alotaibi, Ehab Kamal Ahmed Sogeir, Mohamed Ahmed Babikir I Bealy, Amel B El Hag

*Background:* The nearby similarity of the coronaviruses (SARS-CoV, SARS-CoV-2, and MERS-CoV) intimating the possibility of shared immunization. Therefore, this study aimed to assess the differences and similarities between COVID-19 and MERS-CoV: the prospect of co-immunization. *Methodology:* This study included a cross-sectional random survey that recruited 211 contributors living in the city of Hail, Northern Saudi Arabia, during the period from April 2020 to March 2021. A purposeful electronic questionnaire was deliberated and distributed via various social media sets, regardless of age or gender. Information linked to previous MERS-CoV or COVID19 previous infection was collected. The study population included two groups. Group one: tested for MERS-CoV or COVID19 and found positive. *Results:* COVID19 and MERS-CoV infections were revealed in 28% and 27% of persons, respectively. Out of the 55 patients infected with MERS-CoV, 24/55(43.6%) were subsequently infected with COVID19. The risk of COVID19 infection associated with previous MERS-Cov infection, Odds Ratio (OR) and 95% confidence interval (95%CI), OR (95%CI) = 2.782(1.436-5.391), P-value = 0.002. Out of 21 persons with a family history of MERS-CoV, 7/21(33%) were subsequently infected with COVID19. *Conclusion:* Previous MERS-CoV infection does not precludelater COVID19 infection. People with previous MERS-CoV infection are more susceptible to COVID19 infection. Males and older individuals are more susceptible to be infected with COVID19 with severe clinical manifestations.

*Medical Science, 2021, 25(112), 1372-1380*

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## **ANALYSIS**

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### **The size of palatal cleft and surgical outcome in palatal cleft patients treated with and without feeding plate**

Mansoureh Mohammadi, Amin Alavi, Afagh Hovakhti

*Background and aim:* Cleft lip and cleft palate are among the most common congenital anomalies in the head and facial area. With a goal of detaching the oral cavity from the nose and helping baby's feeding, a palate appliance named the feeding plate was provided for patients. Study was conducted to investigate the effect of the feeding plate on the cleft features and the resulting surgical outcomes. *Materials and Methods:* 14 neonates with cleft palate were entered into the present study. They were distributed into case and control groups (n = 7). For the case group, the feeding plate was provided during the first week after the birth, and they were visited at least three times before surgery. The control group included patients who did not receive a feeding plate who were prepared for surgery. Surgery outcomes (end-flap necrosis, hematoma, and fistula) were evaluated one week and one month after the surgery. Data were analyzed by SPSS-20 using a paired t-test. *Findings:* The width of alveolar ridge in the anterior, medial and posterior regions increased in the case group after using the feeding plate (during surgery), the increase was significant in the anterior and posterior regions (p = 0.001 and p = 0.006, respectively). The width of the cleft palate in the case group decreased after using the feeding plate in all three areas, the decreases was statistically significant in the anterior region (p = 0.045). Examining the width of the cleft palate during surgery between the two case and control groups, it was concluded that in each of the anterior, medial and posterior regions, the width of the cleft palate was lower in the control group, the difference was not significant though. Examining the ratio of the width of the cleft palate to that of the alveolar ridge between the case and control groups during the production of the feeding plate and during the surgery in the anterior, medial and posterior regions showed that the ratio of the cleft palate width to the alveolar ridge width decreased during surgery in all three regions. This reduction was significant in the anterior and posterior regions (0.0012 and p = 0.006 respectively). *Conclusion:* The results of the present study showed that utilizing feeding plate was effective in reducing the size of the cleft palate and decreasing ratio of cleft palate width to that of the alveolar ridge in the case group. Using feeding plate did not affect the surgery outcome.

*Medical Science*, 2021, 25(112), 1381-1390

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### **Assessment of public awareness of the impact of risk factors on the development of gastric cancer in Chernivtsi region**

Detsyk Oryna Zenonivna, Domanchuk Tetyana Ivanivna

*Background:* The awareness of the adult population of Chernivtsi region of the risk of gastric cancer and a healthy lifestyle has been studied. The majority of people need more information of gastric neoplasms prevention and health habits. *Methodology:* The impact of risk factors on the development of gastric cancer among the population of Chernivtsi region and the need of its prevention by oncologists was studied through anonymous questionnaire using medical and sociological methods. The feedback form has been developed with the support of the Ukrainian Institute of Public Health. *Results:* Risk factors for the development of gastric cancer in Chernivtsi region were identified, the public knowledge of their effect if rather low. *Conclusion:* Notwithstanding considerable effort of the oncologists in prevention of gastric cancer all over the world, it remains one of the most frequently diagnosed and the third fatal disease.

*Medical Science*, 2021, 25(112), 1391-1396

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### **CASE REPORT**

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#### **Oral candidiasis as rare complication of COVID-19: A case series**

Vinay Verma, Dhruv Talwar, Sunil Kumar, Sourya Acharya, Anuj Verma

Ever since its emergence the Severe Acute Respiratory Syndrome Corona Virus 2 (SARS-CoV-2) has puzzled the physicians across the globe with its wide spectrum of presentation. The oral hygiene and its complications seem to be under reported due to the increasing load on the healthcare sector. It is important to diagnosis and treats oral candidiasis to prevent its further complications like candidemia, malnourishment or sepsis. We report a case series of two patients who presented with the chief complaint of dysphagia and turned out to be a case of COVID-19 upon investigations.

*Medical Science*, 2021, 25(112), 1397-1401

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#### **Post covid hypothalamic-pituitary-adrenal axis dysfunction manifesting as perinatal depression: A case series**

Dhruv Talwar, Sparsh Madaan, Sunil Kumar, Arpita Jaiswal, Shivam Khanna, Vidyashree Hulkoti, Manila Reddy Eleti

Since 2019, Severe Acute Respiratory Syndrome Coronavirus 2 (SARS CoV2) has led to major impact on both the physical as well as mental health. Although the health care facilities aim to provide treatment for the respiratory, cardiovascular as well as neurological manifestations, its huge impact on the mental wellness of patients is somewhat neglected. Perinatal depression is a commonly encountered psychological disorder. Various factors can aggravate or trigger post-partum depression. COVID-19 is one of such triggers. There is microglial cell activation leading to neuroinflammation along with Hypothalmo-pituitary Axis Dysfunction in COVID-19 leading to neuropsychiatric manifestations. Also similarity in genes for Angiotensin Convertase Enzyme 2 and Dopa Decarboxylase leads to reduction in Dopamine and Serotonin in COVID-19 patients leading to Depression. While complications like HELLP Syndrome and Intra Uterine Death remain well reported in association with COVID-19, Post-Partum Depression remains an underreported post COVID sequelae. Thus, we report a case series of COVID-19 positive pregnant patients who suffered from postpartum depression later as a Post COVID sequelae and were successfully treated with antidepressants and cognitive behavioral therapy preventing any complications.

*Medical Science*, 2021, 25(112), 1402-1406

### **Characteristics and outcome of severe diabetic ketoacidosis in East Jeddah Hospital, Saudi Arabia**

Nasser R Aljuhani, Nada M Alamoudi, Nadreen B Majali, Rania M Algouzi, Fatima A Alzubaidi, Sally M Alnajri

*Introduction:* Diabetic ketoacidosis (DKA) is a critical situation of diabetes that mostly happens in type 1 diabetes mellitus (T1DM) patients. *Objective:* This study aims to analyze the clinical, biochemical characteristics as well as outcome of admitted patients with severe DKA. *Methods:* this is a retrospective observational study carried out at secondary hospital at Jeddah, Saudi Arabia period between July 2018 and July 2019. We included both genders older than 14 years with confirmed diagnosis of DKA. *Results:* In the present study the majority of cases were female (71.4%). All the patient was diagnosed as T1DM and their mean duration of DM  $10 \pm 8.032$  years. Half of them admitted to ICU. The most common precipitating factors was missing insulin dose or non-compliance (78.6%) followed by infection (21.4%). All of who develop complications most documented complication finds to be retinopathy (40%), nephropathy (20%), and neuropathy (40%). The most initial clinical presentation was abdominal pain, vomiting, and nausea. *Conclusions:* The non-compliance for insulin dose was the most precipitating factor in DKA, an intensive efficient educational program for patient compliance should be applied. However, the outcome reflects good improvement as no reported expired cases and the mean duration for a hospital stay for DKA patients was three days that these results would seem to help the hospital in inpatient admission management.

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### CASE REPORT

#### **Cytokine storm treated successfully with immunoglobulin therapy in a pregnant COVID-19 patient**

Sparsh Madaan, Arpita Jaiswal, Sunil Kumar, Deepika Dewani, Dhruv Talwar, Shivam Khanna

Ever since its emergence Severe Acute Respiratory Syndrome Coronavirus 2 (SARS CoV 2) has caused an enormous amount of morbidity and mortality. Pregnancy being a high risk state is also being affected by this lethal pandemic causing an increased risk of rising maternal mortality. The treatment strategies for managing COVID-19 in pregnant female remains limited with no definite treatment available. With the growing evidence of Lymphocytopenia in COVID-19 there has been a emergence of immunoglobulin (IVIg) as a relatively safe treatment option in immunodeficient states such as pregnancy. Though research remains limited in the aspect of immunoglobulin therapy in pregnancy a risk versus benefit ratio might allow use of immunoglobulin therapy. We present a case of COVID-19 associated cytokine storm with lymphocytopenia in a Pregnant female which was successfully treated with Immunoglobulin therapy.

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#### **Stroke in young: An unusual presentation of COVID-19**

Twinkle Pawar, Dhruv Talwar, Sunil Kumar, Pankaj Banode, Prasad Takey, Shivam Khanna, Vidyashree Hulkoti

Since the December of 2019 there has been an increase in reporting of cerebrovascular events in patients infected with COVID-19. Though it is a common complication which is encountered mostly in the old age it is rare to witness the same in young patient in the absence of prior risk factors. We report a rare case of a young patient with COVID-19 postivie status who presented with a hyper acute infarct in left caudate nucleus, Lenti from nucleus, internal capsule, insular cortex, temporal lobe, parieto-occipital region, focal areas in frontal region and was immediately posted for thrombectomy. The patient improved drastically post procedure. Therefore we highlight the importance of contemplating the differential of stroke induced by COVID-19 even in young patients who present with symptoms consistent with a stroke in the ongoing pandemic.

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#### **COVID-19 induced severe respiratory failure in early gestation with favourable outcome: A close escape**

Eleti Manila Reddy, Manjusha Agrawal, Sunil Kumar, Dhruv Talwar, Sparsh Madaan

A small percentage of pregnant females suffer from respiratory failure during the course of their pregnancy which amounts to about 2 percent of all pregnancies. Usually the cause for this respiratory failure remains pre eclampsia or amniotic fluid embolism. However, with the ongoing pandemic, an emerging cause of respiratory failure is Infection with Severe Acute Respiratory Syndrome Coronavirus 2 (SARS CoV 2). Chest wall compliance is decreased in pregnancy hence making it further difficult to fight COVID-19. We present a case of 31 year old pregnant female with gestational age of 28 weeks who presented with acute respiratory failure with severe hypoxia due to COVID-19. She was treated with non invasive ventilation, remdesavir, steroids and other supportive measures. She was given incentive spirometry and her oxygen saturation improved drastically. Ultimately she was shifted on high flow oxygen and was discharged in stable condition making it a close escape. Thus we showcase the importance of diagnosing COVID-19 induced respiratory failure early and the substantial role of incentive spirometry in COVID-19 which is an underrated aspect of chest rehabilitation during the ongoing pandemic.

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## **Post natal covid-19 induced severe acute respiratory distress syndrome managed with monoclonal antibody and prone ventilation**

Dhruva Halani, Arpita Jaiswal, Sunil Kumar, Dhruv Talwar, Sparsh Madaan

A 28 year old female who primigravida presented with high grade fever and breathlessness since one day with a saturation of 70 percent on room air. She required an urgent Cesarean section. She later tested positive for COVID-19. HRCT Chest showed extensive bilateral ground glass opacity with a CT Severity Score of 23/25 and CORAD 6. In view of raised inflammatory markers was managed with Monoclonal Antibody against Interleukin 6 and Prone Ventilation along with other supportive measures. The patient ultimately recovered thus showcasing the miracle of early administration of monoclonal antibody and the effect of prone ventilation in a case of severe acute respiratory distress syndrome seen in Post Natal Period thus preventing maternal mortality.

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## ANALYSIS

### **Treatment trends and attitudes of general dental practitioners in Riyadh, Saudi Arabia**

Sarah Aburaisi, Alhanouf Alshedoukhi, Rahaf Abahussain, Hessa Aljerayed, Maha Altewerki, Rawan Muathen

*Aim:* This research aims to study the attitude of general dental practitioners in Riyadh city by providing them with certain clinical situations and asking them to choose between endodontic retreatment or extraction and implant placement and determining which factors influenced their decision. *Materials and Methods:* A web-based survey was distributed among dental practitioners (n=702) in Riyadh. The survey contained different clinical scenarios along with radiographs specific to each situation and a choice of either saving the tooth by endodontic retreatment or extraction and implant depending on what they perceive as a better treatment choice. The data was analysed using SPSS version 22 data processing software (IBM Corp, Armonk NY, USA). The significant level is set at P-value  $\leq 0.05$ . Ethical approval was obtained prior to survey distribution (registration No. FRP/2019/129). *Results:* General dental practitioners in Riyadh favored endodontic retreatment by 56.2%. *Conclusion:* General dental practitioners are no more likely to perceive dental implants as having a better prognosis in comparison to root canal retreatment.

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### **Cardiac symptoms and association with anxiety among Riyadh population**

Osama Alolaiwi, Mohammed Alrubaysh, Abdullah Alajlan, Abdulaziz Alotay, Faisal Alsharif, Mohammad Alshammari

Currently, Cardiac neurosis (Cardiophobia) is a common issue, which is often misdiagnosed as a heart attack. It exhibits signs and symptoms which are similar to heart disease. This excessive stress may lead to the occurrence of clinical disease like hypertension, heart disease and seizures. The purpose of this study is to investigate the relationship between cardiac symptoms and its association with psychological symptoms of anxiety disorders. A total of 1568, who experience new cardiac symptoms in Riyadh were surveyed from September 2020 until November 2020 using a combination of three self-reported valid questionnaire. Cardiac symptoms and anxiety were more prevalent among females and advance age. It was also widespread among individuals who had a sedative lifestyle. It was found that cardiac anxiety score was high among those who seek investigations for the diagnosis of cardiac diseases frequently. It was also noticed that there is a strong positive correlation between psychological disorders (depression and agoraphobia) and cardiac anxiety. Cardiac neurosis is a common medical problem in our society. Coronary risk factors must be well assessed in patient with cardiac symptoms.

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### **Prevalence, perception, and habits of mothers to use of anise tea for infantile colic in Riyadh city, Saudi Arabia**

Hind Ghali AL-Anazi, Almas Al-Mutiri

*Background:* Star anise has been used as an herbal tea to treat colicky pain in infants. Tea is a prominent part of Arab culture, and anise tea is being commonly used for infantile colic (IC). *Methodology:* This was a cross-sectional study conducted in primary health care in Riyadh to assess mothers' prevalence, perception, and habits to use of anise tea in infants for treatment of IC in Saudi Arabia. Data was collected using a predesigned questionnaire. *Results:* A total of 163 children and their mothers were included in this study. 43.6% suffered from cramps and abdominal pain frequently, 41.1% sometimes had cramps and abdominal pain, and 15.3% did not suffer from this condition. The child's age (P=0.035), the marital status of the mother (P=0.003), and the reasons for giving Anise tea for colic pain (P=0.012) were significantly associated with the frequency of giving Anise tea. *Conclusion:* We demonstrated a relatively high prevalence of IC in Riyadh, Saudi Arabia. However, low levels of knowledge regarding IC and Anise tea were reported among the Saudi mothers. The majority of the mothers used Anise tea for IC, and only a few mothers visited the doctor for the same reason. Most of the mothers did not notice any side effects of Anise tea.

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### **Prevalence of anemia among heart failure patients with reduced left ventricular ejection fraction, single center study, Saudi Arabia**

Raneem A Alraheili, Batool K Alsarhan, Leen K Alsarhan, Asma S Alruwaili, Fayez M Albishi, Alaa A Alraheili, Fatima M Almeahmadi, Muhanned M Alqhtani, Turki F Alotaibi, Fatema S Smaism, Ghazlan A Alhenaki, Shrouq M Alghamdi, Jawad I Almuzaini, Razan A Almuraykhi

**Background:** Heart Failure (HF) has become a significant health problem. It can cause anemia by different pathophysiological mechanisms. The presence of anemia is associated with more symptoms and impaired life functional capacity. **Methods:** This is a cross-sectional study that included 1607 patients who had been admitted at Madinah cardiac center with a diagnosis of HF with reduced left ventricular Ejection Fraction (HFrEF) during the period from March 2011 to January 2019. Anemia is defined when Hemoglobin (Hb) level <13 and <12 g/dl in males and females, respectively. According to the World Health Organization (WHO) criteria of anemia, mild anemia was defined when Hb level is 12.9-11 g/dl in males and 11.9-11 g/dl in females; moderate anemia when Hb level is 10.9-8 g/dl and severe anemia when Hb level is <8 g/dl. **Results:** Of the total 1607 patients included in the analysis, 67% were males, 51% were hypertensive, 52% were diabetic, and 39% had stage III Chronic Kidney Disease (CKD). About 56% of patients were anemic, 66% of them had mild anemia, 24% had moderate anemia, and 10% had severe anemia. Mean  $\pm$  SD of age was 68 $\pm$ 11 years in anemic patients compared to 63 $\pm$ 11 years in non-anemic patients ( $p < 0.001$ ). Anemic patients were significantly females ( $p < 0.001$ ), Hypertensive (HTN) ( $p < 0.001$ ), had Diabetes Mellitus (DM) ( $p < 0.001$ ), or advanced CKD stage ( $p = 0.020$ ). **Conclusion:** The prevalence of anemia was 56%. Approximately 66% of patients had mild anemia, 24% had moderate anemia, and 10% had severe anemia. Female genders, presence of HTN, DM, or advanced CKD stage were the factors associated with anemia among HFrEF patients.

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### **Clinical value of serum miR-21 as a potential biomarker in Non-Small Cell Lung Cancer (NSCLC)**

Azza Abdel Rahman Saab, Riham Hazem Raafat, Mohammad Sabry Alkady, Manal M Kamal El Din

**Background:** Lung cancer is one of the most common cancers in both genders worldwide. MicroRNAs (miRNAs) are small non-coding RNAs that regulate post-transcriptional gene expression acting as oncogenes or tumor suppressor genes. MicroRNAs are promising cancer biomarkers as they are easily measured, stable, and are strongly related to clinical outcomes. Recent studies have reported the role of miR-21 in many solid tumors including lung cancer. **Aim:** To evaluate the diagnostic potential of miR-21 in NSCLC, correlate its level with patient's clinicopathological features in order to evaluate its prognostic value. **Methods:** This study included 50 patients with NSCLC and 10 apparently healthy matched control groups. Patients were subdivided according to their TNM classification into early-stage NSCLC (Stage I/II) ( $n = 6$ ) and advanced stage (Stage III /IV) ( $n = 44$ ). The miR-21 gene expression was measured in serum samples using quantitative real time polymerase chain reaction (qPCR). **Results:** MiR-21 gene expression was significantly increased in lung cancer patients (median: 2.58) compared to healthy controls (median: 1.45); ( $P = 0.001$ ). Higher expression levels were observed in stage III/IV patients' sera compared to stage I/II Patients ( $p < 0.001$ ). At a cut off value of >1.76, miR-21 discriminated between NSCLC patients and controls with a sensitivity of 80% and specificity of 89% whereas a cut-off value of >2.4, miR-21 could discriminate between patients with early and advanced lung cancer with a sensitivity and specificity of 70% and 78%; respectively. **Conclusion:** miR-21 may serve as a potential non-invasive diagnostic and prognostic marker for NSCLC.

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### **Epidemiology of sickle cell nephropathy in sickle cell anemia children, Saudi Arabia**

Mahdi R AlAmeer, Batool K Alsarhan, Leen K Alsarhan, Saeed M Albeshi, Ghazlan A Alhenaki, Muhanned M Alqhtani, Hind R Alasmari, Areej H Alabdali, Taghreed A Alsaleh, Nouf M Alyami, Arwa M Almansour, Amna K Almqaadi, Alaa A Alhazmi

**Background:** Sickle Cell Nephropathy (SCN) is a group of renal abnormalities that developed in patients with Sickle Cell Disease (SCD). They begin early in the first decade of life and may progress to End Stage Renal Disease (ESRD) with increasing morbidity and mortality. **Methods:** The cross-sectional study included 484 SCD patients aged from one year to 15 years who had been admitted at Maternity and Children Hospital during the period from May 2009 to July 2019. eGFR was calculated by using the modified pediatric Schwartz equation. SCN was defined based on the presence of at least one of the following: Glomerular Hyperfiltration (GHF) when  $eGFR > 140 \text{ ml/ml/min/1.73m}^2$ , Renal Insufficiency (RI) when  $eGFR < 90 \text{ ml/ml/min/1.73m}^2$ , or Renal Failure (RF) when  $eGFR < 60 \text{ ml/ml/min/1.73m}^2$ . **Results:** Of the total 484 patients included in the analysis, 247 (51%) were females, 356 (73.6%) had HbSS genotype, 440 (91%) had at least one SCD related hospital admission, and 120 (24.8%) were on hydroxyurea therapy. About 24.8% of SCD patients had SCN as the following: 9.7% of them had GHF, 7.9% had RI, and 7.2% had RF. Patients with SCN were significantly had HbSS ( $p = 0.027$ ). **Conclusion:** About 24.8% of SCD patients had SCN as the following: 9.7% of them had GHF, 7.9% had RI, and 7.2% had RF. The prevalence of SCN was higher among patients with HbSS phenotype. Early detection of SCN could allow for earlier intervention and prevention of ESRD.

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### **Elevated indicators of oxidative stress and hyperlipidaemia in pregnant women at delivery compared to the cord of their newborn babies and non-pregnant women**

Amal M Al Ghamdi, Hanaa Elsherif, Souzan M Kafy, Maryam H Al-Zahrani

Oxidation reactions are important in many vital processes of the body, but they are associated with many toxic effects under certain conditions, from insufficient availability of antioxidants to neutralize them and get rid of them. Pregnancy, delivery, and the first

period of life of the fetus are critical conditions that increase the risk of oxidative stress. The aim of this study is to evaluate the levels of oxidative stress products, antioxidants, and lipid indices in pregnant women at delivery and their cord blood, and women who are not pregnant. The study included 25 healthy pregnant women at delivery and their cord blood, and 25 healthy non-pregnant women recruited from Prince Mishari Bin Saud Hospital in Baljurashi, SA. The serum was tested for the antioxidants, oxidative stress products, and lipid profile. The results showed a significant increase ( $p \leq 0.05$ ) in reduced glutathione (GSH), superoxide dismutase (SOD), total antioxidant capacity (TAO), and a significant decrease ( $p \leq 0.01$ ) in the advanced oxidation protein product (AOPP), cholesterol, low density lipoproteins (LDL) and triglyceride level in the cord serum compared to the group of pregnant women. The results also showed a significant increase ( $p \leq 0.01$ ) in AOPP, cholesterol, LDL, and triglycerides, and a significant decrease ( $p \leq 0.01$ ) in GSH, catalase (CAT), TAO, and glutathione-s-transferase in pregnant women compared to non-pregnant women. Pregnant women at delivery are incurred to increased oxidative stress, while the cord blood contains a high percentage of antioxidants, which protect the fetus from the risk of free radicals at birth.

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