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Medical Science

About the Cover

As a recent finding, the airflow through the nose plays a vital role in chest movements and lung aeration. We studied the cause of obstruction in 50 patients who had surgery due to nasal obstruction in Haydarpasa Numune Training and Research Hospital Otorhinolaryngology Clinic. Age, sex, height, and weight were determined. We measured blood gases and lung function tests before the operation and one month after the surgery. Submucous resection (SMR) was performed with local anesthesia in patients with septal deviation. Patients with Nasal Polyps underwent intranasal polypectomy, sinus surgery, and Intranasal Ethmoidectomy. In our clinic, 50 (%70) septum deviation and 15 (30%) nasal polyps were formed in 50 cases who were operated due to nasal obstruction. The most common cause of surgical nasal obstruction is septum deviation. Most of our cases (72%) were male. Nasal obstruction is more common in men, and the majority of men who are exposed to nasal trauma more frequently have a septum deviation (77%). Nasal obstruction syndrome is common in the middle age group. In obese patients with overweight, lung functions were more affected. After corrective surgery, vital capacity and forced vital capacity values increased in one second. The difference is statistically significant. In our study, PaO_2 value decreased, and $PaCO_2$ value increased in proportion to the excess of nasal obstruction. PaO_2 increased, and $PaCO_2$ decreased after obstacle. Sinusitis was detected in 18 (36%) of 50 cases. Three of these cause septum deviation and 15 of them are nasal polyps. Nine of the 15 cases with nasal polyps (33%) had ethmoid sinus, and 11 cases had maxillary sinus involvement. Septum deviation and nasal polyps cause nasal obstruction, adversely affecting lung function tests and blood gases. Correcting the obstruction due to cardiopulmonary diseases is of great importance. (Ref: Suleyman Erdogdu. The effect of nasal obstructions on lung functions. *Medical Science*, 2019, 23(97), 275-282).

CASE REPORT

Invasive pneumococcal disease (IPD) in preterm neonates: A case report with literature review

Hassan Al-Shehri

Streptococcus pneumoniae is a rare cause of neonatal sepsis although associated with high morbidity and mortality. To report a case of early-onset preterm neonatal pneumococcal sepsis due to a penicillin-susceptible pneumococcus. An extremely low birth weight infant (gestational age 26 wks), presented shortly after spontaneous vaginal delivery with a sepsis due to *Streptococcus pneumoniae* and with respiratory distress? At 4 hours of age, the C- reactive protein (CRP) level was 60 mg/L, white blood cell (WBC) count was 35,000/mm^3, the immature/total neutrophil ratio (I/T) was 0.15, and the platelet count was 190,000/mm^3. Blood culture yielded Gram-positive cocci in pairs that were identified as *Streptococcus pneumonae*. Antibiotics were switched from ampicillin and gentamicin to vancomycin and cefotaxime considering the possibility of resistance to penicillin. However, the organism was susceptible to penicillin, so the antibiotic therapies stepped down to cefotaxime monotherapy only. Infant was continued on cefotaxime for 14 days. Infant was discharged home at 41 weeks corrected gestational age, on full oral-feeding and not on any respiratory support. Neurodevelopmental assessment at 18 months corrected age for her prematurity was appropriate for her age. This is a rare case of invasive pneumococcal disease in our institute. The following risk factors were involved in the occurrence of this case: preterm birth, very low birth weight, premature onset of labour and prolonged rupture of membranes (more than 18 hours). Cefotaxime monotherapy in a later part of the treatment phase was effective.

Medical Science, 2019, 23(97), 269-271

Klestadt cyst: a nonodontogenic oral cyst

Santhosh Kumar K, GIRI GVV, Ravindran C, Deepak A Pandyan, Sheik Samurdeen, Vipul Varma

Klestadt cyst is a rare, nonodontogenic cyst of maxilla commonly referred as a nasolabial cyst. The patient usually presents with a slow growing asymptomatic soft tissue swelling without any radiographic abnormalities. Here we present a case report of 36 year old female with Klestadt cyst treated successfully by surgical enucleation.

Medical Science, 2019, 23(97), 272-274

RESEARCH

The effect of nasal obstructions on lung functions

Suleyman Erdogdu

As a recent finding, the airflow through the nose plays a vital role in chest movements and lung aeration. We studied the cause of obstruction in 50 patients who had surgery due to nasal obstruction in Haydarpasa Numune Training and Research Hospital Otorhinolaryngology Clinic. Age, sex, height, and weight were determined. We measured blood gases and lung function tests before the operation and one month after the surgery. Submucous resection (SMR) was performed with local anesthesia in patients with septal deviation. Patients with Nasal Polyps underwent intranasal polypectomy, sinus surgery, and Intranasal Ethmoidectomy. In our clinic, 50 (%70) septum deviation and 15 (30%) nasal polyps were formed in 50 cases who were operated due to nasal obstruction. The most common cause of surgical nasal obstruction is septum deviation. Most of our cases (72%) were male. Nasal obstruction is more common in men, and the majority of men who are exposed to nasal trauma more frequently have a septum deviation (77%). Nasal obstruction syndrome is common in the middle age group. In obese patients with overweight, lung functions were more affected. After corrective surgery, vital capacity and forced vital capacity values increased in one second. The difference is statistically significant. In our study, PaO_2 value decreased, and $PaCO_2$ value increased in proportion to the excess of nasal obstruction. PaO_2 increased, and $PaCO_2$ decreased after obstacle. Sinusitis was detected in 18 (36%) of 50 cases. Three of these cause septum deviation and 15 of them are nasal polyps. Nine of the 15 cases with nasal polyps (33%) had ethmoid sinus, and 11 cases had maxillary sinus involvement. Septum deviation and nasal polyps cause nasal obstruction, adversely affecting lung function tests and blood gases. Correcting the obstruction due to cardiopulmonary diseases is of great importance.

Medical Science, 2019, 23(97), 275-282

Evaluation and comparison of sonographic changes and thyroid function in iodinated intravenous contrast recipients and normal population

Leyla Halakouei, Ali Hekmatnia, Maryam Farghadani, Farzaneh Hekmatnia

This study was aimed to Evaluation and Comparison of Sonographic Changes and Thyroid Function in Iodinated Intravenous Contrast Recipients and Normal Population in Isfahan. In a clinical trial study, 65 patients who exposed to Iodinated Intravenous Contrast and 92 patients who Recipients and non-exposed to Iodinated Intravenous Contrast were followed for 3 months after exposed to contrast. Thyroid function hormones, thyroid volume and thyroid nodule size were measured in the before intervention and 1 and 3 months after and compared between the two groups. There was no significant difference between the two groups in terms of mean of thyroid volume before exposed (P=0.20) and three months after (P=0.96). The mean of nodule size was not significantly different between the two groups at any time (P> 0.05). In our patients we weren't found statistically different between exposed and non-exposed patients in changes of thyroid volume, nodule size and thyroid function but according to our limitation of the study, we offer evaluation of thyroid function tests before angiography.

Medical Science, 2019, 23(97), 283-289

ANALYSIS

The effectiveness of cognitive-behavioral couple therapy on improving marriage performance and marital intimacy of couples

Neda Zakhirehdari, Shokoh Navabinejad, Amin Koraei

Cognitive-behavioral couple therapy is a type of psychological service for couples whose interpersonal problems and unawareness toward appropriate problem-solving methods as well as the use of appropriate behavioral styles prevent the continuation of common life and constructive relationships and satisfaction with their common life. Accordingly, this study sought to investigate the effectiveness of cognitive-behavioral couple therapy on improving marriage function and marital intimacy of couples. The study is quasi-experimental. The study population consisted of couples referring to counseling centers in Zabol city. For the sample size, 16 couples (32 people) were selected using purposive sampling technique and were randomly assigned into two groups (8 couples in each group), namely, experimental group

(cognitive-behavioral couple therapy) and one control group. The measurement instruments included Marital Intimacy Scale (MIS) and Marriage Performance Assessment Inventory. The data analyzed using descriptive and inferential statistics. The results showed that the variance of cognitive-behavioral therapy and control groups was significant at 95% confidence level (α=0.05). Based on this, it can be concluded that cognitive-behavioral couple therapy is effective in increasing marital intimacy. Cognitive-behavioral couple therapy combines behavioral and cognitive factors in the treatment of couples with marital problems. Based on the findings of this study, the use of this therapy method is effective in improving marital function and marital intimacy.

Medical Science, 2019, 23(97), 290-293

RESEARCH

Development of Rhinoplasty: Yesterday and Today

Ümran MUSLU, Emre DEMİR

The purpose of this study is to analyse the development of rhinoplasty studies between 1980 and 2017 through bibliometric analyses. Rhinoplasty is one of the major operations in plastic surgery, it is popular, and the number of operations has been increasing every day. However, the literature has only one study which investigated the development of rhinoplasty. Therefore, the present study on rhinoplasty is believed to shed light to plastic surgery studies. Bibliometric analyses were performed by retrieving all the publications in Web of Science (Clarivate Analytics' WoS) database between 1980 and 2017 using the 'Rhinoplasty' keyword. The number of publications found using the "Rhinoplasty" keyword was 2977. Of all these publications, 2261 (75.9%) were articles. The highest number of publications was in the year 2016 with 237 publications (10.5%). With 911 publications (40.3%), the USA was the most productive country. The top two active authors who produced most publications about rhinoplasty were Rohrich R.J. (64-2.8%) and Guyuron B. (45-1.2%). The journals which made the greatest contribution to the literature were Plastic and Reconstructive Surgery with 426 publications (18.8%) and Aesthetic Plastic Surgery with 314 publications (13.9%). The number of studies on rhinoplasty has been increasing every day. Result of this first comprehensive bibliometric study showed that the USA was the most active country and it was followed by Turkey, which indicates the contribution of the developing countries to rhinoplasty.

Medical Science, 2019, 23(97), 294-301

Predictive value of maxillopharyngeal angle to other multivariate airway assessment tests for difficult intubation in patients undergoing general anesthesia in Iranian population

Maryam Milanifard, Mohammad Akbari, Tahmine Mokhtari, Valiollah Hassani, Gholamreza Hassanzadeh

Differences in patient characteristics due to race or ethnicity may influence the incidence of difficult airway. Unexpected difficulties in endotracheal intubation can be a significant etiologic factor in morbidity and mortality in clinical practice. The aim of this study was to evaluate the ability of maxillopharyngeal angle (MPA) to predict difficult airway. In this prospective, single, observational and anthropometrical study, we collected data on 213 consecutive patients scheduled for elective surgery under general anesthesia requiring endotracheal intubation and then evaluated all for factors before surgery. In this study, 213 patients (119 males and 94 females) with mean age of 44.319±13.52 (25 to 70) years were investigated. Based on Cormack and Lehane (C&L) grading, the highest sensitivity and specificity were 51.9% and 48.1% for 98.25, respectively. According to Mallampati test (MMT), the highest sensitivity and specificity were 49.6% and 50.4% for 98.25, respectively. The high positive predictive value was observed in MPA based on C&L and MMT grading (92.98 and 71.92, respectively). Based on the findings, of present study, the PPV was great for MPA test to predict the difficult airway and it was noticed to use this test to predict the airway difficulty along with established methods to in patient undergoing general anesthesia.

Medical Science, 2019, 23(97), 302-307

ANALYSIS

The effect of renal transplantation and hemodialysis on fertility in uremic men

Zohreh Bartani, Mohammadreza Mohammadi-Fallah, Masoud Sadeghi

Male infertility is a serious problem, especially in young patients. Advances in kidney transplantation technology allow patients with kidney failure to survive after receiving a transplanted organ. Herein, the study evaluated the effect of renal transplantation on fertility in uremic men on hemodialysis. In this study, we compared two groups comprised of 20 patients in each group. Group one includes 20 patients on hemodialysis at least 2 years that compared with group two consist of 20 kidney recipients with 2 years of successful graft function. Evaluation between two groups was done in testis biopsy, semen analysis, and gonadotropin hormones. Then we assessed the effect of transplantation on fertility. The mean age of men on hemodialysis was 37.35 ±10.58 years and the mean age of transplanted men was 34.75 ± 6.82. In hemodialysis group from 20 biopsies, 11 (55%) had normal spermatogenesis and interstitium and 9 (45%) abnormality were seen. In transplanted group from 20 performed biopsies 16 (80%) had normal spermatogenesis and interstitium and Leydig and Sertoli cells and in 4 (20%) abnormality were observed semen analysis indices in quality and quantity had improvement after transplantation, since improvement in volume, count, motility, live ratio, morphology were statistically significant (P= 0.0001). Luteinizing hormone mean on hemodialysis was 12.49± 7.28 and after transplantation was 7.05 ±3.02 (P= 0.004), follicle-stimulating hormone mean on hemodialysis was 13.15± 32.27 and after transplantation was 6.5 ±7.07 (P= 0.377). Prolactin mean on hemodialysis was 41.93± 65.87 and after transplantation was 13.73 ±5.77 (P= 0.064). Thyroid stimulating hormone mean on hemodialysis was 1.8± 0.99 and after transplantation was 1.7 ±0.9 (P= 0.89). The present study showed that renal transplantation is more effective to correct histologic and endocrinologic abnormalities and also quality and quantity of semen compared to hemodialysis.

Medical Science, 2019, 23(97), 308-311

Effects of misoprostol in the first and second trimester of pregnancy termination in women with prior uterine scar: a meta-analysis

Shirin Niroomanesh, Salmeh Dadgar, Somayeh Moindarbari

Medical abortion is the termination of pregnancy using pharmaceutical agents. Prostaglandin agents are the most common drugs used to achieve medical termination in women in the first and second trimester of pregnancy. Misoprostol is an available and low cost drug and a prostaglandin E1 analogue that is useful in women requiring induction of abortion. The current meta-analysis reviewed the safety of misoprostol for induced-abortion in first and second trimester of pregnancy in subjects with a previous cesarean section delivery to detect the complications related to this agent. This meta-analysis investigation recruited studies evaluating the efficacy of Misoprostol in

termination of first and/or second trimester pregnancy in subjects with prior cesarean section. A systematic article review in English language manuscripts was performed by searching different databases. The primary outcome in terms of efficacy of misoprostol was the proportion of failure rate of pregnancy termination (primary measure) as well as time to complete pregnancy termination (secondary measure). Twenty-two articles encompassed the inclusion criteria and were included in the meta-analysis. In total, these studies included 1838 participants with a previous uterine scar due to cesarean section delivery, who underwent medical-induced abortion by misoprostol. The sample size of these studies ranged from 10 to 279 cases. Based on the results, failure rate was reported in all studies and was 12.24% (225/1838). Uterine rupture was not reported in two investigations and its cumulative rate was 1.57% (28/1778). Need for blood transfusion was reported in all, except two studies, and the rate was 1.91% (31/1621). Induction of labor in the first and second trimesters with misoprostol could lead to reduction of repeat cesarean without increasing the risk of uterine rupture as a safe method by low failure rate.

Medical Science, 2019, 23(97), 312-323

CASE REPORT

A Case Report of a Dandy-Walker Syndrome in a girl baby

Mahnaz Nosratabadi, Shiva Bashirnejad, Mahboobe Khodadadi, Narges Majidipour, Mostafa Madmoli

Dandy-Walker anomaly is a rare congenital disorder. This syndrome is characterized by complete or partial agenesis of the cerebellar vermis, cystic dilatation of the fourth ventricle and enlargement of the posterior cavity with or without hydrocephalus. This neurological syndrome is more common in girls than in boys. The most important abnormality is the presence of a large dilatation of the fourth ventricle, which has been cysts and has been covered by a neuroglial vascular membrane. Hydrocephalus is not seen at birth, often occurs at 3 months, and is proven at 1 year in 80% of cases. In addition to hydrocephalus, pale, ataxia, abnormal breathing, seizures and prominent occiput may be present. Mental retardation is common due to brain abnormalities in these infants; a major fetal defect in this disorder is still discussed. Pre-birth ultrasonography may show hydrocephalus and ventricular enlargement. Postpartum diagnosis is by CT scan and MRI. In the case of progressive hydrocephalus, the treatment is surgical.

Medical Science, 2019, 23(97), 324-326

RESEARCH

Evaluation association between PON1 Q192R gene Polymorphisms with Arylesterase activity and plasma level Malondialdehyde in infertile man

Shahdokht Rastegar, Ramin Tavakoli, Mansoor Khaledi, Mehran Zamani, Rahim Moradi, Ali Nouri, Mostafa Madmoli

Infertility as a disorder reproductive system and incapacity to achieve a fulfill pregnancy with no contraceptive measures taken after reasonable time of sexual intercourse. PON gene family with paraoxonase, arylesterase, and lactonase activities consists of PON1, PON2 and PON3, are relationship with oxidative stress and lipid metabolism. According the important role of PON1 in oxidative stress and effect active oxygen species on infertility males, aim of this study was evaluation association between PON1 Q192R gene Polymorphisms with arylesterase activity and plasma level malondialdehyde in infertile man. In this study blood samples collected from 100 control subjects and 100 infertile men. Q192R variants of PON1 were determined polymerase chain reaction–restriction fragment length polymorphism (PCR-RFLP) technique and to estimate the association between genotype and allele frequency in cases and controls, p-values were assessed by chi-square ($\chi 2$) analysis. In this study, was measurement malondialdehyde by Yagi method as oxidant and arylesterase enzyme as antioxidants in both groups. The founds of this study indicate that the Q allele of PON1 Q192R gene polymorphism is significantly associated with infertility males and infertile individual either homozygote ($p < 0.029$) and heterozygote ($p < 0.014$), have shown a lower Q192R polymorphism, lower Paraoxonase activity and higher level of Malondialdehyde and Arylesterase activity. In the end, we found show the Q192 R polymorphism in the PON1 gene is strongly relationship with infertility males and the QQ genotype significant increase risk of idiopathic infertility males unlike RR genotype.

Medical Science, 2019, 23(97), 327-332

ANALYSIS

Study of quality of life from the perspective of parents and children with thalassemia major

Mostafa Ali Mehr, Hoda Kalhorpour, Vahid Shirani, Maryam Seyed-Nezhad, Ali Kord, Mehdi Zainivand

Thalassemia major is a genetic disease with symptoms of a severe and chronic anemia. This disease is one of the most prevalent chronic genetic diseases in the world and the Iran. About two hundred million people are afflicted with this disease all over the world. The tools for evaluation of life quality enable us to have a closer look at the impact of disease on children's life quality. This study is aimed at studying the quality of life from the perspective of the parents and children with thalassemia. Thalassemia major is a genetic disease with symptoms of a severe and chronic anemia. This disease is one of the most prevalent chronic genetic diseases in the world and the Iran. About two hundred million people are afflicted with this disease all over the world. The tools for evaluation of life quality enable us to have a closer look at the impact of disease on children's life quality. This study is aimed at studying the quality of life from the perspective of the parents and children with thalassemia. The average score of quality of life for these children was 41.01±22.38 from their perspective and 40.63±21.04 from their parent's perspective. From the perspective of the children and their parents, there was a significant difference between the average scores of quality of life both in general and in other components of physical, social, emotional, and school performance (0/0001<P). The average score reported by the parents in physical and social components was higher than that reported by the children, and in other components, this score was lower than the score reported by the children. There was no significant statistical difference between quality of life for the girls and boys. In the component of school performance, rural children had a higher quality of life than urban children (0/05<P). Due to the parents' important role in child care, it is suggested for the thalassemia-related authorities to consider the parents' perspectives about improvement of children's quality of life in care planning and provide the parents with the opportunity of participating in planning for child care to promote the children's quality of life.

Medical Science, 2019, 23(97), 333-338

Comparison of suppressive hormonal therapy (low dose oral contraceptive) and aspiration in regression of ovarian endometrioma

Rana Modabber, ElahehOuladsahebmadarek, Kobra Hamdi, Zahra Fardiazar

Endometriosis is a benign estrogen-dependent disease which is diagnosed through presence of endometrial tissue (secreting glands and stroma) outside the uterus. It affects nearly 5-10% of women of productive age in the US and with an increasing rate of incidence over the last years. There is disagreement over treatment of ovarian endometrioma and its dependent on various factors including pretreatment ovarian reserve, cystic location, patient's age and previous therapies. Since medical therapies such as oral contraceptives reduce the symptoms of ovarian endometria, different surgical therapies also have been proposed; however, as most of these methods end in lowered ovarian reserve, this study was conducted to investigate and compare the effects of LD contraceptive with aspiration in regression of ovarian endometria. This clinical trial was conducted on 50 women aged 15-45 years who had referred to Al-Zahra Hospital with the ultrasound diagnosis of unilateral ovarian endometrioma≤6 cm and CA 125test <100 unites/ml. Written consent was obtained and the participants were randomly assigned to drug therapy and cyst aspiration groups. The former received one LD contraceptive tablet daily for 3 consecutive months and in the latter, ultrasound-guided cyst aspiration was conducted by an infertility subspecialist. All of the patients were followed up for 6 months in terms of clinical symptoms and cyst regression/recurrence. The data were analyzed in SPSS 25. Findings showed that post-treatment clinical state of the patients (dyspareunia, dysmenorrhea and pelvic pain) was generally improved in both groups, but dysmenorrhea and pelvic pain decrease was significantly higher in those received LD contraceptive pills. The rate of cyst recurrence over 6 months was significantly higher in the aspiration group (0% in the drug therapy group vs 44% in the aspiration group, P-value< 0.001). The results showed that both treatment modalities were beneficial in short term improvement of clinical symptoms of endometriomas, while in long term hormone therapy had better outcome, it seems that the best therapeutic solution is to use mixed therapeutic methods. Nevertheless, further research is required on application of new drugs and mixed therapies.

Medical Science, 2019, 23(97), 339-345

RESEARCH

Protective effect of hydro alcoholic extract of *Pistacia atlantica* against acetaminophen-induced hepatotoxicity and oxidative stress in male rats

Yaser Eshaghi, Ali Nouri, Esfandiar Heidarian, Mansoor Khaledi, Mostafa Madmoli, Sayed Asadollah amini

Pistacia atlantica (p.atlantica) has antioxidant, anti-inflammatory and anti-viral properties. This study was undertaken to evaluate the protective effect of *P.atlantica* against acetaminophen-induced hepatotoxicity in male rats. Forty eight male wistar rats were used in this study. The rats were randomly divided into six groups. Group 1, the control group; group 2, the rats that received acetaminophen only; group3, the rats that received acetaminophen plus silymarin; and groups 4, 5 and 6 were treated with acetaminophen plus *p.atlantica* extract (200, 400, 800 mg/kg, respectively). At the end of study, the blood specimens and liver samples were examined. In the acetaminophen-only treated group, the levels of serum HDL and liver CAT, SOD and vitamin C significantly decreased compared to control animals. Also, in this group, total cholesterol, TG, LDL, VLDL, protein carbonyl (PC), MDA, serum TNF-α and TNF-α gene expression significantly increased compared to the control group. Treatment with *Pistacia atlantica* resulted in a significant increase in CAT, SOD, vitamin C , HDL and a significant decrease in the level of MDA, PC, TG, LDL, VLDL, total cholesterol, serum TNF-α, and gene expression of TNF-α compared to the acetaminophen-only treated group. The present study suggests that p.atlantica leaves has protective effects against Acetaminophen-induced hepatotoxicity and oxidative stress.

Medical Science, 2019, 23(97), 346-353

CASE REPORT

Endoscopic management of recurrent sigmoid volvulus in pregnancy: a case report

Hani A Jawa

Sigmoid volvulus occurring in pregnancy is of rare occurrence with only few cases reported in the literature. In this case, we report two successful endoscopic detorsion procedures of recurrent sigmoid volvulus in a pregnant woman which avoided the need for surgery and allowed a full-term pregnancy.

Medical Science, 2019, 23(97), 354-355

Forficated jugular in neck dissection - an uncommon case report

Mathan Mohan A, Suthanraj AK, Velmurugan P, Meribha Ruth Kavina M

Internal jugular vein is the largest vein channel that's drains the region of head and neck. It's commonly encountered as an important landmark during neck dissection to access level II, III, IV lymph nodes. A sound knowledge about the internal jugular veins is important for head and neck surgeons and to avoid misinterpretation and complications. In this case report we fall upon fortification of internal jugular vein and to purvey some clinical utterance on the importance of this atypical anatomical feature.

Medical Science, 2019, 23(97), 356-359

***Staphylococcus Lentus* as a cause of septic shock**

Laith G Shareef, Waleed Ibrahim Ali, Hayder Adnan Fawzi, Hiba Ameer Naser

A 36 years old lady, with negative past medical and surgical history, her condition started as headache and fever (the fever increased in grade until reached 41°C within 3 weeks), after 3 weeks she developed vomiting and diarrhea, initially diagnosed as typhoid fever, the patient had a skin lesion on her breast diagnosed as submammary folliculitis which appears as a ruptured bulla. She admitted to intensive care unit in medical city complex Baghdad / Iraq after failure of initial management with empirical antibiotic therapy, in ICU she presented with septic shock status and managed with multiple antibiotics until improved, the patient discharged home with procalcitonin level of 0.8, normal liver, renal and hematological measures. Follow up showed no signs of remission and good clinical condition.

Medical Science, 2019, 23(97), 360-362

RESEARCH

Outcomes of total thyroidectomy with vs. without extensive intended dissection of the thyroid embryological remnants single centre experience

El-Sayed Mahmoud Abd-Elwahab, Hany Abdelfatah El-hady

This study aimed to assess the prevalence of TERs and the value of their dissection during total thyroidectomy in cases with benign multinodular goitre on the surgery outcomes compared to approaches not removing them. *Settings and Design:* One-hundred consented patients aging 22-60 year (mean 43 ± 10.1 year) were included in this prospective clinical study. It was conducted in the period between July 2011 to December 2014 at Al-Zahraa University Hospital, College of Medicine for Girls, Al-Azha University, Cairo, Egypt. Patients were divided into two equal groups (50 patients each) to compare between total thyroidectomy with vs. without dissection of TERs for benign multinodular goitre. The study also assessed the type, prevalence and topographic distribution of TERs in the dissection group. Data analysis was carried out using SPSS Version-23 software for percent distribution and significance using Chi-Square Tests. Statistical significance was set at P <0.05. The prevalence of a pyramidal lobe was 54%; ZT was identified in 36 patients (72%), where, 23 patients (46%) were bilateral, 7 patients (14%) located in the left lobe and 6 patients (12%) in located in right lobe. The thyroid rests were found in 17 out of fifty (34%); of them 9 patients (18%) were bilateral, 6 patients (12%) were in the left side and 2 patients (4%) were in the right side. Whereas 4 patients developed recurrence in the control group, no recurrences were observed in the TERs dissection group. Dissection of TERs during total thyroidectomy was associated with higher rate of complications, but it completely avoided the disease recurrence and the burden of reoperation. Complications may be decreased or prevented by expert hands.

Medical Science, 2019, 23(97), 363-368

ANALYSIS

Antidiabetic drugs and cognitive impairment in type 2 diabetes

Mariia V Matveeva, Yulia G Samoilova, Natalia G Zhukova, Oxana A Oleynik, Mariya A Rotkank, Olga P Leiman, Dmitry A Kudlay

Type 2 diabetes is a metabolic disease that is a risk factor for cognitive impairment, some antidiabetic medication may be associated with the survival of neurons. To study the association of antidiabetic medication and cognitive functions in patients with type 2 diabetes. We examined 240 patients with type 2 diabetes. The patients were divided into 4 groups depending on glucose-lowering therapy: group 1 - insulin, group 2 - tableting medication, group 3 - combined therapy, group 4 – analogues of glucagon-like peptide 1. All patients underwent general clinical examination, cognitive functions test based on the Montreal scale. Statistical analysis was performed using the R-system software package. The overall score of the MoCA test was higher in the group of patients receiving glucagon-like peptide-1 compared with the patients in groups 1, 2 and 3, whose cognitive functions declined. Patients receiving only biguanides medication performed the cognitive test significantly better. The correlation analysis revealed that cognitive functions are affected by age, disease duration, complications presence, and HbA1c level. In type 2 diabetes glucagon-like peptide-1 and biguanides treatment is accompanied by better performance of the cognitive function assessment tests.

Medical Science, 2019, 23(97), 369-374

RESEARCH

IL-17 and IL-22 in colitis associated colorectal cancer in mice

Elif Saritas Yuksel, Firdevs Topal, Özlem Gür, Fatih Topal, Cengiz Karahanlı, Berna Uran

Evidence from animal models suggests that innate lymphoid cells (ILC) and especially IL23 responsive ILC3 may contribute to intestinal carcinogenesis. IL-17 and IL-22 are two major cytokins released from ILC. We have investigated mechanisms responsible for tumour-causing inflammation in a mouse model, which, like human colorectal cancer, exhibits upregulation of IL-22 and IL-17. Our results suggest that the innate immune system participates to gut inflammation and colorectal cancer, suggesting that inflammatory responses can be common to both pathologies and contribute to the development of chronic inflammation associated cancer.

Medical Science, 2019, 23(97), 375-380

Characterization of the exopolysaccharides from *Rhodotorula minuta* IBRC-M 30135 and evaluation of their emulsifying, antioxidant and antiproliferative activities

Rasool Mirzaei Seveiri, Masoud Hamidi, Cédric Delattre, Babak Rahmani, Sina Darzi, Guillaume Pierre, Hamid Sedighian, Clément Brasselet, Fatemeh Karimitabar, Shaghayegh Pishkhan Dibazar, Dariush Ghasemi, Jafar Amani

Some microorganisms such as yeasts can produce high molecular weight and valuable polymers that known as exopolysaccharides (EPSs). Given the functional properties of yeast exopolysaccharides (EPSs) and a few numbers of studies in this field, the present study was aimed to characterize the EPSs from *Rhodotorula minuta* (IBRC-M 30135) and to evaluate their emulsifying, antioxidant and antiproliferative activities. *R.minuta* excreted 1.2±0.1 g of the EPSs per 1000 ml of fermentation medium. Glucose, mannose and rhamnose were found as main monosaccharides of the EPSs (49, 38 and 13 mol%, respectively) through gas chromatography-mass spectrometry (GC-MS) analysis. In addition, three EPS fractions were obtained with the molecular weights of 356, 500 and 220 kDa. The water retention capacity of the EPSs was 342±27%. The EPSs exhibited relatively good oil-emulsifying activity and the enhanced synergism between the *R.minuta*'s EPSs and commercially used hydrocolloids (guar gum and sodium alginate) was observed. In vitro, antioxidant activity was investigated against DPPH, hydroxyl and superoxide free radicals. At a concentration of 10 mg/ml, the DPPH, hydroxyl and superoxide free radicals scavenging activities were 21.8±0.7%, 24.6±1.4% and 12.1±0.4%, respectively; and the scavenging activities against all were higher than hyaluronic acid. In addition, the treatment of human breast adenocarcinoma (MCF-7) and Madin-Darby Canine Kidney (MDCK) cell lines with 20-1000 µg/ml of the EPSs caused no significant differences in the cells proliferation (P>0.05). These results indicated the promising potential of the EPSs from *R.minuta* as non-toxic and biocompatible compounds for using in food, cosmetic and pharmaceutical fields.

Medical Science, 2019, 23(97), 381-389

ANALYSIS

Effect of Entonox gas on severity of labor pain in primiparous mothers: A randomized controlled trial

Milad Borji, Ebrahim Khalighi, Azadeh Eyvazi

Labor pain is an inevitable and common phenomenon whose intensity is ranked highest among pain scores in humans. Reducing labor pain can encourage the women to accept vaginal delivery. The aim of the present study is to determine the effect of Entonox gas on severity of labor pain. The present study is a clinical trial conducted after receiving the ethical code from Ilam University of Medical Science (REC.1394.24.IR.IUMS). 78 primiparous women were included in the study by random allocation method. Test group (N=38) received Entonox gas during labor while the control group (N=40) had no intervention. The research tool was demographic questionnaire and visual analog scale. After data collection, the data were analyzed by analytical and descriptive statistics using SPSS Version 16 software. The results showed that Entonox gas reduced the pain of the patients in the experimental group and before the intervention in the test group, the mean (SD) pain was 7.26 (0.55), which after intervention reached 2.44 (0.64). Which was statistically significant ($p<0.001$). Entonox gas caused a reduction in the pain of mothers during labor. Thus this intervention can be applied as an intervention capable of reducing the pain in mothers.

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RESEARCH

The prophylactic efficacy of Cardamom (*Elettaria cardamomum*) extract against aspirin-induced gastric ulcer in a rat model

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The gastroprotective and therapeutic effects of cardamom was examined using aspirin-induced gastric ulcers. Male albino rats were separated into healthy control and peptic ulcer-induced groups. The latter group was treated with cardamom extract before or after ulcer induction to investigate its protective and therapeutic effects. Another group was treated with Omeprazole. Rats were sacrificed; the gastric tissue was examined for ulcer index and score, pH and total acidity measurements. Moreover, we studied anti-inflammatory and antioxidant biomarkers. Results demonstrated that cardamom exerts an ameliorative effect, shown by a decrease in the gastric ulcer index and score. The extract restores the free radical-scavenging enzymes and reduces inflammatory markers. Pepsin and putrescine levels decreased significantly, while hydroxyproline levels increased in groups treated with cardamom extract, either as a protective or therapeutic agent. Cardamom is therapeutically valuable for enhancing and hastening gastric ulcer remediation as it is capable of inhibiting aspirin-induced damage.

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ANALYSIS

The effectiveness of participation-based education on nurse performance in hospital Triage at disaster

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The study aimed to investigate the effectiveness of participation-based education and nurse performance in the field of hospital triage during disasters. In this experimental study, 120 nurses from Tehran hospitals were randomly divided into control and experimental groups (each 60). Data were collected by Hersey and Goldsmith's Nurses' Performance Questionnaire. The case group received a participation-based education program for one month and both groups completed the questionnaire 3 months after intervention and the data were then analyzed. Results of covariance analysis indicated that there was no significant difference between the performance of the hospital triage at the time of disaster before the educational interventions in the two groups, while after intervention, the factors significantly increased in the experimental group compared to control group ($P<= 0.001$). Based on this study, a participation-based education program is effective in promoting the nurse performance in the hospital triage at the time of disaster. In addition, control, monitoring and educational follow-up are recommended in the implementation of these programs.

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