

## **Combined Treatment of Rutin and Vitamin C Improves the Antioxidant Status in Streptozotocin-Induced Diabetic Rats**

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The aim of the present study is to determine if a combination of rutin (vitamin-P) and vitamin C has any advantage on antioxidant status in streptozotocin (STZ)-induced diabetes in rats. Oral administration on rutin ( $100 \text{ mg kg}^{-1}$ ), vitamin C ( $200 \text{ mg day}^{-1}$ ) and their combination ( $50$  and  $100 \text{ mg kg}^{-1}$ ) for 5 weeks on the levels of serum aspartate aminotransferase (AST), alanine aminotransferase (ALT), alkaline phosphatase (ALP), tumor necrosis factor alpha (TNF- $\alpha$ ), interleukin-6 (IL-6), glucose, insulin, Total Cholesterol (TC) and triglycerides (TG) in normal and STZ-induced diabetic rats were evaluated. Reduced glutathione (GSH), malondialdehyde (MDA) and superoxide dismutase (SOD) concentrations were estimated in liver. Histopathological changes were screened in liver. Body weight significantly ( $p < 0.001$ ) drops although liver and kidney weights were increased in diabetic rats. Hepatic enzymes (AST, ALT and ALP), cytokines (TNF- $\alpha$  and IL-6) and lipids (TC and TG) were significantly elevated in diabetic rats. Treatments with rutin and vitamin C significantly lowered the elevated values in diabetic rats while it found higher in combined treated group. Liver MDA increased, GSH and SOD levels decreased significantly ( $p < 0.001$ ) in diabetic rats. The treatment with rutin and vitamin C lowered MDA and increased the antioxidant levels to near control values. The results verify the presence of oxidative stress in diabetes and suggest beneficial effects of rutin and vitamin C combinations in combating the oxidative stress in this disease. (*J. Med. Sci.*, 9 (1): 1-9; *doi*: 10.3923/jms.2009.1.9)

## **Bispectral Index Monitoring Tailors Clinical Anesthetic Delivery and Reduces Anesthetic Drug Consumption**

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This study was designed to investigate whether BIS monitoring improves clinical anesthetic delivery and reduces anesthetic drug consumption in adult patients undergoing moderate surgical procedures under general anesthesia, when compared to standard clinical practice. Sixty patients were randomly assigned into two groups of 30 patients each: BIS-guided group (BIS-g) and BIS-blinded group (BIS-b). In BIS-g group sevoflurane and fentanyl were adjusted to maintain a BIS index of 50-60 during procedure and 55-70 towards end of procedure, while in the BIS-b group, the monitor display was customized to make BIS values invisible

to anesthesiologist and sevoflurane and fentanyl were adjusted according to standard clinical practice and such that provides early recovery. BIS-guided anesthesia reduced total sevoflurane usage by 32% than BIS-blinded anesthesia, which consequently reduced cost by 32%. Also times to orientation, to arrival at and to discharge from PACU were shorter in BIS-g group. Results imply that BIS-guided anesthesia might improve recovery profile as it tailors clinical anesthetic delivery and reduces sevoflurane consumption. (*J. Med. Sci.*, 9 (1): 10-16; **doi:** 10.3923/jms.2009.10.16)

### **The Effect of Weight Reduction Diet on C-Reactive Protein Level in Adult-Obese Subjects**

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C-reactive protein (CRP) is an acute-phase protein, which has been shown to be a strong independent predictor of cardiovascular diseases. Adipose tissue is one of the production sites of proinflammatory cytokines that have a role in regulating CRP levels. Obesity, particularly central obesity, has been associated with many health risks, including cardiovascular disease. There is limited data in the literature investigating the effect of weight-reduction diet (WRD) on CRP level in obese subjects. To study the effect WRD on plasma high sensitivity CRP (hs-CRP) level in obese subjects was examined in Riyadh Armed Forces Hospital, Riyadh, Kingdom of Saudi Arabia. Fifty three subjects with body mass index (BMI)  $\geq 30 \text{ kg m}^{-2}$  were included in the study. They were placed on energy-restricted diet for 12 weeks. Diet history and food-frequency questionnaire were filled before starting the WRD. Anthropometric measurements [weight, height, BMI and waist circumference (WC)] were taken and blood samples were collected to analyze CRP, total cholesterol, triglyceride, high-density lipoprotein-cholesterol and low-density lipoprotein-cholesterol before and at the end of the WRD. There is a significant reduction in BMI and WC after applying the weight reduction-diet program. In addition, HS-CRP level, triglyceride and total cholesterol were significantly reduced after applying the WRD. A significant positive correlation was noted between plasma HS-CRP level and measures of adiposity, such as BMI and WC. HS-CRP level is influenced by WC and by BMI in healthy-obese adults and that the WRD decreases plasma level of HS-CRP. (*J. Med. Sci.*, 9 (1): 17-23; **doi:** 10.3923/jms.2009.17.23)

## **Efficacy of Preoperative Oral Gabapentin in Attenuation of Neuro-Endocrine Response to Laryngoscopy and Endotracheal Intubation**

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This study was designed to study the efficacy of oral gabapentin premedication in attenuating the cardiovascular responses and catecholamine release to laryngoscopy and endotracheal intubation. Fifty normotensive ASA I patients undergoing elective surgery under general anaesthesia were randomly allocated to one of two equal groups (n = 25 each). Patients were assigned to receive either oral 1200 mg gabapentin (GABA group) or placebo (control group) 2 h before surgery. Anaesthesia was induced with IV propofol 2 mg kg<sup>-1</sup> and vecuronium 0.08 mg kg<sup>-1</sup> to facilitate tracheal intubation and maintained with 2% sevofluran and 50% nitrous oxide in oxygen. Laryngoscopy lasting 15 sec was attempted 3 min after administration of propofol and vecuronium. Mean arterial pressure and heart rate were recorded before and after induction of anaesthesia as well as at 1, 2, 3, 4, 5 and 10 min following intubations. Plasma catecholamines were measured before and after induction and at 1 and 5 min after intubation. Patients receiving placebo exhibited significant increase in mean arterial pressure, heart rate and plasma concentrations of catecholamines associated with tracheal intubation compared to baseline. The increase of mean arterial pressure and heart rate was attenuated in patients treated with gabapentin. Gabapentin failed to suppress the increase in catecholamine concentrations in response to tracheal intubation. Preoperative oral gabapentin suppressed the hemodynamic response (MAP and HR) to endotracheal intubation and these effects were not caused by inhibition of the catecholamine response. (*J. Med. Sci., 9 (1): 24-29; doi: 10.3923/jms.2009.24.29*)

## **Vitrification of Small Volume of Normal Human Sperms: Use of Open Pulled Straw Carrier**

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The objective of this study was to evaluate whether cryopreservation of small volume of sample (sperm+cryoprotectant) was feasible using open pulled straw and also compared the outcomes of open pulled straw and conventional straw as carrier for normal human sperm cryopreservation . Semen samples were obtained

from 10 men undergoing evaluation for infertility after 3-4 days of abstinence. Washed normal sperm samples were divided into three aliquots as follows: (1) fresh; (2) cryopreserved in open pulled straw and (3) cryopreserved in conventional straw. In order to do cryopreservation of sperm in open pulled straw first washed normal sperm samples were mixed with equal volume of test yolk buffer and 12% v/v glycerol, later on 3-4  $\mu$ L from the prepared mixture was loaded in each straw by using syringe. The loaded straws were plunged into liquid nitrogen and after 3 months recovered and thawed. Each straw was emptied of their fluid content in drop of 10  $\mu$ L medium covered with mineral oil. Motility of vitrified-thawing sperm was assessed by using inverted microscope. The results show as percent progress motility $\pm$ SD and the  $p < 0.05$  were suggested as significant. The percent progress motility $\pm$ SD of fresh sperm was evaluated as follow in study groups for fresh group was evaluated as  $59.2 \pm 7.6$ ; the value of  $37.5 \pm 8.2$  in cryopreserved sperm in open pulled straws group and value of  $26.3 \pm 6.4$  for conventional straw group, respectively. Statistical analysis shows that the difference between cryopreserved sperm in open pulled straws and conventional straw groups is significant ( $p = 0.001$ ). Because of the significant difference between cryopreserved sperm in open pulled straws and conventional straw groups, we concluded that vitrification of human sperm is feasible using open pulled straw. The results of this study shows that open pulled straw could be a good carrier for cryopreservation of small volume of normal human sperm. (*J. Med. Sci.*, 9 (1): 30-35; doi: 10.3923/jms.2009.30.35)

## **A Survey on Consumer Need and Opinion about the Community Pharmacists in Riyadh, Saudi Arabia**

M.I. Al-Hassan

This is a questionnaire based survey designed to determine the current status of customers' views on community pharmacies in Riyadh and focus strategies to expand and promote community pharmacy services in Saudi Arabia. Personal interview survey of 187 consumers, in Riyadh city, was obtained over a period of six weeks (23rd December 2007 to 8th February 2008). The interview questionnaire was designed to ask choice of pharmacy to seek advice, the frequency and the range of health areas for which they seek advice, attitude and views of clients to six items towards pharmacists and their assistants. The results obtained revealed the following: (i) to visit a particular pharmacy, respondents claimed it was convenient due to a short distance, convenient working hours, knowledge of staff and excellent services, (ii) majority of the respondents asked

for advice about Over-The-Counter (OTC) medications and prescription advice, while others visited for minor health problems. Willingness to provide advice, quicker services, competence and knowledge about medicines, were revealed to be desired qualities of pharmacists. On attitudes of the customers to a list of six items, majority showed that pharmacists are qualified as health professionals. Some strongly agree that pharmacists are not qualified to discuss with customers their health complaints. It is difficult to conclude the reasons that inhibit clients from seeking the advice of pharmacist. Possibly the lack of privacy and the supermarket style of marketing might influence in deterring the advice seekers. Thus the problem of environment for privacy must be addressed. (*J. Med. Sci.*, 9 (1): 36-40; **doi:** 10.3923/jms.2009.36.40)

### **Expression of E-Cadherin in Squamous Cell Carcinoma of the Larynx and its Correlation with Clinicopathological Features**

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The purpose of this study was to define the frequency of E-cadherin underexpression and its correlation with clinicopathological behaviors of the tumor in Iranian patients with laryngeal carcinoma. In 95 paraffin-embedded specimens of patients with squamous cell carcinoma of larynx at our hospital from 2002 to 2007, the expression of E-cadherin was examined by immunohistochemical staining. To evaluate the correlation between E-cadherin expression and clinicopathological behavior, Chi-squared or Fisher exact test was used. Analysis of these samples showed reduced E-cadherin expression (Staining of less than 50% of the cells) in 79 (83.2%) patients. Reduced E-cadherin expression had correlation with tumor differentiation ( $p = 0.03$ ). Also it had significant association with node involvement ( $p = 0.02$ ) and tumor recurrence ( $p = 0.01$ ). Determination of E-Cadherin expression might be useful in prognostic assessment. Whoever, to use it in clinical practice more studies are necessary. (*J. Med. Sci.*, 9 (1): 41-45; **doi:** 10.3923/jms.2009.41.45)

### **Tuberculin Skin Test Size after Prolong Time of Bacille Calmette Guérin Vaccination**

Ghorbani Gholamali and Aslani Jafar

The aim of this study was to evaluate the effect of Bacille Calmette Guérin vaccination after long time on tuberculin skin test in adults, because the long-term

effect of BCG vaccination is not known in Iran. We carried out a cross-sectional study on 464 on-duty soldiers in a systematic random selection in 2008. Purified protein derivative was injected intradermally with quantity 0.1 mL into the forearm and induration size of skin test was measured after 48-72 h. Induration more than 10 mm was taken as positive reaction. In here all soldiers were man with mean age of  $23.28 \pm 1$  years. All of them had Bacille Calmette Guérin scar in their arms and about 31 (6.7%) had positive tuberculin skin test and 8 (1.7%) of them had positive test size 20-30 mm. One subject had sub-clinical pulmonary tuberculosis. We conclude, that adult with the history of Bacille Calmette Guérin vaccination in their neonatal age that had positive tuberculin skin test should be considered as new tuberculosis infection. (*J. Med. Sci.*, 9 (1): 46-50; **doi:** 10.3923/jms.2009.46.50)

### **Meningococcal Meningitis Control in Iran: Five Year Comparative Study 2000-2004**

A. Mehrabi Tavana and R.A. Ataee

The aim of this study was to compare the incidence and death rate of meningococcal meningitis among military and non military population in Iran from 2000 to 2004. All patients with clinical sign and symptoms of meningitis and para clinical findings were entered to the study from 21st March 2000 to 21st March 2004. Meningococcal meningitis was diagnosed on the basis isolation of the *Neisseria meningitidis* in culture. CSF samples were provided at admission before commencing antibiotic therapy. Based on laboratory standard procedure all isolates were identified and final analysis revealed total number of approved meningococcal meningitides. In this comparative study meningococcal meningitides were 65 and 1370 cases in military and non-military patients, respectively. However, the total recorded cases of death were 7 in military group and 173 in non-military population. The incidence rate were 1.22 and 0.6 in 100000 in non-military and military population, respectively. The incidence of meningococcal meningitis among military personnel shows a sharp decline due to compulsory vaccination at least 2 weeks before arriving to military training camps; nonetheless, sporadic cases of the disease do occur perhaps as a result of complement deficiency in patients themselves or very late vaccination (around 2-3 days before arriving to military training camps). The findings of this study, consistent time of vaccination could be effective factor in order to prevent the infection. (*J. Med. Sci.*, 9 (1): 51-54; **doi:** 10.3923/jms.2009.51.54)

## **The Effect of Premedication Oral Naproxen on Post Operative Pain in Diagnostic Laparoscopy**

A.D. Shahraki, J.H. Akhtar, R. Talakob and E. Moazam

The goal of this study is to investigate the effect of preoperative Naproxen on prevention of postoperative pain and analgesic consumption in females undergoing diagnostic laparoscopy. This is a randomized, double-blinded clinical trial. One hundred females (ASA I and II, aged 16-45 years old) scheduled for elective diagnostic laparoscopy under general anesthesia were selected by using a computer generated random list patients and were allocated into two equal groups. The patients received either 1 g Naproxen orally or a placebo tablet 90 min prior to anesthesia. Pain scores were significantly lower in Naproxen group compared with the placebo group, during the first 6 h postoperatively. There was also a significant difference between two groups in the analgesic consumption during 24 h after operation ( $p = 0.004$ ). Preoperative oral Naproxen in diagnostic laparoscopy is effective for post operative pain relief and reduction of analgesic consumption. (*J. Med. Sci.*, 9 (1): 55-58; **doi**: 10.3923/jms.2009.55.58)

## **Abdominal and Total Body Adiposity Markers in Asthmatic Patients**

Mohamed Galal Morsi

This study aimed to evaluate the total and abdominal adiposity markers in asthmatic patients and their relation to asthma severity and PFTs. Seventy non-smoking adult asthmatics, aged  $38.6 \pm 11.8$ , (42.9% male), were subjected to history, clinical and radiological examination, measurement of weight, BMI, waist circumference, waist/hip ratio, abdominal height and PFTs. Patients were classified by asthma severity into: 11 intermittent, 15 mild, 26 moderate and 18 severe asthmatics and categorized by BMI into: 25 normal weights, 16 overweight, 22 obese and 7 morbidly obese patients. There was significant increase in total and abdominal adiposity markers with direct linear correlations with increasing asthma severity. Obesity category showed significant inverse correlations with FVC%, FEV1%, TLC% and FRC% and direct linear correlations with DLCO% and DLCO/AV. The interactions between the adiposity markers and PFTs were analyzed using general linear model with MANOVA and revealed more significant associations for the abdominal than total adiposity markers with most PFTs. The results of the study suggest that adiposity markers increase with increasing asthma severity. The abdominal adiposity markers are

more effective predictors of obesity on PFTs than total adiposity markers. (*J. Med. Sci.*, 9 (2): 59-69; **doi:** 10.3923/jms.2009.59.69)

### **Possible Involvement of Dehydroepiandrosterone and Cyproterone Acetate Central Role in Young and Aged Male Rats Fed on High Fat Diet**

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The present study aims to investigate the effects of dehydroepiandrosterone (DHEA) and Cyproterone Acetate (CA) on the levels of monoamine neurotransmitters in the brain as well as on the levels of serum DHEA, testosterone and corticosterone in young and aged rats fed on high fat diet. These neurotransmitters and hormones were chosen because of their association with obesity, mood and cognitive functions. Young and aged male rats were divided into two normal basal diet and high fat diet fed groups. Each group was further divided into control, DHEA, CA and DHEA+CA. Treatments were given for either 2 or 8 consecutive weeks. DHEA treatment induced a significant reduction in the cortical contents of norepinephrine, epinephrine, dopamine and serotonin in aged rats, whereas young rats fed on a normal diet exhibited a significant elevation in serotonin level. Young rats fed on high fat diet exhibited a significant elevation of both norepinephrine and epinephrine. CA treatment induced an increase in cortical monoamine levels of young and aged rats fed on both types of diet. All treatments increased hypothalamic serotonin contents. DHEA treatment increased serum DHEA, corticosterone and testosterone levels, while CA treatment decreased corticosterone and testosterone levels without significance on the DHEA level in all treated groups. Treatment with DHEA+CA restored testosterone to its normal value. In general, there is a positive correlation between serum DHEA level and hypothalamic neurotransmitters and the levels of studied serum hormones. On the other hand, there was a negative correlation between serum DHEA level and cortical neurotransmitters. It is possible that DHEA induces its hypolipidemic action through stimulating the hypothalamic pituitary adrenal axis resulting in elevating corticosterone level with its known lipolytic action. The young rats fed on high fat diet were the most affected group as the diet caused inverse results in correlation between serum DHEA level and hypothalamic monoamine neurotransmitters and these results might have led to discourage the obesity, mood and cognitive functions. Also, treatment with the two drugs together would maintain normal levels of DHEA, corticosterone and testosterone. (*J. Med. Sci.*, 9 (2): 70-80; **doi:** 10.3923/jms.2009.70.80)



## **Assessment of Reference Values for Selected Plasma Nutrients of Healthy University Students in Oman**

Saud Iqbal, Majeed R. Al-Ani, Jamilah A. Al-Zadjali, Zahra Z. Al-Abri and Buthaina S. Al-Belushi

The objective of this study was to assess the reference intervals of specific nutrients in blood of Omani university students. Blood samples were collected from 302 randomly selected apparently healthy students (144 males and 158 females) aged 19-24 years. Plasma concentrations of total protein, albumin, calcium, phosphate, uric acid, glucose, triglycerides, total cholesterol and HDL-cholesterol were measured by Beckman Synchron diagnostic analyzer. Plasma globulin, A/G ratio and LDL and VLDL-cholesterol were calculated by standard methods. Reference intervals were estimated by determining the 5th-95th percentile of the population by truncating values for bottom and top 5% of the data. While there were no differences between mean plasma levels of male and female students for glucose, phosphate and total cholesterol, significant differences ( $p < 0.001$ ) were found between male and female subjects for total protein, albumin, calcium, uric acid, triacylglycerol, HDL, LDL and VLDL-cholesterol. However, the reference values were within the published reference ranges for both sexes. The present results revealed a good agreement with the published data from other laboratories for all the parameters analyzed. The data presented here may serve as Gulf population-based reference intervals for the selected analytes in the GCC region. (*J. Med. Sci.*, 9 (2): 81-86; doi: 10.3923/jms.2009.81.86)

## **Attenuation of Experimental Gastric Ulceration by Sulfadoxine-pyrimethamine in Albino Rats**

S.B. Olaleye and K.O. Ajeigbe

The aim of the present study was to investigate the effect of the therapeutic dose of sulfadoxine-pyrimethamine on experimentally induced gastric ulceration in albino rats. Rats were given sulfadoxine-pyrimethamine ( $22.5 \text{ mg kg}^{-1}$ ) intramuscularly for 24 h after formation of ulcers induced by indomethacin or by acidified ethanol. Upon sacrifice, colorimetric assays were applied to determine the concentration of protein and mucus, activities of catalase and superoxide dismutase and lipid peroxidation in homogenized gastric mucosal samples. Sulfadoxine-pyrimethamine was observed to alleviate gastric lesions produced either by indomethacin or

acidified ethanol. Also, the drug seemed to attenuate the indomethacin or acidified ethanol induced effects on gastric juice volume, pH and acid output. On the other hand, thiobarbituric acid reactants (TBAR) was decreased and superoxide dismutase (SOD) and catalase (CAT) activities increased in the gastric mucosal samples, though, however, protein and mucus concentrations remained statistically unchanged. The use of sulfadoxine-pyrimethamine may be safe on the integrity of the stomach, especially in existing gastric ulcers. It ameliorates oxidative stress in the gastric mucosa caused by indomethacin and acidified ethanol. (*J. Med. Sci.*, 9 (2): 87-92; *doi*: 10.3923/jms.2009.87.92)

### **Omega-3 Induced Change in Clinical Parameters of Rheumatoid Arthritis**

S.A. Hosseini, F. Rahim and K. Mola

The aim of this study was showing the suppressive effect of fish oil supplementation on clinical symptom in rheumatoid arthritis. Forty two patients with Rheumatoid Arthritis (RA) entered a trial to determine the clinical and biochemical effects of dietary supplementation with fractionated fish oil fatty acids. A randomized study design with 4 and 8 week treatment periods were used. Treatment with non-steroidal anti-inflammatory drugs and with disease modifying drugs was continued throughout the study. There were significant improvement of RF ( $p = 0.009$ ), ESR ( $p = 0.003$ ) and serum CRP ( $p = 0.002$ ) after 8 weeks fish oil supplement, but after 4 weeks the RF ( $p = 0.004$ ) only showed significant improvement. This study shows that dietary fish oil supplementation is effective in suppressing clinical symptoms of rheumatoid arthritis. (*J. Med. Sci.*, 9 (2): 93-97; *doi*: 10.3923/jms.2009.93.97)

### **Juvenile Idiopathic Arthritis, the Egyptian Experience**

S. Salah, A. Hamshary, H. Lotfy and H. Abdel Rahman

To study the characteristics of Juvenile Rheumatoid Arthritis (JRA) in the Egyptian population, comparing it to other populations. We retrospectively studied the charts of 196 Egyptian children with Juvenile Rheumatoid Arthritis (JRA), who fulfilled the ILAR (International League Association for Rheumatology) classification of JIA and were followed up between 1990 and 2006 in the Children's Hospital, Cairo University. Their clinical features and laboratory data were collected and statistically analyzed. The male to female ratio was 1:1.09 and

the mean age of disease onset was  $6.257 \pm 3.41$  years. The mode of onset was oligoarticular in 41.3%, polyarticular in 34.7% and systemic in 24%. Chronic uveitis was found in 5.6% of the children. Antinuclear antibody (ANA) status was determined in all patients and was positive in 21.7%. Amyloidosis was present in 1.76% of patients. The spectrum of clinical presentation of the disease in Egyptian children shows both some similarities and some differences from other populations, with oligo and polyarticular onset subtypes being commonest. The cause of these differences may be due, in part, to ethnic and environmental factors. Referral bias may be another cause. (*J. Med. Sci.*, 9 (2): 98-102; *doi*: 10.3923/jms.2009.98.102)

### **Evaluation of ESBL Positivity Rates for *Escherichia coli* and *Klebsiella pneumoniae* Strains with the Sensititre ESBL Antimicrobial Susceptibility Plates in a Public Hospital, Turkey**

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Present study has been performed to evaluate Extended Spectrum Beta-Lactamase (ESBL) positivity rates and antimicrobial susceptibility patterns for *Escherichia coli* and *Klebsiella pneumoniae* strains in order to make some regulations on antimicrobial policy in our medical institute. We retrospectively evaluated 297 strains (204 *E. coli* strains and 93 *Klebsiella pneumoniae*) isolated from inpatient clinics and internal care units of Canakkale State Hospital between November 2007-October 2008 performed by Clinical Microbiology Laboratory Unit. ESBL positivity was found 31.86% (65/204) of *E. coli* strains and 33.33% (31/93) of *Klebsiella pneumoniae* strains. Resistance of *E. coli* strains to amoxicillin clavulanate (AMC), ciprofloxacin (CIP) and trimethoprim-sulfamethoxazole (SXT) was found common (33.8, 33.8 and 36.8%, respectively) on the other hand *K. pneumoniae* strains more resistant to AMC (43%) but less resistant to CIP and SXT (22.6 and 31.2%). It is also found that hospitalization in intensive care units is a risk factor for elevated ESBL production rates. (*J. Med. Sci.*, 9 (2): 103-107; *doi*: 10.3923/jms.2009.103.107)

### **Anatomical Variation of Branchial Clefts: A Retrospective Study**

N. Saki, F. Rahim, S. Nickakhlagh, H. Dehdashti and G. Saki

This retrospective study was conducted to define the relationship of between existences of the bronchial cysts and fistulas with gender of patients as well as

review of literature. Data were collected from the records of total 149 patient files (63 male and 86 female) with including history of having branchial cleft anomalies (cysts and fistulas), that admitted in ENT Department of Imam Khomeini and Apadana Private Hospitals between 1998 and 2008. The analyzed characteristics include gender of patient, anatomical location and type the anomaly. The most frequent type of branchial cleft anomalies in cyst and fistula disorders was second branchial with the values of 85.71% in 21 male patients, 37.5% in total 48 patients; 76.19% in 42 male patients, 31.68% in total 101 patients and values of 62.97% in 27 patients, 35.41% in total 48 cases; 76.27% in 59 female patients, 44.55% in total 101 cases, respectively. There was no significant difference in frequency ( $p>0.05$ ) between male and female patients as well as the locations of anomalies in neck. The overall frequency of the second branchial cleft in different types of disorders such as cysts and fistulas in Southwest region of Iran is the highest, which was similar to international findings. In summary, anatomical location and type of congenital neck masses help narrow the differential diagnosis. (*J. Med. Sci.*, 9 (2): 108-112; doi: 10.3923/jms.2009.108.112)

### **Study of Alleviating and Exacerbating Movement in Nurses with non Specific Chronic Low Back Pain: The Sahrman's Approach**

S. Shabnam, S.Y.M. Jaafar and R. Fakher

This research was conducted to study of alleviating and exacerbating movement pattern and postures in nurses with non specific chronic low back pain. Study's population was 53 persons of woman nurses with non specific chronic low back pain. Assessment was done in 2 parts. The first part was consisting of questions about individual characteristics and another part was physical assessment based on Sahrman's approach. Results show that standing and walking were exacerbating symptoms more than another position and supine lying and sitting were alleviating symptoms more than another position. In non-specific chronic low back pain we don't observe special pathology or disease. But repetitive movements and sustained postures affect musculoskeletal and neural tissue and induced musculoskeletal pain. Human movements are done in movement patterns. So, if we can identify and correct the positions that changed movement patterns we can restore optimal musculoskeletal health. (*J. Med. Sci.*, 9 (2): 113-117; doi: 10.3923/jms.2009.113.117)

## **Posterior Pillar Flap Palatoplasty: A New Surgical Technique for Treatment of Snoring: Initial Experience**

Ahmed Mohamed Mohee Eldeen Al Bassiouny

In this study, a new surgical technique was designed, with preservation of the palatal dynamics, aiming to nearly abolish the postoperative pain and eliminate snoring recurrence. Patients were selected from Dar Al Shifa Hospital, Kuwait, complaining of snoring and fitting certain preoperative criteria. Thirty two patients were treated with this technique between April 2006 and March 2008, with minimum follow up period of six months. Snoring cured in 22 patients (69%), improved in 7 patients (22%) and failure in 3 (9%) cases. No recurrence of snoring was observed during the 6 months of follow up period. Postoperative pain reduced in both duration and severity. This new surgical technique may be an effective method in reducing postoperative pain and elimination of the possibility of palatal fibrosis and retraction, both medial and posterior and so reducing the incidence of postoperative recurrence of snoring owing to absence of raw surface at the free edge of the soft palate. (*J. Med. Sci., 9 (3): 118-125; doi: 10.3923/jms.2009.118.125*)

## **Arrhythmias as Early Post-operative Complications of Cardiac Surgery in Children at Cairo University**

Yasser H. Kamel and M. Sewielam

Arrhythmias are a recognized complication of cardiac operations in pediatrics. The aim of the study was to assess the incidence and type of arrhythmias in early post pediatric cardiac surgery patients and to analyze possible risk factors. This is a retrospective study conducted on patients who were followed in post-operative clinic at Cairo University Children's Hospital during the period from September 2007 till January 2009. The following data were collected for each patient; demographic data, pre-operative arrhythmia present, surgical data and post-operative intensive care course. During the study period, 110 patients were enrolled; including 15/110 who had palliative surgery, while 95 out of 110 had corrective surgery. Thirty patients (27.2%) developed post-operative arrhythmias and most of them on day one (60%). Of them 20/30 (66.6%) were cyanotic, while 10/30 (33.3%) were acyanotic. Two (6.6%) had palliative surgery, while 28/30 (93.3%) had corrective surgery. The most common acute post-operative arrhythmias were junctional ectopic tachycardia and Supraventricular tachycardia (33.3%) for each. Out of 95 patients who had corrective surgery, 28 (29.4%)

developed arrhythmias most of them (96.4%) within first 48 h post-operatively. they were early after repair of tetralogy of Fallot (18.1%) and (12.1%), respectively. Risk factors for arrhythmias in corrective surgery; such as young age, lower body weight and cyanosis ( $p<0.05$ ), longer cardiopulmonary bypass time ( $p<0.05$ ), redooperation ( $p<0.01$ ), post-operative acidosis, high inotropic support, hypotension and mechanical ventilation ( $p<0.01$ ), patient with moderate operative risk, post-operative higher doses of inotropic support, longer ventilation time were statistically significance with  $p<0.001$ . Younger age, lower body weight, cyanosis, longer cardiopulmonary bypass time, Re-do procedure, acidosis, mechanical ventilation and high inotropic support are the risk factors for post-operative arrhythmias. Junctional ectopic tachycardia and supraventricular tachycardia were the most common post-operative arrhythmias. (*J. Med. Sci., 9 (3): 126-132; doi: 10.3923/jms.2009.126.132*)

### **Urine Level of Interleukin-8 as a Non-Invasive Marker for Diagnosis of Vesicoureteral Reflux in Children**

A. El Shenoufy, M. Issa, M. Abd Elfatah and N. Elabd

The objective of this study is to assess the urinary levels of IL-8 as a noninvasive marker of VUR in children after resolution of acute UTI. The study was conducted over a 6 month period on 45 children, aged 1-5 years. They were suffering from symptoms of UTI and attending the Pediatric Outpatient and Urology Clinic at Pediatric Specialized Hospital. These children underwent renal ultrasonography (RUS) and voiding cystourethrography (VCUG). The patients were subdivided into two groups: group A ( $n = 13$ ), children with proven VUR and group B ( $n = 32$ ), children with negative investigation for VUR. Thirty-nine healthy children with no history of UTI or a known underlying condition that might impair renal function were recruited as control group (group C). Urinary levels of IL-8 were evaluated in all cases using a sandwich enzyme-linked immunosorbant assay for the quantitative measurement of urinary IL-8. To avoid dilution effects, urinary levels of IL-8 were expressed as the ratio of cytokine-to-urinary creatinine. The mean urinary IL-8 levels standardized to the urinary creatinine levels were significantly higher in group A than in group B and C ( $p\text{-value}<0.001$ ). No significant differences were observed between Group B and C ( $p\text{-value}>0.05$ ). A positive correlation was noted between the urinary IL-8/creatinine concentrations and reflux grade ( $r = 0.338$ ,  $p\text{-value}>0.05$ ). While, no statistical significant difference was observed between the level of urinary IL-8/creatinine and age and sex of the patients and RUS abnormalities. Optimum limit of urinary IL-8/creatinine to establish presumptive diagnosis of VUR obtained by ROC analysis

was found to be  $10 \text{ pg } \mu\text{mol}^{-1}$ , with sensitivity and specificity of 84.6 and 64.8%, respectively. This study demonstrates that urinary IL-8 levels are higher in children with VUR even in the absence of UTI and that it may be considered as an effective noninvasive marker for screening of VUR with high sensitivity and adequate specificity. (*J. Med. Sci.*, 9 (3): 133-139; doi: 10.3923/jms.2009.133.139)

### **Fracture Strength in Teeth Restored with Three Dowel Core Systems Before and after Load Cycling: An *in vitro* Study**

N. Asadzadeh, J. Ghanbarzadeh and A.R. Mohajeri

The aim of this *in vitro* study was to compare the fracture resistance and failure mode of endodontically treated teeth restored with three different post and core systems before and after load cycling. In this interventional study, forty-two maxillary incisors selected. After root treatment, they were randomly divided into six groups of 7. In group 1 and 2, casting post and core was used. In group 3 and 4, Dentatus-posts and composite cores were used and in group 5 and 6, FRC posts were used. Cyclic loading was performed in group 2, 4 and 6. There after compressive load was applied at a  $45^\circ$  angle to the long axis of the tooth at a crosshead speed of  $1 \text{ mm min}^{-1}$  until the fracture occurred. One-way ANOVA and Tukey-Karner test were used to determine the difference of the failure loads between the groups. The load cycling had no statistically significant effect on fracture strength among groups. Teeth restored with cast posts-and-cores exhibited significantly higher resistance to fracture than para post group ( $p < 0.05$ ). In cast post and core group and para post group, fracture mainly occurred in the root and it was unrestorable but in FRC post and composite group, it mainly occurred in the composite cores. Fracture resistance of teeth restored with cast post and core, dentatus post and FRC pose were not affected by load cycling. The created fractures in casting post and core and dentatus post were undesirable and in root, which made the restoration of the teeth impossible. (*J. Med. Sci.*, 9 (3): 140-145; doi: 10.3923/jms.2009.140.145)

### **Frequency of Cytotoxin Associated Gene A(+) *Helicobacter pylori* in Peptic Ulcer Disease: Difference Between Gastric and Duodenal Ulcer Disease**

Y. Rasmi, M. Sadreddini, M. Jamali, T. Peirouvi and F. Khosravifar

In this study, we evaluated the frequency of cytotoxin associated gene A (*cagA*) positive strains of *Helicobacter pylori* in patients with PUD-either Gastric Ulcer

(GU) or Duodenal Ulcer (DU) in Iran. Seventy two patients (46 males and 26 females), who underwent endoscopy and diagnosed with PUD were considered for inclusion into present study. The presence of plasma IgG antibodies to *H. pylori* and *cagA* were determined by ELISA. Thirty nine patients diagnosed with DU were available for analysis of which 32 of them were positive for *H. pylori* antibodies (32/39: 82%). Twenty cases from infected DU samples were positive for *cagA* antibodies (20/32: 62.5%). Thirty three patients diagnosed with GU were available for analysis of which 19 were positive for *H. pylori* antibodies (19/33: 57.7%). Twelve cases from infected GU samples were positive for *cagA* antibodies (12/19: 63.2%). These results showed that duodenal ulcer has strong association with *H. pylori* infection than gastric ulcer (82 vs. 57.7%), but in the case of *cagA* positive strains of *H. pylori*, we found same association (62.5 vs. 63.2%, respectively). *H. pylori* and *cagA* (+) *H. pylori* prevalence in the GU and DU groups was found to be independent of age, sex and BMI ( $p>0.05$ ). (*J. Med. Sci.*, 9 (3): 146-150; doi: 10.3923/jms.2009.146.150)

### **Study of Possible Genetic Factors Determining the Clinical Picture of Thalassemia Intermedia**

N. Kaddah, S. Rizk, A.M. Kaddah, K. Salama and H. Lotfy

The aim of this study was to evaluate some of the genetic factors involved in ameliorating the severity of  $\beta$  thalassemia among a group of Egyptian children with thalassemia intermedia. The study included 22 patients who were diagnosed on clinical basis as  $\beta$  thalassemia intermedia. Their age ranged between 3 and 21 years. They were screened for the most common seven genetic mutations of  $\beta$ -thalassemia evaluated in Egyptian studies: IVS1-6, IVS1-110, IVS2-1, IVS2-745, IVS1-1, -87 and codon 39, also screened for -158 Xmn polymorphism and co-inheritance of  $\alpha$ -gene deletions. Present results showed that, the frequency of IVS1-6 was found to be 22.7% and of IVS1-110 was 18.2%, while IVS2-1, IVS2-745, IVS1-1, -87 and codon 39 were undetected. The -158 Xmn polymorphism was detected in 2 out of 22 cases (9%) and co-inheritance of  $\alpha$ -thalassemia was 5 out of 22 cases (22.7%) mm. This study showed that, the ameliorating factors in  $\beta$ -thalassemia intermedia may include the inheritance of mild  $\beta$  thalassemia allele as IVS1-6, the presence of -158 Xmn polymorphisms or co-inheritance of  $\alpha$ -gene deletions. Identification of genetic pattern in thalassemia intermedia is essential for genetic counseling and prenatal diagnosis and also for the proper management of those patients. (*J. Med. Sci.*, 9 (3): 151-155; doi: 10.3923/jms.2009.151.155)



## **Evaluation of Fracture Resistance in Endodontically Treated Teeth Through Four Restorative Methods: An *in vitro* Study**

N. Asadzadeh, M. Seify and R. Heidarian

The purpose of this study is to compare the fracture strength of anterior teeth through four different methods. In this experimental study 24 central maxillary teeth were used. The crown of them was cut. They were divided into four groups. After preparing a post space, in the first group the FRC post with composite core used and then celluloid crown was used. In the second group, as the first one with this difference the crown was metal. In the third group the dentatus pin with composite core used and the crown was formed by celluloid. In the fourth group the way was as the third one but a metal crown issued. The examples mounted in an acrylic blocks and were pressed in Instron machine, as well the press power was calculated. The results were analyzed with one-way variance and Duncan test. There was no significant relationship between the break points of the four groups ( $p = 0.44$ ). The most amount of fracture load was for the first group and the lowest place was for the second group. Crown doesn't provide more strength for tooth in this condition. (*J. Med. Sci.*, 9 (3): 156-160; doi: 10.3923/jms.2009.156.160)

## **Hepatoprotective Action of Zerumbone Against Paracetamol Induced Hepatotoxicity**

S. Fakurazi, I. Hairuszah, J. Mohd Lip, G. Shanthi, U. Nanthini, A.R. Shamima, H. Roslida and Y.H. Tan

This study is conducted to investigate the possible effect of zerumbone towards hepatoprotective activity against paracetamol intoxication. Male Sprague-Dawley rats were randomly divided into six groups consisted of 3-5 animals. Group I was administered with 0.2% zerumbone for 14 days prior to 3 g kg<sup>-1</sup> paracetamol administration. Group II was given paracetamol only and group III was given 200 mg kg<sup>-1</sup> of silymarin and paracetamol. Group IV was administered with zerumbone only and finally group V was treated with corn oil and 40% sucrose buffer as vehicle treated group. Animals were sacrificed at 4 and 24 h post treatment following diethyl ether. There was no significant changes in liver enzyme activities as well as histological observations at 4 h after paracetamol administration. Meanwhile, 24 h after paracetamol administration, the level of alanine aminotransferase (ALT), aspartate aminotransferase (AST) and

alkaline phosphatase (ALP) were found to be reduced in rats that were pretreated with zerumbone compared to group that was treated with paracetamol only. Correspondingly, there was no hepatocellular necrosis observed in rats that were pretreated with zerumbone. The results obtained may have suggested that zerumbone exert hepatoprotective activities against paracetamol induced hepatotoxicity. (*J. Med. Sci.*, 9 (3): 161-164; *doi: 10.3923/jms.2009.161.164*)

## **Inherent Resistance to Epidermal Growth Factor Receptor Antibodies in Refractory Metastatic Colorectal Cancer**

Khaled M. Galal, Khaled Zaghloul and Abdel Monem M. Mourad

Frequency of Epidermal Growth Factor Receptors (EGFR) tyrosine kinase mutations is very low in metastatic colorectal cancer. Mutations in other genes in EGFR pathway, such as PI3K, K-ras and B-raf are more frequent in colorectal cancer but their relationship with response to EGFR-targeted antibodies is less well studied. Thirty-five patients with metastatic colorectal cancer were randomized to receive cetuximab with or without oral sorafenib. Patients were stratified according to tumor K-ras status. Patients received cetuximab IV weekly for 4 week and oral sorafenib twice daily on days 1-28, with recycling every 4 weeks. Primary end point was response rate (partial and complete), while secondary end points were adverse effects, time to progression and overall survival. Wild K-ras cases constituted 64.7 and 61.1% of cetuximab (E) and cetuximab-sorafenib (EN) groups, respectively. Partial response was higher in (EN) that constituted 33.3% compared to 17.6% in cetuximab group ( $p = 0.44$ ). Multivariate analysis revealed that K-ras status had statistically significant effect on progression-free survival. Progression-free survival had higher statistically significant difference in wild K-ras compared to mutant K-ras cases ( $p = 0.0001$ ). Median overall survival was 7 and 5 months in (EN) and (E) groups respectively ( $p = 0.49$ ). The study reflects that mutation status of molecular markers such as K-ras and B-raf is a predictor of response, so genotyping of tumors is needed for defining the patient population that is likely to benefit from targeted therapy. Combination of therapy that simultaneously targets K-ras and B-raf could be a useful approach to increase number of patients who may benefit from anti-EGFR therapy, however, large scale prospective randomized trials are needed to properly determine which patients are best candidates for these targeted agents. (*J. Med. Sci.*, 9 (4): 165-174; *doi: 10.3923/jms.2009.165.174*)

## **Reliability and Validity of Turkish Version of the Impact on Family Scale: Assessment of Depressive Symptoms and Quality of Life in Mothers with Cerebral Palsied Children**

F. Beydemir, U. Cavlak, S. Yolacan and G. Ekici

The pragmatic aims of this study were to investigate the reliability and validity of the Turkish version of the Impact on Family Scale (IFS) and to evaluate the impact of having disabled children on mothers. Two hundred and forty seven mothers with cerebral palsied children completed the Turkish version, Beck Depression Inventory (BDI) and Nottingham Health Profile (NHP). Fifteen mothers also completed the Turkish version on two occasions, one apart, to evaluate the test-retest reliability. Cronbach's alpha and Interclass Correlation Coefficient (ICC) were calculated, respectively. Concurrent validity was examined by comparing with two instruments: BDI and NHP. Internal consistency was 0.74. When the coping items were excluded, the results showed that its Cronbach's alpha was excellent (0.81). ICC score for the test-retest reliability coefficient was 0.79. The findings indicate that the Turkish version is a reliable tool for assessing the impact of having a cerebral palsied child on Turkish speaking mothers living in Turkey. (*J. Med. Sci.*, 9 (4): 175-184; *doi*: 10.3923/jms.2009.175.184)

## **Precision and Accuracy of Three Blood Glucose Meters: Accu-Chek Advantage, One Touch Horizon and Sensocard**

W.K.B.A. Owiredu, G. Amegatcher and N. Amidu

This study evaluated the accuracy and precision associated with the use of three popular alternative-site blood glucose monitors, Accu-chek Advantage, Onetouch Horizon and Sensocard, using forearm venous blood samples and capillary blood samples. The study was conducted from January to March, 2009 at the Komfo Anokye Teaching Hospital, Kumasi. One hundred and ninety consenting subjects were included in the study. The blood glucose levels were analyzed on glucose meters; Accu-chek Advantage, Sensocard and Onetouch Horizon by finger stick, using amperometry Technology. At the same time venous blood glucose was analyzed using the WHO reference Glucose Oxidase Method (GOD). The mean value generated by the WHO reference method ( $7.91 \pm 0.35$ ) was not significantly different ( $p = 0.2816$ ) from that produced by the Accu-chek Advantage ( $8.46 \pm 0.36$ ), Sensocard ( $7.72 \pm 0.35$ ;  $p = 0.7028$ ) and Onetouch Horizon ( $7.97 \pm 0.35$ ;  $p = 0.9044$ ). Bland-Altman analysis indicates that Onetouch Horizon and Accu-chek Advantage have the tendency of overestimating

blood glucose with a bias of -0.1 and -0.5, respectively. Sensocard could underestimate with a bias of 0.2. In terms of rating, while all the glucose meters gave precisions at about the same level (i.e., 1.0), Onetouch Horizon is generating the closest value to the reference method with a difference between mean of -0.06, followed by Sensocard of 0.19 and Accu-chek Advantage with a value of -0.55. The precision of the Accu-chek Advantage, Onetouch Horizon and Sensocard for blood glucose monitoring from about 3.1-33.3 mmol L<sup>-1</sup> is good. However, the Accu-chek Advantage has the tendency to overestimate at the hypoglycaemic levels. The Accu-chek Advantage is capable of estimating both capillary and venous blood glucose to the same level of accuracy. The Onetouch Horizon and Sensocard are however incapable of efficiently estimating venous blood glucose. (*J. Med. Sci.*, 9 (4): 185-193; *doi*: 10.3923/jms.2009.185.193)

### **Antioxidant and Blood Brain Barrier Status in Cerebrospinal Fluid of Bacterial Meningitis Rat Model after Vancoplus Treatment**

A. Soni, V.K. Dwivedi, M. Chaudhary and S.M. Shrivastava

The aim of this study was to compare the efficacy of ceftriaxone, vancomycin and its fixed dose combination of ceftriaxone plus vancomycin (Vancoplus) for the treatment of meningitis induced by methicillin-resistant *Staphylococcus aureus* (MRSA) in rat model. The MRSA strain ATCC 43300 was used to induce meningitis in rat model. The rats were fed standard pelleted diet and water *ad libitum*. Thirty rats were divided into five groups containing six rats in each group. The vancomycin group received 14.2 mg kg<sup>-1</sup> b.wt./day, the ceftriaxone group received 28.57 mg kg<sup>-1</sup> b.wt./day, the vancoplus group received 42.8 mg kg<sup>-1</sup> b.w./day, control and infected group received normal saline. Present findings showed that activities of antioxidant enzymes such as superoxide dismutase and catalase were significantly increased ( $p < 0.001$ ) along with decreased ( $p < 0.001$ ) in lipid peroxidation (malondialdehyde) level in vancoplus treated group as compared to ceftriaxone and vancomycin. The level of adenylate kinase and xanthine oxidase enzymes also become lowered in vancoplus treated group as compared to ceftriaxone and vancomycin. The levels of total protein, calcium and phosphorus were also increased significantly ( $p < 0.001$ ) along with decreased ( $p < 0.001$ ) in glucose level in cerebral spinal fluid of infected group as compared to control group. After treatment with vancoplus, levels of total protein, calcium and phosphorous become reduced along with raised in glucose level as compared to ceftriaxone and vancomycin group. These findings indicate that vancoplus is more effective than ceftriaxone and vancomycin alone for improvement of oxidant and antioxidant levels, it also crosses the blood brain

barrier more faster than ceftriaxone and vancomycin alone and cure bacterial meningitis. (*J. Med. Sci.*, 9 (4): 194-201; **doi**: 10.3923/jms.2009.194.201)

### **Mosquito-Degradative-Potential of Cockroach and Mosquito Borne Bacteria**

F.O. Omoya, B.E. Boboye and F.A. Akinyosoye

The type of bacteria present on two insects (cockroach and mosquito) were investigated. These microorganisms were screened for microbial control of mosquito employing their degradative ability at various microbial cell loads. The degradation of the mosquito was observed spectrophotometrically for an incubation period of 5 to 7 days. Six bacterial species (*Escherichia coli*, *Pseudomonas aeruginosa*, *Bacillus cereus*, *Serratia marcescens*, *Staphylococcus aureus* and *Aerobacter aerogenes*) were isolated from cockroach. Mosquito borne *E. coli*, *P. aeruginosa*, *B. cereus* and *Staph. aureus*. All the bacteria digested the mosquito with activity ranging from 0.02 to 1.27. Microorganisms associated with cockroach showed higher degradation activity (0.02-1.27) during the incubation than those obtained from mosquito (0.02-1.00). (*J. Med. Sci.*, 9 (4): 202-207; **doi**: 10.3923/jms.2009.202.207)

### **Epidemiology of Strains in Greek Facilitation Classes**

Anastasios Tyflidis, Antonios K. Travlos, Alexandra Tripolitsioti, George Giannopoulos and Apostolos Stergioulas

The purpose of the present investigation was to record epidemiologically the strains that occurred in students of the Athletic Facilitation Classes (AFC). The study was carried out at National Level from September 2006 to May 2007 and during this period, we followed 7455 male and 4921 female student-athletes. The data that were recorded by the physical education teachers of the AFC, were registered in SPSS and they were analyzed with  $\chi^2$  non-parametric test. During the study a percentage of 19.6 % of total (n = 223) of injuries were strains. One hundred and sixty four (n = 164) strains (73.4%) occurred in the male and fifty nine (n = 59, 26.5%) in female student-athletes ( $p < 0.04$ ). Most strains were recorded in the male than in female student-athletes that attended in AFC, which functioned in the urban regions of prefectures (80.5 vs. 19.5,  $\chi^2 = 12.04$ ,  $df = 1$ ,  $p < 0.001$ ). A significant number of strains occurred during the months of November (82.3 vs. 17.7,  $\chi^2 = 4.69$ ,  $df = 1$ ,  $p < 0.03$ ), while the sports in which most strains occurred were soccer, track and field, basketball, bavolleyball and handball. The training surface on which most strains occurred was the synthetic

floor, natural grass and the parquet. It is concluded that the epidemiology of the strains in the AFC, have the same patterns as in the current literature is described. (*J. Med. Sci.*, 9 (4): 208-213; **doi:** 10.3923/jms.2009.208.213)

### **Leptin, Insulin and Glucose Levels in Menopause Women During Acute Myocardial Infarction**

M.M.J. Mohamad, M.A. Mohammad, K.S.H. Alomari, M. Karayyem and A.F. Al-Hader

The purpose of this study was to measure leptin, glucose and insulin concentration in the blood of patients during ST elevation acute myocardial infarction and to compare them with values obtained from normal subjects. Leptin concentration was measured in 31 menopause Jordanian women patients (50-72 years of age) with acute myocardial infarction and 19 normal menopause women (49-64 years of age). Leptin concentration were measured using two sites immunoradiometric assay (IRMA) principle. In normal (N = 19) leptin concentration was  $15.5 \pm 5.4 \text{ ng mL}^{-1}$  (Mean $\pm$ SD). While, in patients with acute myocardial infarction was  $22.9 \pm 5.7 \text{ ng mL}^{-1}$  (Mean $\pm$ SD). Data showed significant difference in both groups ( $p = 0.000$ ). In addition insulin concentrations were significantly increased in patients with acute myocardial infarction ( $74.2 \pm 10.8$  vs.  $38.8 \pm 14.5 \text{ pmol L}^{-1}$ ,  $p = 0.000$ ) compared to the control group. Glucose concentrations were lower in patients with acute myocardial infarction ( $107.5 \pm 7.2$  vs.  $166.9 \pm 11.7 \text{ mg dL}^{-1}$ ,  $p = 0.000$ ) compared to the normal group. Also, both total cholesterol and triglyceride were significantly higher in patients with acute myocardial infarction compared to the control group. It was concluded that leptin, insulin, cholesterol and triglyceride concentrations were significantly higher and glucose level was significantly lower in patients with acute ST elevation myocardial infarction compared to normal group. (*J. Med. Sci.*, 9 (4): 214-218; **doi:** 10.3923/jms.2009.214.218)

### **Circulating Concentrations of Leptin Hormone, Soluble Leptin Receptor and Free Leptin Index in Obese Egyptian Women Before and after Diet Therapy**

Salwa M. El-Shebini, Lobna A. Ghattas, Hamed I. Mohamed, Maha I.A. Moaty, Salwa T. Tapozada and Laila M. Hanna

It has been proposed that obesity is associated with resistance to the biological effects of leptin hormone. The aim of this study was to demonstrate the effect of obesity on both serum leptin and its soluble receptor and to evaluate the effect of

consumption of a special food formula combined with a restricted diet for obesity management. Thirty-two obese women volunteered to test a natural food formula in combination with a balanced hypo-caloric-diet (both supply 900-1000 Kcal day<sup>-1</sup>) shared in a short term study, which lasted for four weeks. The formula was composed of whole sweet potato and carrot which were reduced to a flour form in 2:1 ratio and consumed as a pudding (20 g flour +100 mL boiled skimmed milk) for daily breakfast. Sweet potatoes and carrots are considered as a good source of dietary fibers, complex carbohydrates, antioxidants and phytochemicals. Subjects were divided into twenty-two obese women (group 1) with mean age (41.8±2.91 years) and body mass index (34.87±1.21), who followed the diet plus the pudding mixture; while ten obese women as a control (group 2) had a mean age of (43.4±2.28) and a body mass index of (36.57±1.31); who only followed the same diet. Relevant anthropometric measurements together with some biochemical parameters were determined before, after two and four weeks from the start of the regimen. Results showed although both groups lost weight comparably, group 1 (p<0.01, -3.55%), group 2 (p<0.01, -2.01%), yet there were differences between them regarding serum leptin where in group 1 it was significantly decreased (p<0.01, -29.77%), with a concurrent increase in the serum soluble leptin receptor (p<0.05, +15.99%); in contrast to decreased levels of both leptin (-3.33%) and soluble leptin receptor (p<0.001, -5.05%) in group 2. Triglycerides levels were decreased (P<0.05, -22.62%) in group 1 in contrast to an increase (p<0.05, +39.40%) in group 2. In conclusion, incorporating custom-tailored food supplement in a slimming diet aiming at a quality weight loss that provides a healthier stable and durable metabolic environment should be considered. (*J. Med. Sci.*, 9 (5): 219-226; **doi:** 10.3923/jms.2009.219.226)

## **Immunological Effects of Honey Bee Venom in Mice with Intracerebral Candidiasis**

Nermine K.M. Saleh and Abeer A. Elsayed

Bee Venom (BV) is a natural substance, reported to booster the immune system. This study aimed at evaluating the effects of bee venom in stimulation of the immune system in mice infected with intracerebral Candidiasis probing for its possible use in treatment of this ailment. *In vivo* study included three groups of mice; bee venom-treated *Candida* infected group, untreated *Candida*-infected group and control group. Mice in the first two groups received intracerebral (i.c.) inoculation of *C. albicans*, while the control mice were inoculated i.c. with sterile saline. Mice of first group, the BV-treated group; received thereafter SC injection of BV for 4 days. On 5th day, mice of all groups were sacrificed and *Candida*

infection was evaluated by culture of homogenized brain tissue on Sabouraud dextrose agar. Stimulation of the immune system was assessed by determining TNF- $\alpha$  and IFN- $\gamma$  mRNA expression in splenocytes by real-time PCR (RT-PCR). In the *in vitro* study, direct effect of BV as antifungal agent and its effect on phagocytic function of neutrophils were evaluated. The results revealed that BV-treated mice had significantly low fungal load in the brain, with significantly high TNF- $\alpha$  but insignificantly high IFN- $\gamma$  mRNA expression in splenocytes. BV had no direct antifungal effect, but it enhanced phagocytic activity of neutrophils. It was concluded that treatment with BV could result in significant therapeutic effect in intracerebral Candidiasis and thereby could be effective in resistant life-threatening infections. (*J. Med. Sci.*, 9 (5): 227-233; doi: 10.3923/jms.2009.227.233)

### **IS Balanced Diet Has Effect On Epileptics?**

Kh. M. Almenabbawy, S.I. Helal, S.T. Zaki, O.M. Said, M.M. Salam, M.M. Abdelmoneim and L.M. Aboismaiel

This study the effect of balanced diet on the cognition, growth, biochemical and electroencephalogram changes among epileptic children and adolescents, this study was carried on 100 epileptic children and adolescents of both sexes, their ages ranged between 11 -14 years, food consumption for all cases was calculated. All cases were grouped into two groups, 50 cases were under special balanced diet program (group I) and 50 cases were left on their regular diet (group II). All cases were subjected to complete clinical and neurological examination, anthropometric assessment and behavior assessment. Biochemical assessment for serum calcium, zinc, copper and hemoglobin were assessed. Electroencephalogram was done for all cases at the start and by the end of the study. Present results showed a significant changes in psychometric behavior between both groups. Patients of group II show highly significant decrease in levels of hemoglobin, copper, zinc and calcium, in comparison to patients of group I. A highly significant increase in anthropometric measurements among patients of group I, as compared to patients of group II. Regarding changes in electroencephalogram there was an improvement in 22% of cases of group I as compared with group II which showed an improvement in only 6% of cases. Then we concluded that children and adolescents with epilepsy are often more sensitive to the world around them than others, therefore it is important to ensure that their nutrition is as well balanced as possible, for better life, improvement and efficacy for antiepileptic drugs. (*J. Med. Sci.*, 9 (5): 234-239; doi: 10.3923/jms.2009.234.239)



## **Bioactive Potential of Coral Associated Gastropod, *Trochus tentorium* of Gulf of Mannar, Southeastern India**

S. Anbuselvi, C. Chellaram, S. Jonesh, L. Jayanthi and J.K.P. Edward

Whole body meats of mollusc, *Trochus tentorium* was extracted with four solvents such as acetone, ethyl acetate, dichloromethane and methanol. Maximum antibacterial inhibition zone was exhibited from acetone crude extract of *T. tentorium* against human pathogen (*Streptococcus pneumoniae* 8 mm). The 100% column purified acetone fraction of *T. tentorium* showed higher activity against human pathogens like *Klebsiella pneumoniae* (7 mm). The minimal inhibitory concentration of the 100% acetone fraction of *T. tentorium* was found to be lower for the pathogens, *E. coli* (0.08 mg), *Streptococcus pneumoniae* (0.08 mg), *Staphylococcus aureus* (0.09 mg) and *Vibrio cholerae* (0.09 mg), hence 100% acetone fraction of the extract of *T. tentorium* was deemed as potent bioactive compounds against those pathogens. (*J. Med. Sci.*, 9 (5): 240-244; doi: 10.3923/jms.2009.240.244)

## **Comparative Studies on Susceptibility and Minimum Inhibitory Concentration of Potentox, a Fixed Dose Combination of Cefepime Amikacin in *Proteus vulgaris*, *Escherichia coli* and *Bacillus subtilis***

S.M. Shrivastava and M. Chaudhary

Present study was undertaken to evaluate antimicrobial response of potentox against *Proteus vulgaris*, *Escherichia coli*, *Bacillus subtilis*. Minimum Inhibitory Concentration (MIC) and Antibiotic Susceptibility Test (AST) of potentox was performed on test organisms in comparison with cefepime and amikacin individually. In case of *P. vulgaris*, *E. coli*, *B. subtilis*, MIC were found to be 0.25, 0.5 and 1 mg L<sup>-1</sup>, for potentox, respectively. In cefepime alone the MIC was found to be 1, 2 and 8 mg L<sup>-1</sup>, respectively and in amikacin alone the MIC was found to be 2, 2 and 4 mg L<sup>-1</sup>. The AST result shows that potentox is having more lytic zone than cefepime and amikacin alone. In organisms under study, antimicrobial response of Potentox was found to be better than any of its components. (*J. Med. Sci.*, 9 (5): 245-248; doi: 10.3923/jms.2009.245.248)

## **Evaluation of the Rapid Maxillary Expansion Appliances Effects on Skeletal, Dental and Upper Airway with Posteroanterior Graphics**

Mehmet Doğru, Nihal Hamameci and İrfan Karadede

The aim of this study was to evaluate the dental and skeletal changes occurring during orthopedic Rapid Maxillary Expansion (RME) in transverse direction. Fifty subjects data is used for this purpose. Subjects are divided into two groups; RME applied expansion group and non-treated control group. RME is applied to 25 patients having bilateral crossbite and compared with a control group. Control group consists of subjects not having any transverse anomalies. Required expansion is achieved in 20+5 days and processed to 3 month retention. Pretreatment, posttreatment and 3rd month retention posteroanterior (PA) cephalometric graphy records are taken. Pretreatment, posttreatment and postretention PA cephalometric graphy records are evaluated within and between groups. In conclusion, statistically significant expansions were recorded in the transversal direction in the ZA-AZ, NC-CN, A6-6A, B6-6B and NC-O-CN parameters and it was determined that these results were more stable post-retention. As a result, following RME procedures; facial width, lower and upper first intermolar width and nasal cavity width is increased and post retention stability is recorded. (*Trends in Medical Research 3 (1): 1-9, 2008; doi: 10.3923/tmr.2008.1.9*)

## **Analgesic and Anti-Inflammatory Screening of *Newbouldia laevis* Flower in Rodents**

H. Usman, A.H. Yaro and M.M. Garba

Analgesic and anti-inflammatory effects of the ethanolic flower extract of *Newbouldia laevis* were studied in rodents. Investigations were carried out on acetic acid-induced writhing in mice and carrageenan-induced hind paw oedema in rats. The results showed that the ethanol extract possessed significant ( $p < 0.001$ ) anti-nociceptive activity between 50 and 200 mg kg<sup>-1</sup> intraperitoneally (i.p.) in mice and also dose dependent anti-inflammatory activity between 50 and 200 mg kg<sup>-1</sup> (i.p.) in rats. These effects were compared favourably with that expressed by ketoprofen (10 mg kg<sup>-1</sup> i.p.). From the results obtained, although relatively toxic the extract exhibited highest anti-nociceptive and anti-inflammatory activities at the dosage of 200 mg kg<sup>-1</sup> (i.p.). These data corroborate with the traditional use of this plant in the treatment of rheumatic pain and other types of pain reported in traditional medicine. (*Trends in Medical Research 3 (1): 10-15, 2008; doi: 10.3923/tmr.2008.10.15*)

## **Experimental Induction of Chloroquine Resistance in *Plasmodium berghei* NK65**

A.C. Ene, S.E. Atawodi, D.A. Ameh, H.O. Kwanashie and P.U. Agomo

The possibility of developing experimental chloroquine resistant *Plasmodium berghei* NK65 from chloroquine sensitive *Plasmodium berghei* NK65 was evaluated. Five mice of about 12 weeks old were inoculated with *Plasmodium berghei* (CQ sensitive strain). Exactly 72 h after inoculation and confirmation of parasitemia, these mice were treated with 10 mg kg<sup>-1</sup> body weight (b.wt.) every 48 h for one month. After this period, treatment was withdrawn for one week, following which sub-inoculation was made from each of the five mice to four new mice for each group respectively. Seventy two hours after parasitemia was confirmed in the sub-inoculated mice, two of the four mice in each group were treated with the correct dose of chloroquine, that is, 25 mg kg<sup>-1</sup> b.wt. daily for four days, while the rest were not treated. Parasitemia was monitored in all the groups for two weeks using thick and thin smears of blood films made from the tail vein of mice and stained with 10% Giemsa stain at pH 7.2. Two weeks after treatment with 25 mg kg<sup>-1</sup> b.wt. dose of chloroquine was stopped, four mice died in the first two groups, while one mouse each died in the remaining three groups. Six of the untreated mice from the replicate groups equally died beyond two weeks, while four survived. At death, the % parasitemia of mice that died were higher than those that survived after 2 weeks. These results suggest that those mice that survived two weeks after treatment with the right dose of chloroquine (25 mg kg<sup>-1</sup> b.wt. for 4 days) contained chloroquine sensitive *Plasmodium berghei* NK65 before they were cleared, while those that had persistence of parasitemia at relatively high level which resulted in their death contained chloroquine resistant *Plasmodium berghei* NK65. This finding should be of importance in studies involving development of new therapy for chloroquine resistant malaria. (*Trends in Medical Research* 3 (1): 16-23, 2008; doi: 10.3923/tmr.2008.16.23)

## **Oral Health and Evaluation of Skeletal Development in Children with Renal Disease**

Sadullah Kaya, Nihal Hamamci, İzzet Yavuz, Özkan Adigüzel and Emin Caner Tümen

The aim of this study was to monitor the oral health of children with chronic renal disease and skeletal development in children with renal disease. Thirty-six children

(aged 3-13 years) were given a full clinical and radiological dental examination to evaluate skeletal development and tooth changes. After the first diagnosis and careful examination, enamel defects were clinically detected in a total of 11 children (30.5%). Of these, eight children clinically affected (22.2% of all those examined) exhibited localized hypoplasia of the primary canines, which was determined in only 3% of healthy control children. This increased prevalence is probably due to disordered calcium and phosphate metabolism. Chronological ages were recorded and hand-wrist radiographs were taken in our clinic. According to our results, skeletal development is slower than chronological development and this is statistically significant. Dental and medical care should be closely integrated for children with renal disease in order to avoid undesirable dental sequelae. (*Trends in Medical Research* 3 (1): 24-30, 2008; doi: 10.3923/tmr.2008.24.30)

## **Do RET and APC Crosstalk in Hirschsprungs Disease Pathogenesis?**

Sam W. Moore

Although a number of genes have been shown to be involved in the pathogenesis of Hirschsprung's disease (HSCR), the RET proto-oncogene and the Endothelin receptor B (EDNRB) genes remain the major susceptibility genes. The final phenotypic expression appears to depend on gene-gene interaction but crosstalk with the APC/Wnt system has not previously been described. We report a case of short segment HSCR where mutational analysis showed both RET (V202M) and adenomatous polyposis coli (APC) (E1317Q) mutations. Several additional RET (A45, L769) and EDNRB (831G/A) polymorphisms but no EDN3 sequence variants were identified. We report the first association of the APC gene as a possible modifier locus with HSCR and explore possible mechanisms of action. (*Trends in Medical Research* 3 (1): 31-35, 2008; doi: 10.3923/tmr.2008.31.35)

## **A Logarithmic Spiral Function to Plot a Cochleaogram**

Kang Cheng, Vivien Cheng and Chang-Hua Zou

It is significant to create an appropriate cochleaogram (frequency-place map of a cochlea) to help hearing-impaired patients to achieve high level of speech and

music recognition. A cochleaogram is also meaningful and useful in audiology, music therapy and music theory. Here, we originally propose a mathematical model of a logarithmic spiral function with a base 2, in a polar coordinates system, to plot a cochleaogram. The model is,  $f_c(\theta) = f_{ms} 2^{\theta/\theta_0}$ , where,  $f_c(\theta)$  is a characteristic frequency of a cochlear basilar membrane,  $f_{ms}$  (2048 Hz) is the most sensitive frequency,  $\theta$  is a spiral angle from the cochlear base to the cochlear apex (vice versa) around the origin of the system,  $\theta_0$  ( $90^\circ$ ) is a spiral period constant of octaves. The origin is assumed at the spiral center of the cochlea. We estimate the fitness between our modeling results and the published data. The averaged relative deviation is smaller than 33%. A cochlea works as an informative decoder that decodes the sound information from a frequency domain to a spiral spatial domain:  $\theta(f_c) = \theta_0 \log_2(f_c/f_{ms})$ . We also obtain perfect frequency ratios based on the semitone  $2^{1/12}$  for all 12 tones logarithmically and spirally with our model. (*Trends in Medical Research* 3 (1): 36-40, 2008; **doi:** 10.3923/tmr.2008.36.40)

## **Genetics and Public Health in Post-Genomic Era**

Mohammad Afzal, Yasir Hasan Siddique, Tanveer Beg, Gulshan Ara and Jyoti Gupta

Although clinical genetics had its roots predating Mendel's discovery, the clinical case histories were not documented in terms of genes or loci. Even when such defects were shown to follow Mendelian rules of transmission, this was not sufficient to manage the problem. It was only when cytogenetic and more precisely biochemical or molecular basis of disorders was known, the field established its status all over the world. In post genomic era, the scope has widened and genetic service has become almost a necessity for public health. (*Trends in Medical Research* 3 (1): 41-63, 2008; **doi:** 10.3923/tmr.2008.41.63)

## **Antibodies Against Postsynaptic Acetylcholine Receptor and Presynaptic Membrane Receptor in Myasthenia Gravis**

Suhail Rasool, Madhuri Behari, M. Irshad, Vinay Goyal and B.L. Jailkhani

Using  $\alpha$ -bungarotoxin ( $\alpha$ -Bgtx) and  $\beta$ -bungarotoxin ( $\beta$ -Bgtx) to capture their corresponding proteins from preparation of crude human muscle receptor (triton extract), antibodies against these corresponding proteins were detected in Myasthenia gravis patients.  $\alpha$ -Bgtx binds to AChR and  $\beta$ -Bgtx binds to

presynaptic membrane receptor (PsmR) of triton extract. The captured proteins were used as antigen in indirect ELISA to detect the IgG antibodies against AChR and PsmR in sera from 146 Indian patients with MG and in 30 controls. Out of 146, 130 were generalised myasthenic patients (GM), 16 ocular Myasthenic patients (OMG). In addition to AChR antibodies, Myasthenia Gravis (MG) patients were also showing antibodies against PsmR. The frequency of anti-AChR antibodies was 71% and anti-PsmR antibodies was 65%. The OD values of GMG for AChR and PsmR were  $(0.76 \pm 0.34)$  and  $(0.75 \pm 0.37)$ , for OMG patients  $(0.32 \pm 0.1)$  and  $(0.72 \pm 0.42)$  and for healthy controls  $(0.16 \pm 0.06)$  and  $(0.18 \pm 0.04)$ , respectively. These results showed that MG is not only due to the damage of the postsynaptic membrane, but it could concurrently be a consequence of antibody mediated damage of the presynaptic membrane, resulting particularly the damage of its  $\beta$ -Bgtx binding sites and could play an important role in the pathogenesis of MG. Therefore, it is also necessary to detect antibodies against PsmR in addition to AChR antibody. (*Trends in Medical Research* 3 (2): 64-71, 2008; **doi:** 10.3923/tmr.2008.64.71)

### **Assessment of Patient Doses Levels During X-Ray Diagnostic Imaging Using TL Dosimeters and Comparison with Local and International Levels**

Mohamad Anwar K. Abdelhalim, Reuqaya O. Al-Darwish and Mohammad S. Al-Ayed

The aim of this research was an assessment of the patient dose levels during X-ray diagnostic imaging in King Khalid University Hospital (KKUH) using TLD reader and TL dosimeters and comparing the results with that obtained in local and International places. Moreover, to determine a reference radiation dose level for each human organ. Thus, the routine X-ray examinations in some human organs such as chest (AP and LAT), knee (AP and LAT), spine lumbar sacral (AP and OBL; LAT and OBL), spine cervical (AP and OBL; LAT and OBL), shoulder (AP and LAT) and mammogram (AP and OBL) of adult patients over than 18 years in KKUH were investigated. It became evident from the results of the present study that the radiation doses for chest in PA and LAT, knee in AP and LAT, spine lumbar sacral in AP-OBL and LAT-OBL, spine cervical in AP-OBL and LAT-OBL and mammogram in AP and OBL positions were different in KKUH and other local places [Security Forces Hospital (SFH); King Abdulaziz City for Science and Technology (KACST) in Saudi Arabia] and International places [International Atomic Energy Agency (IAEA); European Commission

(EC); Health Physics Society (HPS); United Kingdom (UK); China; Victoria; Greece; Taiwan; Canada; Italy; Malaysia]. The reference radiation dose levels for chest in PA position and LAT projection were  $0.32 \pm 0.05$  mGy (Mean $\pm$ SE) and  $1.02 \pm 0.38$  mGy, respectively. The reference radiation dose levels for knee in AP position and LAT projection were  $0.28 \pm 0.02$  and  $0.29 \pm 0.05$  mGy, respectively. The reference radiation dose level for spine lumbar sacral in AP-OBL position and LAT-OBL projection were  $9.19 \pm 2.69$  and  $21.22 \pm 3.85$  mGy, respectively. The reference radiation dose levels for spine cervical in AP-OBL position and LAT-OBL projection were  $2.28 \pm 1.56$  and  $5.79 \pm 4.85$  mGy, respectively. The reference radiation dose level for mammogram in AP position and OBL projection were  $1.09 \pm 0.15$  and  $1.34 \pm 0.21$  mGy, respectively. These results suggest that the estimated mean radiation dose level for a specified human organ in different positions could be considered as a reference radiation dose level for the same human organ. Moreover, the experimental procedures, physical factors and patient data should be fixed and specified carefully during each human organ examination by X-ray. (*Trends in Medical Research* 3 (2): 72-81, 2008; doi: 10.3923/tmr.2008.72.81)

### **Preliminary Clinical Assessment of a Gentamicin-Loaded Monoolein Gel Intended to Treat Chronic Osteomyelitis**

Moustapha Ouédraogo, Christophe S. Da, Innocent S. Nacoulma, Hamado Kafando, Rasmané Semdé, Issa T. Somé, Rasmata Ouédraogo, Innocent P. Guissou, Brigitte Evrard, Viviane Henschel, Jacques Dubois and Karim Amighi

The aim of this study was to perform a preliminary clinical assessment of efficacy and safety of a biodegradable gentamicin-loaded monoolein gel. An open single dose, one treatment study including 19 patients with chronic osteomyelitis caused by a microorganism sensitive to gentamicin was conducted. After surgical curettage of the infected bone, the dead space was filled in with the gentamicin-loaded monoolein gel. To prevent post-operative septicaemia, a systemic antibiotherapy was prescribed for 3 days following the operation. Clinical, biological and radiological follow-up was performed to assess the efficacy and the safety of the treatment. After a follow-up period ranging from 2 to 12 months, all 19 patients included in the study felt well. Eighteen patients recovered from chronic osteomyelitis without adverse events. The wound of one patient whose bone was exposed did not scar over after 10 months. However, it was no longer infected. In conclusion, gentamicin-loaded monoolein gel was efficacious in treating chronic osteomyelitis without side-effects. (*Trends in Medical Research* 3 (2): 82-89, 2008; doi: 10.3923/tmr.2008.82.89)

## **The Interaction Between Gentamicin and Floroquinolones Against ESBL Producing Clinical Isolates of *Escherichia coli***

I.R. Iroha, E.S Amadi, J.O. Orji, A.C. Ogabus, A.E. Oji and C.O. Esimone

The present study evaluated the antimicrobial effect of different combinations of gentamicin and floroquinolones (ciprofloxacin, ofloxacin, perfloxacin and gatifloxacin) against extended spectrum beta lactamase (ESBL) positive *E. coli* isolates using checkerboard method. One hundred and four clinical isolates of *E. coli* obtained from urine (26), blood (24), stool (20), sputum (19) and semen (14) were investigated for ESBL production. Fifteen (14.4%) were positive for ESBL production in the following order: 4(3.8%) from urine, 3(2.8%) from blood, 3(2.8%) from stool, 3(2.8%) from sputum and 2(1.9%) from semen. Five representative ESBL positive isolates, one from each specimen, were investigated for their susceptibility patterns to different gentamicin and floroquinolone combinations. The combinations of gentamicin and ciprofloxacin, perfloxacin and gatifloxacin, respectively at different ratios were predominantly synergistic in activity while gentamicin and ofloxacin combinations were primarily indifference in activity. These results may have some therapeutic significance in the management of ESBL infections especially in areas of the world where ESBL organisms are either emerging or re-emerging. (*Trends in Medical Research* 3 (2): 90-94, 2008; *doi*: 10.3923/tmr.2008.90.94)

## **Histopathological Patterns of the Testes in Patients with Severe Burns Not Involving the Perineum (A Case Series Study)**

I.O. Fadeyibi, L.C. Saalu, P.I. Jewo, A.S. Benebo and S.A. Ademiluyi

The aim of this study is to investigate the histopathological features of the testis of Burns patients where the burns did not involve the perineum. The present study is a case series report of the testicular histopathological changes of adult patients that died from major burns not involving the perineum. All adult male patients that sustained major burns, were managed at Lagos State University Teaching Hospital (LASUTH) and satisfied the inclusion criteria were recruited into the study. Testicular specimens were obtained during the routine postmortem examinations of patients that died from burns. Histological evaluation of the testes was done by light microscopy. There was mild to moderate testicular interstitial oedema with markedly reduced Leydig and Sertoli cells. Cells of the Spermatogenic series were present and of normal appearances. However, cells of the Spermiogenic series were scanty and no mature spermatozoon was observed. These findings show that



major burns result in indirect derangement in the testicular morphology. (*Trends in Medical Research 4 (1): 1-7, 2009; doi: 10.3923/ajar.2009.1.7*)

## **Potential Anticancer Natural Product Against Human Lung Cancer Cells**

Faten A. Khorshid

PM 701 has potential anticancer activity and it caused selective programmed cell death in lung cancer cells (A549) as described previously, this further study is aimed to present the cytotoxic effect of the lyophilized PM 701 and its fraction. Lyophilized PM 701 appears to have cytotoxic activity due to its in vitro inhibition of the proliferation of lung cancer cells. The bio-guided extraction of PM 701 gives fraction PMF (150 mg g<sup>-1</sup> of lyophilized PM 701). PMF was able to inhibit significantly the proliferation of A549 cells without affecting the normal, HFS cells. Chromatographic fractionation of PMF produced seven compounds, where the subfraction PMEK (108.7 mg g<sup>-1</sup> of PMF) was the most effective one with high anti-proliferative activity against A549 cells. However, the subfraction PMFK is under extensive work in order to isolate the pure bio-active compound (s) in nano-scale levels as a novel pharmaceutical composition. (*Trends in Medical Research 4 (1): 8-15, 2009; doi: 10.3923/ajar.2009.8.15*)

## **Comparative Study on Saliva Proteins in Patients of Brain Tumors and Healthy Individuals**

A.W.R. Hamad, M.A. Ibrahim, S.I. Al-Mohtasib and K.N. Al-Kobasi

In the setting of neoplastic conditions, many biochemical substances deviate from their normal values; these may include proteins of body fluid. To verify this claim a prospective study was carried out to investigate the values of plasma proteins in salivary fluids in patients with primary brain tumors. This study had been conducted between September 2008 and July 2009 on 160 individuals. The qualified subjects for the study included, 80 patients (40 from each sex) with primary brain tumor and eighty age and sex normal subjects were used as control for salivary and serum proteins measurements. Concentrations of proteins were found higher in saliva and blood of male and female patients as compared with normal individuals. These results might suggest possible preliminary detection of primary brain tumor by observing the increase of protein concentration in the saliva of the patient which is easily carried out in clinical laboratory. (*Trends in Medical Research 4 (2): 16-23, 2009; doi: 10.3923/ajar.2009.16.23*)

## **Prevalence of Haemoglobin Variants, ABO and Rhesus Blood Groups in Ladoke Akintola University of Technology, Ogbomoso, Nigeria**

R.E. Akhigbe, S.F. Ige, A.O. Afolabi, O.M. Azeez, G.J. Adegunlola and J.O. Bamidele

In view of the association of various haemoglobin genotypes and blood groups with different pathological conditions and the risk of alloimmunization from allogeneic blood transfusion seen in patients with sickle cell disease, the incidence of haemoglobin variants, ABO and Rhesus (Rh) blood groups in Ladoke Akintola University of Technology (LAUTECH), Nigeria, was assessed. This is a retrospective study using medical records of 1122 students (between 18-25 years old) of LAUTECH. Out of the 1122 students, 71.03% were HbAA, 22.19% HbAS, 5.26% HbAC, 0.54% HbSS, 0.80% HbSC and 0.18% HbCC. No incidence of HbSS, HbSC and HbCC in male. The frequencies of A, B, AB and O blood groups were 21.30, 22.73, 2.85 and 53.12%, respectively. The 93.32% were Rhesus positive (Rh<sup>+</sup>), while the remaining 6.68% were Rhesus negative (Rh<sup>-</sup>). Results from this study show a low prevalence of abnormal haemoglobin variants. Blood group O was most predominant, while blood group AB was least dominant. In conclusion, this study shows that there is a decline in the prevalence of haemoglobinopathies in the studied area. Also, routine haemolysin test should be conducted on every group O blood before blood transfusion to reduce the risk of transfusion reaction since some group O blood, which is the predominant blood group, is known to contain immune haemolytic antibodies. (*Trends in Medical Research* 4 (2): 24-29, 2009; *doi*: 10.3923/ajar.2009.24.29)

## **Comparative Evaluation of Fixed Dose Combination of Ofloxacin and Ornidazole Against Some Aerobic Bacteria**

S.M. Shrivastava, S. Kumar and M. Chaudhary

The present study is undertaken to evaluate the antimicrobial properties of a new Fixed Dose Combination (FDC) of Ofloxacin Ornidazole for infusion against some aerobic bacteria in comparison with Ofloxacin and Ornidazole individually. Antibiotic Susceptibility Test (AST) and Minimum Inhibitory Concentration (MIC) of FDC of Ofloxacin Ornidazole, Ofloxacin and Ornidazole for *P. aeruginosa*, *S. aureus*, *E. coli*, *K. pneumoniae*, *S. epidermis* and MRSA were determined by disc method and broth micro dilution method. In Antimicrobial Susceptibility Test, lytic zone of combination was found to be more than Ofloxacin or Ornidazole

alone in all microbial strains under study. The MIC value of FDC of Ofloxacin Ornidazole was found to be higher than both Ofloxacin and Ornidazole. The data suggests that fixed dose combination of Ofloxacin and Ornidazole can be a good option for use in mixed microbial infection of aerobic bacteria, anaerobic bacteria and pathogenic protozoans. (*Trends in Medical Research 4 (2): 30-34, 2009; doi: 10.3923/ajar.2009.30.34*)