Medical Science

About the Cover

Dyspepsia which is a digestive syndrome with a prevalence of 50 % in some areas can be an important factor in Helicobacter pylori infection syndrome. This study was aimed to evaluate relative frequency of *Helicobacter pylori* infection and histological changes in dyspeptic patients presented to the Endoscopic unit of Shahid Rahimi and Shohadaye Ashayer hospitals in Khorramabad city, Iran. In this cross-sectional study, the population included all patients with dyspepsia referred to Endoscopic Unit of Shahid Rahimi and Shohadaye Ashayer hospitals in Khorramabad during the period of 2013-2015. After performing endoscopy, *H. pylori* diagnosis was done by biopsy method.In this study, 5213 patients with dyspepsia (including 49.2% male and 50.8% female) with the age range of 12 to 90 years (mean 17.36±48.24 years) were studied. From this population, 57.3 percent were infected with *Helicobacter pylori* (50.8 % of men and 49.2% women). Most positive cases were over 60 years old and the most histological changes were respectively chronic active gastritis (40.3%). Similar to other studies, the prevalence of *Helicobacter pylori* infection is average in the population; however, these rates might be reduced through increased awareness and health care (Ref: Mosayeb Morandini, Majid Firouzi, Shiva Shafizadeh, Soleiman Jaferian, Shahdokht Fathi Beiranvand, Farshad Roostae, Afshin Roostaei, Mohammad Javad Tarahi, Hamidreza Sherkatolabbasieh, Mahmoud Bahmani, Hamed Maleki, Asghar Alipour. Investigating prevalence of *Helicobacter pylori* and histological changes in patients with dyspepsia in Khorramabad City during 2013-2015. *Medical Science*, 2018, 22(90), 111-117).

Investigating prevalence of *Helicobacter pylori* and histological changes in patients with dyspepsia in Khorramabad City during 2013-2015

Mosayeb Morandini, Majid Firouzi, Shiva Shafizadeh, Soleiman Jaferian, Shahdokht Fathi Beiranvand, Farshad Roostae, Afshin Roostaei, Mohammad Javad Tarahi, Hamidreza Sherkatolabbasieh, Mahmoud Bahmani, Hamed Maleki, Asghar Alipour

Dyspepsia which is a digestive syndrome with a prevalence of 50 % in some areas can be an important factor in Helicobacter pylori infection syndrome. This study was aimed to evaluate relative frequency of *Helicobacter pylori* infection and histological changes in dyspeptic patients presented to the Endoscopic unit of Shahid Rahimi and Shohadaye Ashayer hospitals in Khorramabad city, Iran. In this cross-sectional study, the population included all patients with dyspepsia referred to Endoscopic Unit of Shahid Rahimi and Shohadaye Ashayer hospitals in Khorramabad during the period of 2013-2015. After performing endoscopy, *H. pylori* diagnosis was done by biopsy method.In this study, 5213 patients with dyspepsia (including 49.2% male and 50.8% female) with the age range of 12 to 90 years (mean 17.36±48.24 years) were studied. From this population, 57.3 percent were infected with *Helicobacter pylori* (50.8 % of men and 49.2% women). Most positive cases were over 60 years old and the most histological changes were respectively chronic active gastritis (40.3%). Similar to other studies, the prevalence of *Helicobacter pylori* infection is average in the population; however, these rates might be reduced through increased awareness and health care.

Evaluation of public health and its relationship with burnout in nurses' public and private hospitals of Khorramabad in 2016

Kourosh Saki, Maria Bahrami

The purpose of this study was to determine the relationship between general health and burnout in nurses of private and public hospitals in Khorramabad in 2015-2016. This correlational study was conducted on 350 nurses selected by stratified random sampling. Data collection instruments were demographic questionnaire, Goldberg and Hiller General Health Questionnaire (1979) and Maslach Burnout Inventory (1981). General health was significantly associated with marital status (P=0.022), monthly income (P=0.002), economic status (P = 0.043) and work experience (P=0.46). The correlation with burnout (r=0.01) was also significant. Based on the logistic regression model, the general health 0.60 time was higher in women than in men. According to the findings of this research, it seems that general health is significantly associated with demographic characteristics in nurses. Therefore, paying attention to economic status, work experience and marital status of nurses improves general health. In addition, considering the significant association between burnout and demographic characteristics in nurses, employment strategies for reducing stress and burnout can help improve the nursing care quality by promoting mental health of nurses.

A randomized clinical trial; comparing levofloxacin based sequential and clarithromycin based sequential versus triple therapy for *Helicobacter pylori* eradication

Mosayeb Moradniani, Majid Firouzi, Soleiman Jaferian, Shiva Shafizadeh, Parastoo Baharvand, Hamed Maleki, Shahdokht Fathi Beiranvand, Nishtaman Ghaderi, Hamidreza Sherkatolabbasieh

Helicobacter pylori is a major cause of gastric diseases. Some studies in Iran showed that the resistance rate to clarithromycin was in the range of 5% to 45.2%. The present study aimed at evaluating the efficacy of a sequential therapy versus standard triple therapy in eradication of *H.pylori* infection. Patients with positive histopathological *H.pylori* infection were randomly allocated into three groups. All endoscopies were performed with FUJINON by two expert gastroenterologists. The first group received omeprazole 2x20 mg and amoxicillin 2x1 g per day for first week and omeprazole 2x20 mg, metronidazole 2x500 mg and clarithromycin 2x500 mg per day for second week (regimen A). The second group received the same treatment in first week but clarithromycin was replaced by levofloxacin 2x500 mg per day in second week (regimen B). And the last group received omeprazole 2x20 mg, amoxicillin 2x1 g and clarithromycin 2x500 mg per day for two weeks (regimen C) .294 patients completed the study and underwent 13C-UBT at the sixth week. Eradication rates of 87.7% in sequential levofloxacin based (B) and 76.5% were achieved in the clarithromycin-based (A) and 67.3% in standard triple therapy(C). According to this study, only therapeutic intervention in group B has the effect on H pylori eradication. Over the past decade, eradication programs regarding *H. pylori*-related diseases have been based on standard triple therapy worldwide. Present study show sequential levofloxacin based therapy for eradication of helicobacter pylori was more effective than sequential clarithromycin based and standard triple therapy.

The impact of information therapy on stress in infertile young couples

Ali Maher, Tahere Behroozilak, Ahmad Hajebrahimi, Seied Mojtaba Hosseini

Infertility is a clinical term defined as the inability to conceive after at least 12 months of regular and unprotected intercourse. Acute and chronic stress has the ability to negatively affect infertility therapy, form a defective cycle and reduce the chance of succession even more. The objective of this study was to evaluate the effect of infertility treatment procedure awareness on the total stress levels of infertile couples and 5 lesser tests were conducted (social, sexual, communicative anxiety, rejection of childfree lifestyle and

the need for parenthood). This semi-experimental study was conducted as a clinical trial on 220 infertile couples who had visited the infertility clinic of Shahid Motahari Hospital, Urmia, Iran and other corresponding clinics during 2017. Simple sampling was available and the data were gathered using Newton infertility stress questionnaire prior to and subsequent to notification of the patients. The data were processed using SPSS v.17 and data with P-value <0.05 were regarded as significant. The average points achieved by the main and control groups prior to intervention were 58.95±9.76 and 59.30±9.32, respectively. Paired t-test results revealed that a meaningful difference exists between the two groups (P<0.05). However, following education and awareness, the attained scores of the main group reduced to 55.05±6.66, indicative of a meaningful difference between the main and the control group (P<0.005). Due to the high stress levels seen in infertile women and the negative impact of elevated stress on infertility treatment and the positive effect of awareness on stress relief, it was proposed that education and awareness should also be integrated into the infertility treatment procedure program.

Investigation of the relationship between stress, burnout, job satisfaction of nurses working in oncology clinic

Semra Ayakdas RN, Elif Unsal Avdal, Burcu Arkan, Berna Nilgun Ozgursoy Uran, Barıs Onder Pamuk

This descriptive and correlational study aims to identify stress, burnout and job satisfaction of nurses working in oncology clinics. The sample of the study consist a total of 43 nurses working at oncology clinics at three University Hospital. The Sociodemographic Data Collection Form developed by the researcher based on the literature, Maslach Burnout Inventory (MBI), Job Stress Scale and Job Satisfaction Scale were used as data collection tools. Number percentage analysis, one-way analysis of variance and Spearman correlation analysis were used for statistical analysis of the data. It was found that Overall Job Satisfaction had a negative and strong correlation with "Job Role Uncertainty" sub-dimension (r:-0.42 p≤0.05), Maslach Burnout Inventory between General Job Satisfaction there was no significant relationship (p<0,05). A negative and significant correlation was found between Job Stress Scale overall score and Overall Job Satisfaction (r: -0.411, p<0.05). According to the result obtained in our study, it can be said that job satisfaction of oncology nurses decreased as their job stress increased and their job satisfaction level and job satisfaction uncertainty decreased as their emotional exhaustion increased.

Comparison of Milligan Morgan Hemorrhoidectomy and direct current electrotherapy for the treatment of Hemorrhoidal disease

Mehmet Kadir Bartın, Arzu Esen Tekeli, Esra Eker, Muzaffer Onder Oner

It is aimed to compare Milligan Morgan hemorrhoidectomy and direct current electrotherapy for the treatment of grade 2 and grade 3 internal hemorrhoids. Patients with symptomatic grade 2 or 3 internal hemorrhoids which is refractory to medical treatment were enrolled in this retrospective study. In the galvanization group, hemorrhoidal columns were coagulated using electrotherapy by a 2mA to 16mA current probe. And the Milligan Morgan hemorrhoidectomy was applied routinely as an open surgical procedure. Operative time, postoperative pain, hospitalization duration, clinical stage was measured. Patients were followed up for 3 months for healing, late complications and the recurrence. The operative time and the hospitalization duration were significantly more in Milligan Morgan group (p<0.05). The relapse occurred in 3 patients in Milligan Morgan group and in 1 patient in galvanization group. The relaps rate was statistically less in galvanization group (p<0.05). Postoperative pain scores were similar in two groups at seventh day of the surgery (p=0.326). But at the first and third day of surgery the VAS values were higher in Milligan Morgan group (p=0.032). Hemorrhoidal coagulation with galvanic electrotherapy reduces the operation time and hospitalization duration. Also the relaps rate and the postoperative pain which is scored by the VAS values are less in this procedure according to the Milligan Morgan open surgery. However the late complications and late postoperative pain violence may be equivalent between these two surgery types.

An analysis of the association between HbA1c levels of patients with type 2 diabetes and nutritional habits

Elif Unsal Avdal, Burcu Arkan, Nesil Gonen Atalay, Berna Nilgun Ozgursoy Uran, Baris Onder Pamuk, Nurcan Ozyazicioglu, Havva Gokdere Cinar

This study aims to identify the association between the nutritional habits of patients with type 2 diabetes and their HbA1c levels, and to determine the influences of nutritional habits on HbA1c levels. This descriptive, correlational, cross-sectional study was based on Type 2 diabetes and nutritional habits. A total of 110 individuals with type 1 diabetes were randomly selected from Uludag University Hospital, Bursa, Turkey. The sample power was found to be 92%. The data collection tools were an Information Form for Diabetes Patients and a Nutritional Habits Form. The study data were analyzed with descriptive, Pearson correlation and multiple regression statistics. The study results illustrated a statistically significant relation between the HbA1c levels and nutritional habits of diabetes patients (r = -.88) and further suggested that 72% of changes in HbA1c levels may result from patients' nutritional habits (R2: .72, p= .000). Diabetes patients can better manage a nutritional therapy and control HbA1c levels when their nutritional habits have been identified in detail. Nutritional habits are proven to be influential in maintaining glycemic control, which consequently

emphasizes the significance of the nutritional habits of patients with diabetes. In summary, this small-scale cross-sectional study indicates the potential role of nutritional habits in glycemic control.

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Association of haptoglobin phenotypes with susceptibility to migraine in an Iranian population: a preliminary study

Alireza Nakhaee, Alireza Khosravi, Jafar Poodineh, Masoud Sadeghi

Oxidative stress and nitric oxide (NO) are key factors in the pathogenesis of migraine. Haptoglobin-Hemoglobin (Hp-Hb) complex can reduce NO production and inhibit oxidative stress. Since the ability of different Hp phenotypes in the reduction of NO and oxidative stress are diverse; one influential factor in the pathogenesis of migraine may be Hp phenotypes. Therefore, the present study assessed the association of Hp phenotype with migraine. In this study, 243 patients with migraine and 250 healthy persons were evaluated in terms of phenotypes Hp. Hp phenotype each individual was determined by electrophoresis of serum proteins in polyacrylamid gel and specific peroxidase staining. Phenotype frequency in two groups (migraine and healthy) were compared. A significant difference in sex and age distribution was not found between patient and control groups. Hp phenotype 2-2 was present in 74.9% of migraine patients and in 48.4%of healthy persons. Hp2-1 and Hp1-1 were present in 20.6% and 4.5% of patients, respectively, and in 40.8% and 10.8% of controls. The distribution of Hp phenotypes in two groups of healthy and patients showed a significant difference (P <0.001). The results of present study showed that Hp phenotype 2-2 was significantly associated with the occurrence of migraine. It seems in people with Hp1-1, a risk of migraine attacks is less than Hp2-2 phenotype. Possibly because three types of Hp have different functional efficiencies.

Medical Science, 2018, 22(90), 169-175

CASE REPORT

Induction of stable disease with combination of immunotherapy plus chemotherapy in metastatic Non-Small Cell Lung Cancer: A Case Report

Mehrdad Payandeh, Mehrnoush Aeinfar, Edris Sadeghi, Masoud Sadeghi

Programmed death ligand 1 (PD-L1) is part of an inhibitory checkpoint that helps protect against autoimmunity by acting as negative regulators of activated T cells. We reported a metastatic non-small cell lung cancer (NSCLC) case to received monoclonal immunotherapy with nivolumab plus chemotherapy with a stable disease for more than six months. A 46-year-old female with bone metastatic adenocarcinoma of the lung, a history of chronic cough and hemoptysis referred to the Clinic. The computed tomography (CT) scan showed an increased irregular pleural thickness in mediastinal and parietal pleura and liver metastasis. She received erlotinib as the first line treatment and switched to paclitaxel/carboplatin plus bevacizumab and then maintenance therapy. The CT scan showed us better result after nivolumab plus pemetrexed therapy for eight cycles rather than before the policy of treatment. In conclusion, nivolumab-pemetrexed combination therapy can improve survival and reduced progression in metastatic NSCLC patients. But considering to epidermal growth factor receptor mutation and the PD-L1 percentage can be very important in a selected protocol of treatment and improvement of survival of the patient.

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RESEARCH

Screening for metabolic syndrome in patients with bipolar disorder

Maryam Maddineshat, Hamid Reza Bayati, Atefe-Sadat Davudi, Sepideh Frozesh, Masoumeh Taherpour

Metabolic health threat to patients with bipolar disorder is of interest to many studies. This study aimed to screen metabolic syndrome in patients with bipolar disorder in a University Hospital Psychiatry Outpatient Clinic, Bojnurd, Iran. In this cross-sectional study 124 patients with bipolar disorder were screened by sequential sampling method. Patients with bipolar disorder were admitted from October, 2014 to November, 2015 in a University Hospital Psychiatry Outpatient Clinic. Patients were evaluated for metabolic syndrome using a checklist based on NCEP ATP III criteria. The prevalence of metabolic syndrome was higher in women with bipolar disorder (70.2%). About 22.6% of patients had high blood sugar (high fasting glucose), 68.5% had abdominal obesity, 8.1% had high blood pressure, 34.7% had high cholesterol, and 46.7% had high triglyceride. Most of patient (88.9%) were illiterate, and the most common metabolic abnormality was related to obesity. Age and BMI had a significant relationship with the prevalence of metabolic syndrome (P<0.05). Some criteria of metabolic syndrome coexist in bipolar patients. Screening for metabolic syndrome in bipolar patients is important in preventing the risks posed by it. Also, given that most *patients* with *bipolar disorder* and metabolic syndrome are women and most patients were illiterate, it is recommended that training classes be set up in psychiatric clinics.

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A comparison of the efficacy of twin block appliance compared with other functional appliances in class II malocclusion patients: A systematic review

Farshad Rahimi, Masoud Sadeghi, Hamid Reza Mozaffari

The main objective of therapy with twin block (TB) appliance is to induce supplementary lengthening of the mandible by stimulating increased growth at the condylar cartilage. Herein, the study evaluated the efficacy of TB appliance compared with other functional appliances in class II malocclusion patients. Three databases including PubMed, Scopus, and Web of Science were searched until October 2017. The studies were published from 1992 to 2017.Out of 398 studies searched, 25 studies were included and analyzed for the systematic review. The average treatment/observation time was from 5.81 to 16.20 months. The skeletal and soft-tissue variables were compared in TB group with Anderson, Monoblock, Bass, TB + Headger, Herbst, Mini-block, Bionator, Dynamax, Activator, Extra oral maxillary splint, Mandibular protraction appliance, Forsus fatigue resistance device, Bite-Jumping, Xbow, Activator-headgear, and Eruption guidance appliances. Despite two important limitations, the systematic review showed that class II correction in TB appliance therapy was more due to skeletal changes compared with most other appliances. The most ability of TB appliance was on mandibular changes. Also, TB could be suitable treatment in patients with class II malocclusion and therefore using TB appliance in early orthodontic treatment is recommended in these patients.

The Efficacy of Combination of Pembrolizumab plus Chemotherapy in Locally Advanced Squamous Cell Carcinoma of Mandible: A Case Report

Mehrdad Payandeh, Edris Sadeghi, Masoud Sadeghi, Mehrnoush Aeinfar

Pembrolizumab as a humanized monoclonal antibody blocks the interaction between programmed death ligand 1(PD-1) and its ligands that has been used for head and neck squamous cell carcinomas (HNSCCs). This study aimed to evaluate the efficacy of combination therapy of pembrolizumab plus chemotherapy in the treatment of locally advanced HNSCC patient. A 55-year-old male referred to the Oncology Clinic. The histopathological report revealed moderately differentiated SCC of the mandible. Magnetic resonance imaging (MRI) of the neck showed abnormality enhanced nodular mass located in the left submandibular space. He received three courses of docetaxel, carboplatin and 5-fluorouracil (TCF) plus Erbitux chemotherapy regimen after that he received radiation therapy plus Xeloda. After two months, mandibular mass re-growth and this time checked PD-L1 marker was positive. He treated with previously chemotherapy protocol combined with pembrolizumab 200 mg every two weeks. After three months, lesions grossly resolved and treatment continued with pembrolizumab 200 mg and Erbitux 400 mg every two weeks for three months. Immunotherapy with pembrolizumab plus chemotherapy after radiotherapy had a good effect on locally advanced SCC of the mandible. Therefore, we can suggest using combination therapy after radiotherapy as a new treatment in the patients with locally advanced HNSCC patients.

Phenotypic and Molecular Characterization of Haemolysins in relation to Antibiotic Resistance Profile among Uropathogenic *Escherichia coli* (UPEC)

Sabitha Baby, Vimal Kumar Karnaker, Rishiyur Krishnaswamy Geetha

This study was conducted to detect the prevalence of haemolysis, its *hly* virulence genes and the antimicrobial resistance profile of *Escherichia coli* strains implicated in Urinary tract infections (UPEC) in Palakkad, India. From 280 urine samples 200 *E. coli* strains were isolated and identified. The antimicrobial resistances of *E. coli* isolates were characterized using Disk Diffusion method. Haemolysis was checked using 5% sheep Blood agar and finally PCR was carried out for strains showing haemolysis using *hly* D primer. Antimicrobial susceptibility testing revealed, 90.5%, 52.0%, 47.5%, 19.0%, 38.5%, 24.7%, 36% and 30% resistance rate to ampicillin, cefuroxime, ciprofloaxacin, ceftazidime, co-trimoxazole, gentamicin, nalidixic-acid, norfloxacin and nitrofurantion respectively. Haemolysis in sheep blood agar was observed in 55 (27.5%) of the isolates. *hlyD* genes were seen among 10 UPEC strains. The data suggest a high prevalence of antibiotic resistance in UPEC strains.

Study of correlation between emotional intelligence and academic achievement among Iranian students in Zabol University of Medical Sciences, 2017

Mehdi Haghighi, Moin Khane Shir, Masoud Gholamzehi, Monireh Shamsai, Somayeh Bagheri

Academic life is one of the most important dimensions of life of individuals that has a great impact on other aspects of life. Among these, one of the basic problems of educational life of each country and educational system in each country, is the problem of academic failure and low level of academic performance of students and students in that country. Emotional intelligence has been considered as a new topic in the field of psychology. The results of this study showed that there is a reverse and significant relationship between emotional intelligence and age with academic achievement. We could not find any relationship between emotional intelligence and academic achievement with marital status in non-syllabus classes. There was also no statistical relationship between academic achievement and gender. : Based on the findings and considering that part of the emotional intelligence can be learned, it is suggested that, in academic settings, along with attention to intelligence and cognitive talents, the inclusion of the concept of emotional intelligence in the student's curriculum in the form of Educational sessions on social skills and life skills helped them to better cope with educational and social pressures and less academic failure.

The association between allergic rhinitis with migraine: A systematic review and meta-analysis study

Reza Fattahian, Masoud Sadeghi, Hamid Reza Mozaffari

Allergic rhinitis (AR) and migraine are two diseases with high rates in the population that can effect on quality of life. We aimed to assess the migraine frequency in patients with AR compared with controls in a meta-analysis study. Four databases including PubMed, Web of Science, Scopus, and Cochrane Library were searched up to January 2018. A random-effects meta-analysis was used by Review Manager 5.3 using odds ratio (OR) and 95% confidence intervals. Out of 310 studies found in data based, 5 studies were included and analyzed in meta-analysis study. The pooled OR repotting the prevalence of migraine in patients was compared with controls was 3.83 (65%CI: 2.40, 6.11; P<0.00001). The pooled OR reporting the prevalence of migraine with aura and without aura in patients compared with controls was 4.35 (65%CI: 3.34, 5.69; P<0.00001), and 3.54 (65%CI: 2.110, 5.94; P<0.00001), respectively. AR patients were at higher risk to develop the migraine compared with nAR subjects, suggesting that physicians need to pay more attention when complaints of the headache in the patients.

RESEARCH

Role of Cymene in the attenuation of fatty liver and UCP2 gene expression

Hamedeh Bagheri, Parichehreh Yaghmaei, Mohamadhosein Modaresi, Azadeh Ebrahim-Habibi, Marjan Sabbaghian

Cymene is an organic aromatic and monoterpenic compound that has anti-inflammatory and antioxidant properties. This study investigates the effect of Cymene on biochemical and histological parameters and UCP2 gene expression in nonalcoholic steatosis model induced in male wistar rats. 40 male wistar rats randomized to 5 groups: control (normal diet with standard rat chow) HCD (high cholesterol diet for 12 weeks), sham (high cholesterol diet for 12 weeks and then received normal diet and p-cymene vehicle (sunflower oil) for 4 weeks) and two experimental groups (HCD for 12 weeks and then received normal diet and either 15 mg/kg or 50 mg/kg Cymene for 4 weeks). In the HCD group and sham group: body weight, and serum levels of triglycerides, total-cholesterol, glucose, insulin, liver enzymes (ALT، AST، ALP), total-bilirubin, direct-bilirubin, and low-density lipoprotein cholesterol had significantly increased. The serum levels of high-density lipoprotein cholesterol, adiponectin, superoxide dismutase and catalase were decreased. Histologic analyse of liver section revealed hepatic fibrosis and steatosis. The UCP2 gene expression significantly increased. Cymene treatment at both dose specifically the 50mg/kg dose ameliorated these changes and levels of UCP2 mRNA down-regulated. Administration of Cymene improved the liver fibrose via decreased ucp2 expression.