Publications of

Undergraduate & Graduate Medical Students of Faculty of Medicine King Abdulaziz University

(2014-2015-2016)

Prepared by
Vice-Deanship for Postgraduate Studies and Research
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Undergraduate and Graduate Students Publications
Undergraduate Students
## 2014 Undergraduate Medical Students’ Involvement in Authorship of Research

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ABSTRACT

Rapid and accurate determination of gestational age (GA) may be vital to the appropriate care of the critically ill pregnant patient and improve obstetric care through allowing the optimal timing of necessary interventions and the avoidance of unnecessary ones. Ultrasound scans are considered to be the most cost-effective, accurate and safe methods for measurement of various fetal parts in pregnant women. The aim of this research is to explore the accuracy of ultrasound in determining gestational age of fetus in third trimesters. Data collected for all pregnant women referred to the Maternity & Children’s Hospital in Jeddah. Only women with single live fetus were included in this study. Women who participated in the study were selected on following criteria: Regular menstrual cycles, known date of last menstrual period and previous live normal neonates in multipara. All scans were performed by a single ultrasonologist on one ultrasound machine. From collected data, it was found that out of 53 (100%) patients, 44 (84.62%) pregnant woman have different gestational age from US and last menstrual period (LMP). From this study we can conclude that the main method to follow fetus growth in third trimester not biparietal diameter (BPD) measurement only. The BPD in third trimester is not reliable and be useless when the patient pass 30 weeks and the BPD has to be side with other measurements when we take it in later trimesters to emphasize the normal growth of fetus and avoid wrong measurement of ultrasound.
Research Title: Age, Gender, and Interracial Variability of Normal Lacrimal Gland Volume Using MRI

Source: Ophthalmic Plastic and Reconstructive Surgery
Lippincott Williams & Wilkins
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Affiliated Department(s): Ophthalmology, Radiology

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ABSTRACT

Purpose: Aimed to evaluate normal volume of the lacrimal gland in patients of different age groups and race.

Methods: All MRI studies of the brain that were done between June 2012 and April 2013 were examined. Lacrimal glands were identified using fat-saturated fluid-attenuated inversion recovery (FLAIR) images, and the volumes were calculated using TeraRecon iNtuition viewer. Volumes for the right and left lacrimal glands were recorded for persons of different age groups and race, and the results were compared with those of a randomly selected group of patients who had undergone the same calculation method using CT of the brain, orbit, or paranasal sinuses.

Results: The authors included 998 lacrimal glands of 499 patients. The mean volumes for the right and left lacrimal glands were 0.770 and 0.684 cm(3), respectively. Lacrimal glands were larger in women; the largest volumes were observed during the second decade of life. Mean volumes also varied with race: 0.840 cm(3) in Asians, 0.790 cm(3) in Africans, 0.760 cm(3) in Indians, and 0.710 cm(3) in Middle Easterners. The consultant neuroradiologist and the intern showed excellent agreement for measurements of lacrimal gland volume. No significant difference was observed between lacrimal gland measurements method on MRI and CT.

Conclusion: Lacrimal gland volume varies according to age, gender, race, and laterality. Measurements with MRI using fat-saturated FLAIR images and TeraRecon iNtuition viewer software are reliable, accurate, and can be used by junior staff with less radiation exposure to patients.
**ABSTRACT**

Doxorubicin (DOX), is a highly active anticancer agent, but its clinical use is limited by its severe cardiotoxic side-effects associated with increased oxidative stress and apoptosis. Resveratrol (RSVL) is a naturally occurring polyphenolic compound (trans-3,5,4'-trihydroxystilbene) found primarily in root extracts of the oriental plant Polygonum cuspidatum and of numerous additional plant species. It has recently been shown that RSVL has a number of beneficial effects in different biological systems, which include anti-oxidant, antineoplastic, anticarcinogenic, cardioprotective and antiviral effects. In this study, we examined whether RSVL has protective effects against DOX-induced free radical production and cardiotoxicity in male rats. The tested dose of DOX (20 mg/kg) caused a significant increase in the serum activities of the cardiac enzymes lactate dehydrogenase (LDH) and creatine phosphokinase (CPK) and the level of malondialdehyde (MDA) in the heart tissue. However, there was a significant decrease in the glutathione level in the heart tissue. Simultaneous treatment of rats with RSVL [10 mg/kg, intraperitoneal (i.p) injection] reduced the activity of LDH and CPK and significantly reduced MDA production in the heart. The total antioxidant capacity was increased following RSVL administration. Electron microscopy examination of the heart tissue showed that DOX treatment results in massive fragmentation and lysis of the myofibrils, and that mitochondria show either vacuolization or complete loss of the cristae. Simultaneous treatment with RSVL ameliorated the effect of DOX administration on cardiac tissue, with cardiomyocytes appearing normal compared to the control samples, and mitochondria retaining their normal structure.
ABSTRACT

I pratropium bromide is an atropine derived anti-cholinergic bronchodilator used in obstructive lung diseases. Anisocoria mainly caused by the direct effect of nebulized ipratropium bromide via a leaking mask has been well described in the literature.1,2 However, anisocoria induced by systemic absorption after long-term use of high dose ipratropium inhaler is not well reported. We report a case of a 24-year old asthmatic, after consent was obtained who developed fixed dilated pupils due to the systemic effect of an ipratropium inhaler. The aim of the report is to draw clinicians’ attention to this rare but possible anticholinergic systemic side effect of inhaled ipratropium bromide.
ABSTRACT

Pheochromocytoma, (PCC) is a sympathetic paraganglioma of chromaffin cell origin. Individuals with PCC, present with signs and symptoms of sympathetic overstimulation. In this article, we report a case of a 10-year-old male presenting with hypertensive encephalopathy precipitated by bilateral adrenal PCC. A 10 year old, male patient who presented to Emergency Department with history of headache, projectile vomiting, disturbed level of consciousness and two attacks of convulsion for one day. PCC are catecholamine secreting tumors. In the case we are describing, adrenoceptor overstimulation manifested as uncontrolled hypertension which progressed to hypertensive encephalopathy. Only 10% of PCC’s cases were found to be bilateral. Though bilateral PCC is more often a part of a familial syndrome, in this case, we report bilateral PCC with no evidence of familial disorders that correlates with this presentation. Preoperative diagnosis is usually made by significantly high levels of catecholamines and their metabolites in blood and urine. In recent studies, using (131-I-MIBG, metaiodobenzylguanidine scan), in combination with platelet normetanephrin, showed 100% sensitivity in detecting PCC. Definitive treatment of PCC is surgical resection of the mass which is considered to be curative in 90% of the cases. Following Cortex sparing Bilateral Adrenalectomy, the patient showed complete resolution of hypertension. PCC should be considered as a possible diagnosis in children presenting with malignant hypertension. Stabilize blood pressure is important part in the preoperative period. Adrenal sparing surgery showed promising outcomes in treating cases of bilateral PCC.
ABSTRACT

Background: Chlamydia trachomatis infection is the most common sexually transmitted infection (STI) in the western countries; its prevalence in the conservative Muslim population of Saudi Arabia is not known, but it is generally believed to be low. This study is the first to investigate the prevalence of and risk factors for C. trachomatis infection in the high-risk group of female inmates at Briman Prison in Jeddah.

Methods: The inmates were interviewed using a pre-designed questionnaire, and their urine samples were tested for C. trachomatis infection by real-time PCR assay.

Results: The overall prevalence of C. trachomatis infection was 8.7% in the study population. The ≤25 age group was predominantly affected, with an average prevalence of 16.6%. Two out of five (2/5, 40%) Yamani, (4/33 12.1%) Indonesian, (3/33, 9.1%) Somalian and (2/26, 7.7%) Ethiopian inmates were positive for infection. None of the Saudi inmates (0/14) were positive for infection. Among the studied variables, only age was significantly associated with the infection rate. The other variables (marital status, nationality, religion, employment status, education level, nature of the offense committed, knowledge about protection from STIs, and knowledge about condom use and the purpose of condom use) did not show a significant correlation with Chlamydia infection.

Conclusions: The overall prevalence of C. trachomatis infection was within the range published by other reports in similar prison settings in developed countries. The results indicate the need for a countrywide screening and treatment program for all inmates at the time of entry into prison.
**Research Title:** Clinical efficacy of new aloe vera- and myrrh-based oral mucoadhesive gels in the management of minor recurrent aphthous stomatitis: a randomized, double-blind, vehicle-controlled study

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**Affiliated Department(s):** Pharmacology

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**ABSTRACT**

**Objective:** To evaluate the clinical efficacy, and safety of newly customized natural oral mucoadhesive gels, containing either aloe vera or myrrh as active ingredients, in the management of minor recurrent aphthous stomatitis (MiRAS).

**Subjects and Methods:** Ninety subjects with MiRAS were recruited from Oral Medicine Clinic, at Faculty of Dentistry, King Abdulaziz University, Saudi Arabia, for this randomized, double-blind, placebo-controlled study. Two new natural gels, containing aloe vera and myrrh, were prepared in a concentration of (0.5% w/w), in addition to a plain mucoadhesive gel used as a placebo. Patients with fresh ulcers (<48-h duration) were instructed to apply either one of the three gels four times a day for a period of 5 days. Clinical efficacy was investigated in the form of changes in ulcer size, pain intensity, erythema, and exudation at days 4 and 6 of study entry. Participants were interviewed for the emergence of any side effects.

**Results:** 76.6% of patients using aloe gel showed complete ulcer healing, 86.7%, and 80% of them revealed subsidence of erythema and exudation, respectively, especially at day 6 visit, whereas 76.7% of myrrh-treated patients revealed almost absence of pain at day 6. No side effects were encountered with the use of any of the three gels.

**Conclusion:** The new formulated aloe-and myrrh-based gels proved to be effective in topical management of MiRAS. Aloe was superior in decreasing ulcer size, erythema, and exudation; whereas myrrh resulted in more pain reduction.
ABSTRACT

Background: We present the clinicopathological characteristics of lupus nephritis (LN) in a subset of population from Western Saudi Arabia.

Materials and methods: We retrospectively analysed previously diagnosed 148 renal biopsies in cases with systemic lupus erythematosus (SLE) from two medical centres. Microscopic slides from these patients were retrieved and re-assessed according to the WHO and ISN/RPS classifications by histological, immunological and electron microscopic items. Clinical and laboratory findings were retrieved from patients’ medical records.

Results: Median age of patients years is 24 (range: 2–65), females (85.1%), and males (14.9%). The frequency of cases in each class according to WHO classification and ISN/RPS classification was nearly the same and was as follows: class I (0%), class II (12.8%), class III (8.8%), class IV (51.4%), class V (23%), and class VI (4%). For IV class, IV-G (41.9%) subcategory was higher than IV-S (9.4%). Immunofluorescence examination revealed positive staining for IgG and C3 in 98.4% and 97.6% of cases respectively. In conclusion, class IV (51.4%) is the predominant class, followed by class V (23%).

Conclusion: There are differences in clinicopathological data reported from this study with other studies. Continuous reporting from different national specialised nephrology centres is recommended for better elucidation of the natural history of lupus nephritis in Saudi patients.
ABSTRACT

Objective: Patients with chronic kidney disease on hemodialysis experience considerable psychological stress due to physical and social changes brought on by illness, increasing the risk of depressive disorder (DD). We examined the prevalence of DD and depressive symptoms, identified treatments for depression, and determined baseline demographic, social/behavioral, physical, and psychological correlates.

Methods: A convenience sample of 310 dialysis patients in Jeddah, Saudi Arabia, was screened for DD using the Structured Clinical Interview for Depression and for depressive symptoms using the Hamilton Depression Rating Scale (HDRS). Established measures of psychosocial and physical health characteristics were administered, along with questions about current and past treatments. Bivariate and multivariate analyses identified independent correlates of DD and symptoms.

Results: The prevalence of DD was 6.8 % (major depression 3.2 %, minor depression 3.6 %), and significant depressive symptoms were present in 24.2 % (HDRS 8 or higher). No patients with DD were being treated with antidepressant medication, whereas 28.6 % (6 of 21) were receiving counseling. Being a Saudi national, married, in counseling, or having a history of antidepressant were associated with DD in bivariate analyses. Correlates of depressive symptoms HDRS in multivariate analyses were Saudi nationality, marital status, stressful life events, poor physical functioning, cognitive impairment, overall severity of medical illness, and history of family psychiatric problems.

Conclusions: The prevalence of DD and depressive symptoms is lower in Saudi dialysis patients than in the rest of the world, largely untreated, and is associated with a distinct set of demographic, psychosocial, and physical health characteristics.
ABSTRACT

Objective: Persons with colon cancer experience considerable psychological stress due to physical and social changes brought on by illness, increasing their risk of depressive disorder (DD). We examine the prevalence of DD and depressive symptoms and determine baseline demographic, social, psychological, and physical health correlates.

Methods: A convenience sample of 70 cancer patients in Jeddah, Saudi Arabia, was screened for DD using an abbreviated version of the Structured Clinical Interview for Depression (SCID) and for depressive symptoms using the Hamilton Depression Rating Scale (HDRS). Demographic, psychosocial, psychiatric, and physical health characteristics were also assessed, along with past treatments for colon cancer. Bivariate and multivariate analyses identified predictors of DD and symptoms.

Results: The 1-month prevalence of DD was 30.0% (12.9% major depression, 5.7% minor depression, and 11.4% for dysthymia) and significant depressive symptoms were present in 57.1% (HDRS 8 or higher), including having persistent suicidal thoughts for 2 weeks or longer within the past month (14.3%). Low social support and having a co-morbid psychiatric illness (particularly anxiety) independently predicted DD based on the SCID. Saudi nationality, poor financial situation, low social support, and co-morbid psychiatric illness independently predicted depressive symptoms on the HDRS. Surprisingly, stage of cancer, duration of cancer, and treatments for cancer were unrelated to DD or depressive symptoms.

Conclusions: DD and significant depressive symptoms are common in patients with colon cancer in Saudi Arabia, and are predicted by a distinct set of demographic and psychosocial risk factors that may help with identification. Demographic and psychological risk factors were more likely to be associated with depression than cancer characteristics in this sample.
Study skills contribute to better learning and educational achievements. It has been proven that gender is an important variable in studies concerning students learning. We aim to recognize the differences in studying habits & skills between male and female medical students.

**Methodology:** This study is a cross sectional study conducted through a self-administered questionnaire distributed among male and female medical students between 200 and 6th year who were available at the time of the study period. The study was conducted from the 9th till the 19th of October 2011 in KAU faculty of medicine.

**Results:** A total of 359 students participated in the study. 48.7% were male while 51.3% were female medical students. The study found that about 79% of the male students preferred to study alone compared to 68% of the female students. Only 14% of male students preferred to study with a colleague compared to 24% of female students (P=0.044). Textbook were chosen as the main resource for 45% and 62% of male and female students respectively (P=0.021). Handouts were found to be used as second source by 37% and 27% of male and female students respectively (p=0.04). When it came to studying daily 26% of the male students stated that they don't study daily compared to 17% of the female students (p=0.010).

**Conclusion:** When it comes to study habits, approach and skills or studying there are many differences between male and female students. However, more studies are needed to correlate different factors with academic achievements of medical students.
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<th>Does the Study Guide Represent a Helpful Learning Tool for Medical Students? Students Perspectives</th>
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| Source:        | Jokull Journal  
Volume 64, Issue 9, page 112-122 |
| ISSN:          | 0449-0576 |
| Date and Year of Publication: | 2014-SEPT |
| Impact Factor: | 1.604 |
| Affiliated Department(s): | Medical Education, Surgery, Medicine |
| Author(s):     | Bassem Aldeek, Nasra Ayoub, Reda A. Jamjoom, Saad Almahayawi, Asim T. Al Sharif, Awatef AlSebyani, Mohamed Mashat |
| Correspondent’s Email: | nasraayuob@gmail.com |

**ABSTRACT**

**Abstract:** This study has assessed medical students’ level of satisfaction with and utilization of study guides and whether they were helpful to the learning process.

**Subjects and Methods:** This cross-sectional study used a self-administered questionnaire that was validated by faculty members and students and was piloted before distribution. It was distributed to all basic (second- and third-year) medical students at the Faculty of Medicine, King Abdulaziz University, Jeddah, SA, during the 2012–2013 academic year.

**Results:** About 78% of the participating students indicated that they preferred to have a study guide for each course. They were satisfied with the structure of the study guides apart from the absence of teachers’ personal comments. They were not satisfied with the use of the study guides as logbooks and their inclusion of self-assessment exercises. They were also not satisfied with the study guides as notebooks and felt that they did not contain adequate educational resources.

**Conclusion:** Although the participating students were not fully satisfied with the study guides, they reported that some courses study guide were useful for their learning while others were not. More efforts are needed to improve the study guides so that they are helpful logbooks and notebooks that include self-assessment exercises and updated educational resources.
## ABSTRACT

**Background:** Consumption of energy drink represents an escalating global public health problem especially among adolescents and young adults. Energy drink contains stimulants mainly caffeine that marketed as mental and physical stimulator although there are many safety concerns against use.

**Objectives:** To determine the prevalence, pattern and predictors of energy drink consumption among medical students and interns in medical colleges, Jeddah, Saudi Arabia.

**Materials and methods:** A cross-sectional study was conducted at three medical colleges (the governmental medical college of King Abdulaziz University and other two private colleges). A multistage stratified random sample technique was used with selection of 610 medical students & interns. Data was collected using a validated, confidential & self-administered questionnaire. SPSS version 21 was used for statistical analysis.

**Results:** More than one-half of the participants (52.6%) had ever tried energy drinks, while 33.4% consumed it regularly during the two months preceded the study. Friends, advertisement and curiosity were the inspirations for starting. Among regular users, the commonest reasons for consumption were enjoying leisure time with friends (57.5%), boosting energy for studying (56.4%), and staying awake for long hours (50.5%). However, 31.6% of regular energy drinks consumers experienced adverse effects as palpitation, insomnia and frequent micturition. In bivariate analysis, regular consumption of energy-drink was significantly associated with male gender, students from private colleges and smokers. After controlling of confounding factors smoking was the only predictor of energy drinks consumption (aOR= 3.68; 95% CI: 2.36-5.71).

**Conclusion:** Consumption of energy drinks is rather common among medical students and interns despite of high prevalence of adverse effects. Smoking is the most important predictor. Implementation of educational awareness campaigns, especially in medical colleges, about healthy dietary habits, potential benefits, side effects and correction of wrong perceptions about energy drinks is urgently needed. Policies for energy drinks consumption and smoking control programs are also recommended.
ABSTRACT

Objectives: To assess the effect of ovariectomy on the expression of estrogen receptor-beta (ER-beta) in periodontal ligament and alveolar bone.

Methods: This animal study was conducted at King Fahad Research Center, King Abdulaziz University, Jeddah, Kingdom of Saudi Arabia from March to October 2012. Thirty 12-week-old female Wistar rats were divided into 2 groups (15 each): ovariectomized (OVX) and sham-operated. Levels of estrogen and progesterone in the sera were measured using the enzyme linked immunosorbent assay (ELISA). To detect the expression of ER-beta, immunostaining was performed on the tibia, alveolar bone, and periodontal ligament specimens followed by quantitative histomorphometric analysis.

Results: Estrogen (p=0.001) and progesterone (p=0.007) levels were significantly decreased in the OVX rats compared to their controls. Histologically, the thickness and area percentage of the tibia and alveolar bone trabeculae were significantly reduced in OVX rats compared to the controls (p=0.001). The periodontal ligament fibers in the control group exhibited well-organized and appropriately oriented fibers, while in the OVX group they appeared disrupted with loss of orientation. The ER-beta expression in the OVX rats was significantly decreased in the periodontal tissues (p=0.005) and tibia (p=0.008).

Conclusions: Estrogen deficiency resulted in a significant decrease in the expression of ER-beta in both tibia and periodontal tissues.
### ABSTRACT

**Objective:** To estimate the prevalence of gestational trophoblastic disease (GTD) in the western region of Saudi Arabia, and to evaluate the success of treatment and the effect of age and risk group on survival.

**Methods:** Between January 2001 and December 2010, all patients treated for GTD were identified from the King Abdulaziz University Hospital database. Patients with persistent disease were evaluated according to their clinical treatment outcomes.

**Results:** In total, 122 cases of GTD were identified in the database. Of these, 77 (63%) cases were diagnosed and received initial treatment at the study centre, resulting in an incidence of 1.26 cases per 1000 deliveries. The mean (standard deviation) age of the study participants was 31.52 +/- 10.8 years, mean gestational age at diagnosis was 12.42 +/- 3.2 weeks, and mean follow-up for each patient was 24 months. There were 20 cases (26%) of persistent GTD after treatment. The majority of patients with low-risk disease were treated with single-agent methotrexate, with an overall success rate of 83%. The overall 5-year survival rate for all patients was 98%. Using the Wilcoxon (Gehan) test, risk group and age (cut-off 40 years) were not found to be significantly associated with survival (p = 0.69).

**Conclusions:** This single-institute study reports the first survival data for GTD for Saudi Arabia. However, the overall incidence of GTD in Saudi Arabia will be defined by establishment of a GTD registry.
Research Title: Intravenous Methylprednisolone for Intractable Childhood Epilepsy


ISSN: 0887-8994

Date and Year of Publication: 2014-APR

Impact Factor: 1.504

Affiliated Department(s): Pediatrics

Author(s): Kholoud H Almaabdi, Rawan O Alshehri, Areej A Althubiti, Zainab H Alsharef, Sara N Mulla, Dareen S Alshaer, Nouf S Alfaidi, Mohammed M Jan

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ABSTRACT

Background: Steroids have been used for the treatment of certain epilepsy types, such as infantile spasms; however, the use in the treatment of other intractable epilepsies has received limited study. We report our experience with intravenous methylprednisolone in children with epilepsy refractory to multiple antiepileptic drugs.

Methods: A series of consecutive children were analyzed retrospectively. Patients with infantile spasms, progressive degenerative, or metabolic disorders were excluded.

Results: Seventeen children aged 2-14 (mean 5.3) years were included. Associated cognitive and motor deficits were recognized in 82%. Most children (88%) had daily seizures and 13 (76%) were admitted previously with status epilepticus. The epilepsy was cryptogenic (unknown etiology) in 47% and the seizures were mixed in 41%. Intravenous methylprednisolone was given at 15 mg/kg per day followed by a weaning dose of oral prednisolone for 2-8 weeks (mean 3 weeks). Children were followed for 6-24 months (mean 18). Six (35%) children became completely seizure free; however, three of them later developed recurrent seizures. At 6 months posttreatment, improved seizure control was noted in 10 (59%) children. Children with mixed seizures were more likely to have a favorable response than those with one seizure type (49% vs 31%, P = 0.02). No major side effects were noted, and 35% of the parents reported improvements in their child's alertness and appetite.

Conclusion: Add-on steroid treatment for children with intractable epilepsy is safe and may be effective in some children when used in a short course.


ABSTRACT

This study was conducted to assess knowledge, perception, and attitudes regarding cancer and treatment among healthy relatives of cancer patients who attended an outpatient cancer clinic with their relatives who suffer from cancers. The participants recruited in this cross-sectional, interview-based study were 846 (557 female and 289 male subjects) healthy relatives of cancer patients from the outpatient cancer clinic at King Abdulaziz University Hospital, Jeddah, Saudi Arabia. Most of the participants answered that they believed the causes of cancer were genetic (44.90 %), followed by environmental factors (30.10 %), diet (26.90 %), other causes (26.90 %), envy (26.90 %), and black magic (17.60 %). Most of the healthy participants believed that doctors should tell patients the full truth about the diagnosis (83.57 %). More than half of the healthy population stated that cancer patients should accept all types of treatment (chemotherapy and/or radiotherapy and/or surgery), with more male subjects having this position than females (P = 0.014). Most of the participants believed that cancer cannot be caught from another person who suffered from cancer (67.50 %). Most of the participants believed that cancer education was sufficient (66.70 %), with a significant difference between male and female respondents (P = 0.004). With regard to why cancer patients hide their disease, most of the participants in the age group < 25 years believed that the causes were fear of loss of health insurance (56.20 %), followed by job loss (34.40 %), and then social stigma (9.40 %); in the age group between 25 and 45 years, the causes were fear of loss of health insurance (76.50 %), followed by social stigma (14.70 %), and then job loss (8.80 %); while in the age group > 45 years, the reasons were job loss (47.10 %), followed by health insurance loss (41.20 %), and then social stigma (11.80 %), with a significant difference between groups (P = 0.034). This study demonstrated that still a large number of healthy participants had deficient perceptions and poor attitudes about important issues concerning cancers such as different mode of treatments, alternative treatment, biological causes, and prognosis, particularly among male respondents. Prevention education strategies should be considered, including targeted approaches that aim to reduce disparities in cancer perception among the general population.
Research Title: Middle East Respiratory Syndrome Coronavirus (MERS-CoV) Infection: Chest CT Findings

Source: American Journal of Roentgenology
American Roentgen Ray Society
Volume 203, Issue 4, page 782-787

ISSN: 1546-3141

Date and Year of Publication: 2014-OCT

Impact Factor: 2.744

Affiliated Department(s): Medicine, Radiology

Author(s): Amr M Ajlan, Rayan A Ahyad, Lamia Ghazi Jamjoom, Ahmed Alharthy, Tariq A Madani

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ABSTRACT

Objective: The purpose of this study was to describe the chest CT findings in seven patients with Middle East respiratory syndrome coronavirus (MERS-CoV) infection.

Conclusion: The most common CT finding in hospitalized patients with MERS-CoV infection is that of bilateral predominantly subpleural and basilar airspace changes, with more extensive ground-glass opacities than consolidation. The subpleural and peribronchovascular predilection of the abnormalities is suggestive of an organizing pneumonia pattern.
Research Title: Obstructive sleep apnea among patients with chronic renal failure on regular hemodialysis in Saudi Arabia

Source: European Respiratory Journal
European Respiratory Society
Volume 44, Supplement 58, page p2270

ISSN: 1399-3003

Date and Year of Publication: 2014-SEPT

Impact Factor: 7.125

Affiliated Department(s): Medicine

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ABSTRACT

Introduction: In Chronic Renal Failure patients (CRF), sleep apnea may worsen and clinical symptoms and aggravate the cardiovascular complications of end-stage renal disease (ESRD). Sleep apnea was reported to be in more than half of ESRD patients, while it was reported to range from 5 to 20 percent in the general population. Locally, there is only a single report on the prevalence of OSA in Saudi ESRD patients.

Aim: The aim of this study is to investigate the prevalence of OSA in patients with chronic renal failure on hemodialysis (HD) in multiple centers.

Methods: This cross-sectional study was carried out in three dialysis centers in Jeddah, Saudi Arabia, from June 2012 to September 2013. OSA was assessed using Berlin questionnaire and Epworth Sleepiness Scale (ESS) was used to assess excessive daytime sleepiness. In addition, detailed information about medical, clinical and laboratory results were also obtained.

Results: Among 355 enrolled patients, the mean patient age was 45.5 years ± 15.4 years; 61% were male. The overall prevalence of OSA as defined by Berlin questionnaire was 46.3%. Prevalence was 47% in males and 44% in females, (P: 0.658). The prevalence of excessive daytime sleepiness was (74%). Sleep apnea was significantly associated with diabetes mellitus, hypertension, and hepatitis C (P-values: 0.01, < 0.0001, and < 0.003, respectively). Sleep apnea was also significantly associated with excessive daytime sleepiness (P-values: < 0.0001).

Conclusion: OSA is quite more common in the ESRD patients than in the general population and affects both genders equally. Interestingly, there is significant association of OSA with hepatitis C that would need further confirmation.
Research Title: Otolaryngologic Issues in Down Syndrome Patients from Western Region of Saudi Arabia

Source: Life Science Journal
Marsland Press
Volume 11, Issue 1, page 122-126

ISSN: 1097-8135

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Impact Factor: 2.296

Affiliated Department(s): ORL, Medicine Genetics

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ABSTRACT

Abstract: Down syndrome (DS) is the most common chromosomal abnormality which results in extra genetic material from chromosome 21. Its incidence in Saudi Arabia is reported to be 1 in 554 live births. Otolaryngologic problems are common in children with DS. Early detection and intervention of such problems have led to decrease incidence of hearing loss, and better awareness of breathing disorders in DS patients.

Aims: This work aims to enlist the common significant otolaryngological problems in Saudi DS patients attending the Genetic Clinic in King Abdulaziz University Hospital, in Jeddah, and focus lights on early intervention and management of such problems.

Methodology: A prospective study included all patients attending the DS clinic of the department of genetic medicine at King Abdulaziz University Hospital (KAUH), Jeddah, between October 2007 and October 2011. Each patient underwent full history & physical evaluations, dysmorphologic assessment and anthropometric measurements. Diagnosis was cytogenetically and/or clinically proven. All patients were subjected to ENT and hearing assessments.

Results: A total of 130 patients (59% males and 41% females) with ages ranging between 0-33 years (mean = 5 ± 4.9) were included. Most of the patients 90.9% had trisomy 21 due to non-disjunction, 5.05% due to Robertsonian translocation and 4.04% had mosaic DS. ENT abnormalities were detected in 90/130 (69.3%) patients. External ear canal stenosis (40%), adenoid hypertrophy(33.3%) and tonsillar hypertrophy(32.2%) were the most common presenting anomalies, followed by otitis media with effusion(18%) and abnormal tympanogram(18%). Hearing loss were detected in (12.2%).

Conclusion: This study showed that ENT anomalies are one of the most common problems associated with DS in Jeddah. All patients with DS should be evaluated for otolaryngologic anomalies with complete examination and investigations for further proper intervention.
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<th>Outcome of Systemic Lupus Erythematosus in Hospitalized Patients: A 2-year retrospective analysis</th>
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<td>Author(s):</td>
<td>Sami M Bahlas, Ibtisam Mousa Ali Jali, Hosam Mohamed Kamal Atik, Walaa Khaled Aldhahri</td>
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<tr>
<td>Correspondent’s Email:</td>
<td><a href="mailto:drbahlas@gmail.com">drbahlas@gmail.com</a></td>
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**ABSTRACT**

The objectives of the current study were to assess the pattern of hospital admissions among Systemic lupus erythematosus SLE patients, to identify prognostic factors for survival, and causes of mortality among these patients. The current study involved a retrospective record review for all admitted SLE patients over 2 years (from April 2010 to April 2012), King Abdul Aziz University Hospital, Saudi Arabia, Jeddah. The results indicated that, a total of 95 admission episodes of 60 patients, belonging to different racial origins, were included 6 of the total patients sample [representing 6.3%] male and 89 [93.7%] female admissions; where the samples origins are as follows: Arabs 51 [53.7%], Blacks 28 [29.5%] and others 15 [4.3%]). Mean systemic lupus erythematosus disease activity index (SLEDAI) score was 11.56 (range 0-38). The mean duration of admission was 13.65 days (range 1-64), 48 admissions (50.5%) were due to active SLE and 47 (49.5%) due to other causes. Eleven patients (11.6%) were transferred to the intensive care unit (ICU). A total of 8 (8.4%) deaths were recorded. The results concluded that the renal disease continues to remain one of the most common serious organ involvements in SLE. Infection is a common cause of death among SLE patients. Thrombocytopenia and low hematocrit are independent risk factors for SLE related death. SLE related mortality is higher among the non-White and Black populations.
**ABSTRACT**

Pentalogy of Cantrell (PC) is a rare congenital anomaly involving defects in the anterior diaphragm, supraumbilical abdominal wall, diaphragmatic pericardium, and lower sternum, and other congenital intracardiac abnormalities. Here, we report the case of a newborn infant who was born at 32 weeks of gestation and had all 5 features of PC, in addition to absent kidneys and a deformed left hand. Medical intervention would not be able to save the patient, so we allowed her to die in peace. We discuss here the etiology, prenatal diagnosis, and severity of and the mortality associated with this condition. To our knowledge, this was the first reported case of PC in Saudi Arabia.
ABSTRACT

Purpose: Primary school teacher's knowledge and attitudes toward epilepsy can have significant impact on the performance and psycho-social development of the child with epilepsy. Our objectives were to study teacher's knowledge and attitudes and identify areas in which further teacher training and education are required.

Methods: A stratified random sample survey involving a group of primary school teachers in Jeddah, Saudi Arabia included private/public schools designated for male and female students. A structured 37-item questionnaire was used to examine their demographics, knowledge, attitudes, and experience with epilepsy.

Results: Six hundred and twenty primary school teachers working in public (58%) or private (42%) schools were included with ages ranging between 21 and 59 years (mean 36). Most teachers (79%) were of Saudi Arabian nationality and 66% had a college or university degree. Their years of experience ranged from 1 to 35 (mean 13.5). Only 17% of the teachers felt very well informed about epilepsy. Teachers with higher education were more likely to have good knowledge (p=0.009). Teachers of Saudi nationality were also more likely to report good knowledge, independent of their educational level (p=0.013). Overall, teachers with good knowledge were less likely to have negative attitudes including minding to have an epileptic child in their class (p=0.028) or thinking that they should be placed in a special classroom (p=0.029).

Conclusions: Primary school teacher's knowledge about epilepsy needs improvements. Their attitudes correlated highly with their knowledge. Educational campaigns about epilepsy are needed to develop a well informed and tolerant community.
ABSTRACT

Objectives: To evaluate the health-related quality of life (HRQoL) of patients’ pre- and post-otolaryngological surgery.

Methods: We conducted a cross-sectional study of patients who underwent otolaryngological surgery in the western region of Saudi Arabia between March and October 2013. We administered the Arabic version of the World Health Organization Quality of Life assessment instrument to all patients before surgery, and 2-4 weeks after surgery. The demographic details such as age, gender, level of education, marital status, patients' incomes, otolaryngology diagnosis, and type of otolaryngology surgery were analyzed.

Results: A total of 99 patients (43 males and 52 females), ranging from 1-75 years of age (mean: 21.6 years), were included in this study. The most frequently diagnosed conditions were chronic tonsillitis and obstructive sleep apnea due to adenoid enlargement. Adenotonsillectomy was the most frequently performed surgery, followed by septoplasty and myringotomy with grommet tube insertion. For all domains, patients had significantly higher scores post-surgery. The highest score was obtained for the social relationship domain, and the lowest for the physical health domain. However, the highest differences between the pre- and post-surgery scores were for physical health (7.9), psychological (5.1), environmental (2.5), and social health (2.3) domains.

Conclusion: The HRQoL of patients improved significantly after otolaryngology surgery.
OBJECTIVE

To assess the role of preoperative serum 25 hydroxyvitamin D as predictor of hypocalcemia after total thyroidectomy.

STUDY DESIGN: Retrospective cohort study.

SETTING: University teaching hospital.

SUBJECTS AND METHODS: All consecutively performed total and completion thyroidectomies from February 2007 to December 2013 were reviewed through a hospital database and patient charts. The relationship between postthyroidectomy laboratory hypocalcemia (serum calcium ≤2 mmol/L), clinical hypocalcemia, and preoperative serum 25 hydroxyvitamin D level was evaluated.

RESULTS: Two hundred thirteen patients were analyzed. The incidence of postoperative laboratory and clinical hypocalcemia was 19.7% and 17.8%, respectively. The incidence of laboratory and clinical hypocalcemia among severely deficient (<25 nmol/L), deficient (<50 nmol/L), insufficient (<75 nmol/L), and sufficient (≥75 nmol/L) serum 25 hydroxyvitamin D levels was 54% versus 33.9%, 10% versus 18%, 2.9% versus 11.6%, and 3.1% versus 0%, respectively. Multiple logistic regression analysis revealed preoperative severe vitamin D deficiency as a significant independent predictor of postoperative hypocalcemia (odds ratio [OR], 7.3; 95% confidence interval [CI], 2.3-22.9; P = .001). Parathyroid hormone level was also found to be an independent predictor of postoperative hypocalcemia (OR, 0.6; 95% CI, 0.5-0.8; P = .002).

CONCLUSION: Postoperative clinical and laboratory hypocalcemia is significantly associated with low levels of serum 25 hydroxyvitamin D. Our findings identify severe vitamin D deficiency (<25 nmol/L) as an independent predictor of postoperative laboratory hypocalcemia. Early identification and management of patients at risk may reduce morbidity and costs.
ABSTRACT

Objectives: To evaluate the social consequences of dialysis on children and their parents.

Methods: From January through June 2012 short structured interviews with parents or caregivers of children on peritoneal dialysis (PD) or hemodialysis (HD) who were followed up at King Abdulaziz University Hospital, King Faisal Specialty Hospital and Research Center, or the Kidney Center at King Fahad Hospital were conducted. Data were analyzed using the Statistical Package for the Social Sciences.

Results: Thirty six children (22 boys and 16 girls) and their families were included. The mean (SD) age of the children was 11.5 ± 6.87 y, and the mean (SD) duration of dialysis was 28 ± 11.32 mo. Only one third of the families had the opportunity to choose the modality of dialysis. Both modalities of dialysis had a negative effect on fathers’ jobs in over 50% of the cases. Similarly, both modalities of treatment had a considerable impact on the quality of care provided by the mothers to other family members. There was no difference between the two modalities on the frequency of admissions.

Conclusions: Both PD and HD had a negative impact on fathers’ jobs and on the level of care provided by mothers to the rest of the family.
# Research Title
The Pattern of Otolaryngological Problems that Affect Syndromic Patients at King Abdulaziz University. A Retrospective Study.

# Source

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1097-8135

# Date and Year of Publication
2014-DEC

# Impact Factor
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# Author(s)
Talal A Al-Khatib, Zainab A Bakhsh, Jumana Y Al-Aama, Basem S El-deek, Mohieddin M Mandura, Saad M Al-Muhayawi, Khalil S Sendi, Khaled I Al-Noury, Tarek S Jamal, Khalid B Al-Ghamdi, Hisham B Alem

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## ABSTRACT

**Background:** To date, there have been no published studies on the pattern of otolaryngological (ORL) problems in syndromic patients in Saudi Arabia.

**Objective:** The aim of the study was to determine the significant otolaryngological problems that affect the most common syndromic patients attending to the Medical Genetic Clinic (MGC) at King Abdulaziz University (KAU) and to reveal the implications of routine ORL screening to help in the evaluation and management of affected patients.

**Method:** This retrospective study was conducted among 124 syndromic patients at the MGC in KAU. All individuals with a syndromic diagnosis known to have ORL problems or who suffered from speech delay were referred routinely from the MGC to the ORL clinic. The data were collected from medical records and focused on airway, otological and speech abnormalities. The following investigations were reviewed: lateral neck X-ray, tympanogram, audiogram, auditory brainstem response (ABR), and ORL surgeries.

**Results:** The most common syndrome was Down syndrome (90.3%) followed by the 22q11 spectrum disorder (5.6%). The most common otological problem was conductive hearing loss (21%), and the most common airway problem was mouth breathing (15%). Adenoidectomy was the most common surgery (12.5%) followed by tonsillectomy (10.7%). Of the syndromic patients who were referred for screening without any complaints, 42.5% had an incidental finding of otological defects, and 37% had airway problems.

**Conclusion:** A significant proportion of syndromic individuals suffered from ORL issues even in the absence of clinical symptoms. Recommendation: All individuals with facial dysmorphic features should receive a comprehensive ORL evaluation. This evaluation will lead to timely intervention and better clinical and learning outcomes.
ABSTRACT

Objectives: To investigate the clinical and histopathological characteristics, with the prognostic factors, treatment outcome, pattern of relapse, and survival analysis of uterine sarcoma patients.

Methods: All patients with histologically proven uterine sarcoma were identified using the database at King Abdulaziz University Hospital, Jeddah, Saudi Arabia between January 2000 and December 2012.

Results: A total of 36 patients with uterine sarcoma were reviewed. The median age of all patients was 57 years, and the mean age was 57.72 +/- 13.17 years. Carcinosarcoma was reported in 21 patients (58%), leiomyosarcoma in 7 (19%), undifferentiated endometrial sarcoma in 6 (17%), and rhabdomyosarcoma in 2 (6%). Approximately half of the patients were stages III and IV (28% and 25%), while 15 patients (41%) were stage I; only 2 patients (6%) were stage II. The surgical treatment was hysterectomy and bilateral salpingoophorectomy (H+BSO) plus staging in 18 patients (50%), while in 4 patients (19%), H+BSO plus debulking was performed. Adjuvant chemotherapy was given in 24 (69%) and adjuvant radiotherapy in 5 (14%) cases. At a median follow-up period of 13.5 months, 8 patients (22%) relapsed. The 2-year disease-free survival (DFS) rate was 22% and the 5-year was 14%. In the multivariate analysis, the advanced stages (p=0.015) and lymph vascular invasion (p=0.0001) were associated with poor DFS, while the use of chemotherapy significantly improved the DFS (p=0.027).

Conclusions: The poor outcome of high-grade uterine sarcoma patients was identified, and only one third of patients (30%) survived for 2 years. This finding necessitates the need for more aggressive tools to fight this disease.
2015 Undergraduate Medical Students’ Involvement in Authorship of Research

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ABSTRACT

Background and Objectives: The epidemiology, clinical characteristics, and risk factors of aneurysmal subarachnoid hemorrhage (aSAH) in Saudi Arabia are still largely unknown. This retrospective cohort study was aimed to determine these features of the disease.

Design and Settings: A retrospective cohort review was performed on all patients with aSAH who were treated and followed at King Abdulaziz University Hospital between July 2000 and December 2013.

Patients and Methods: A quantitative methodology was used and data were collected on patients' age, gender, nationality, time to hospital presentation, clinical presentation, aneurysm characteristics, treatment, complications, and outcome.

Results: A total of 41 patients with aSAH were included with a mean age of 43.2 (11.5) years; and males comprised 34.1%. Smoking and hypertension were the most common risk factors. Eight patients had known risk factors for aSAH, and were diagnosed using CT scans. An unfavorable outcome was associated with the presence of vasospasm (P<.001), cerebral edema (P=.001), and hydrocephalus (P=.003).

Conclusion: A high occurrence of aSAH was observed in an age group younger than that reported in published reports. The pattern and outcome of aSAH were otherwise similar to prior reports. Future studies investigating these observations in other centers in the country can improve the prevention and treatment of this serious condition.
**ABSTRACT**

Diabetes mellitus is regarded as a serious chronic disease that carries a high risk for considerable complications. In folk medicine, the edible Grewia asiatica fruit is used in a number of pathological conditions. This study aimed to investigate the possible curative effect of G. asiatica fruit ethanolic extract against streptozotocin- (STZ-) induced hyperglycemia in rats. Furthermore, mechanism of antihyperglycemic action is investigated. Hyperglycemic rats are either treated with 100 or 200 mg/kg/day G. asiatica fruits extract. Serum glucose, liver glycogen, malondialdehyde (MDA), reduced glutathione (GSH), superoxide dismutase (SOD), interleukin-(IL-) 1β, and tumor necrosis factor- (TNF-) α are measured. G. asiatica fruits extract reduces blood glucose and pancreatic MDA levels. It increases liver glycogen and pancreatic GSH contents and SOD enzyme activity. Furthermore, Grewia asiatica fruits extract decreases serum IL-1β and TNF-α. The treatment also protects against STZ-induced pathological changes in the pancreas. The results of this study indicated that G. asiatica fruit extract exerts antihyperglycemic activity against STZ-induced hyperglycemia. The improvement in the pancreatic β-cells and antioxidant and anti-inflammatory effects of G. asiatica fruit extract may explain the antihyperglycemic effect.
ABSTRACT

In a continuation of our efforts to identify bioactive compounds from Red Sea Verongid sponges, the organic extract of the sponge Suberea species afforded seven compounds including two new dibrominated alkaloids, subereamollines C and D (1 and 2), together with the known compounds aerothionin (3), homoaerothionin (4), aeroplysinin-1 (5), aeroplysinin-2 (6) and a revised subereaphenol C (7) as ethyl 2-(2,4-dibromo-3,6-dihydroxyphenyl)acetate. The structures of the isolated compounds were assigned by different spectral data including optical rotations, 1D (1H and 13C) and 2D (COSY, multiplicity-edited HSQC, and HMBC) NMR and high-resolution mass spectroscopy. Aerothionin (3) and subereaphenol C (7) displayed potent cytotoxic activity against HeLa cell line with IC50 values of 29 and 13.3 µM, respectively. In addition, aeroplysinin-2 (6) showed potent antimigratory activity against the human breast cancer cell line MDA-MB-231 with IC50 of 18 µM. Subereamollines C and D are new congeners of the previously reported compounds subereamollines A and B with methyl ester functionalities on the side chain. These findings provide further insight into the biosynthetic capabilities of members of the genus Suberea and the chemical diversity as well as the biological activity of these compounds.
Breast Cancer accounts for 24% of all women cancer cases diagnosed in Saudi Arabia each year. Awareness is extremely important in combating this disease. This study was undertaken to assess male high school students’ response to BC. This cross-sectional survey was performed on male high school students across schools in Jeddah. A questionnaire gathered data on respondent demographics, beliefs about BC, BC risk factors, early screening methods, and role of men in BC. Statistical analysis was done using SPSS 20. A total of 824 students participated, with an average age of 17.0 years. There was more than 50% agreement that early detection of BC enhances the chances of recovery, that BC is treatable, and that clinical breast examination and breastfeeding provide protection from BC. Around half the survey population thought that BC was fatal and contagious. Fewer than 50% thought that BC was inherited and related to smoking, consumption of contraceptive pills, repeated exposure to radiation, obesity, and wearing a bra and that breast tumors were all malignant and spread to different parts of the body. Others knew that mammograms should be performed periodically. A high percentage persuaded their relatives to have mammograms and provided them with psychological support. Knowledge of BC among male high school students in Saudi Arabia is still limited, and, therefore, programs and activities need to be established to increase awareness among high school students.
ABSTRACT

Objective: Obesity has been associated with hypothyroidism and cardiac autonomic dysfunction. The present study aimed to investigate whether cardiac autonomic dysfunction in young obese males might be related to an underlying thyroid disturbance.

Patients And Methods: On the basis of body mass index (BMI), 40 participants were grouped into normal weight group (NW; BMI = 18.5-25 kg/m²; n = 15), overweight group (OW; BMI = 25-29.9 kg/m²; n = 12) and obese group (OB; BMI = 30 kg/m²; n = 13). Electrocardiogram was recorded using PowerLab system and the time and frequency domain measures of heart rate variability (HRV) were calculated. Fasting blood samples were drawn for measurement of serum thyroid stimulating hormone (TSH), total thyroxin (TT4) and total triiodothyronine (TT3) concentrations.

Results: The levels of TSH, TT4 and TT3 were not significantly different between the groups. The frequency domain HRV parameter reflecting parasympathetic tone (high-frequency normalized units, HFnu) was significantly reduced in OB group. The parameters which reflect sympathetic activation (Heart rate, low-frequency normalized units; LFnu and the LF/HF ratio) were significantly increased in the OB group. HFnu was significantly and negatively correlated with BMI, waist hip ratio and body fat percentage, whereas LFnu and LF/HF ratio were significantly and positively correlated with the above mentioned parameters. No significant relationships were noted between the HRV parameters and the levels of TSH or thyroid hormones.

Conclusions: Cardiac autonomic dysfunction in obese young adult males is not linked with underlying thyroid disturbance.
Dandy-Walker syndrome (DWS) is a rare brain malformation involving the cerebellum, and the fluid filled spaces around it, usually detected during the antenatal period or the early infancy. Clinically, it is characterized by mental retardation, developmental delay as well as cerebellar ataxia. It has been frequently associated with other conditions such as congenital heart diseases, primary hypothyroidism and other disorders of the central nervous, gastrointestinal, genitourinary, and orthopedic systems. In this report, we describe a 3-month-old Saudi boy with the rare association of DWS with central diabetes insipidus, congenital central hypothyroidism, and type-2 renal tubular acidosis.
**ABSTRACT**

**Background:** Cisplatin (CIS) is one of the most effective anticancer drug used in the treatment of several solid tumors. Its use is limited by its nephrotoxicity. The present study was designed to assess the role of a natural product resveratrol (RSVL) on sensitization of mammary carcinoma (Ehrlich ascites carcinoma) to the action of CIS and the possible protective effect against CIS-induced nephrotoxicity in rats.

**Methods:** The percent survival of female tumor bearing mice was used for determination the cytotoxic activity of CIS in the presence or the absence of RSVL. Uptake and cell cycle effect, serum creatinine (CREA), blood urea nitrogen (BUN), Reduced Glutathione (GSH) and histopathological examination of kidney tissues after CIS and/or RSVL therapy were also investigated.

**Results:** RSVL increased the intracellular level of CIS in EAC cells and there was a strong correlation between the high cellular level of CIS and its cytotoxicity. CIS at a dose level of 5 mg/kg increased the mean survival time of female tumor bearing mice to 25 days compared with 17 days for tumor-bearing control mice. Administration of RSVL at a dose level of 25 mg/kg simultaneously with CIS increased the mean survival time to 48 days with 60% survival of the tumor-bearing animals. Cell cycle analysis of tumor cells showed that CIS treatment decreases the proliferation index of tumor cells while in presence of RSVL there was more significant inhibitions. Also, CIS treatment caused increase in level of creatinine and blood urea with significant decrease in the GSH level. While, in the presence of RSVL, level of creatinine and blood urea restored to control level.

**Conclusion:** This study suggests that RSVL could increase the cytotoxic activity of CIS and protect against its nephrotoxicity.
This study aims to investigate the analgesic and anti-inflammatory effects of Commiphora opobalsamum in rodents in comparison with diclofenac, and its ability to enhance the activity of diclofenac in reduced doses. Wister rats or Swiss mice (5 groups/6 each) were administered methanolic extract of C. opobalsamum, saline and diclofenac 30 min before the test initiation by i.p. route. The analgesic activities were examined utilizing the acetic acid, hot plate and formalin paw lick techniques. The anti-inflammatory efficacy was examined by utilizing the granuloma induced by cotton pellet and paw edema induced by carrageenan C. opobalsamum demonstrated a stronger inhibition of writhing compared to diclofenac, and the 500 mg/kg dose completely inhibited the writhing response. In hot plate, C. opobalsamum co-administrated with diclofenac exhibited significant prolongation of reaction time compared to diclofenac alone. Furthermore, C. opobalsamum (500 mg/kg) significantly shortens the licking time compared to diclofenac at both phases. In addition, the suppression of paw edema induced by carrageenan was significant in comparison to diclofenac at first hour. Interestingly, significant weight reduction of granuloma tissue was perceived at all doses of C. opobalsamum in contrast to control group. This study provides a strong evidence of the analgesic and anti-inflammatory activity of extract of C. opobalsamum, additionally it has revealed significant anti-inflammatory effect, equivalent to on-steroidal anti-inflammatory drugs (NSAIDs). Moreover, the combination of reduced doses of C. opobalsamum and diclofenac with resultant synergistic potentiation of both analgesic and anti-inflammatory effect, necessitates a cautious approach to elucidate its mechanism with the concomitant meticulous study of its safety profile.
ABSTRACT

Background: The puberty ages in females living in western and middle eastern countries is declining rapidly because of many underlying causes including consumption of animal protein, caloric intake (fat, soft drinks), and fruits and vegetables (fiber).

Aim: To investigate the relationship between early puberty and the intake of various types of protein (chicken, beef and fish), fruits, vegetables, dairy products, caffeine and soft drinks.

Study Design: This cross-sectional study was conducted in Jeddah. The sample included 568 young women from different areas; pubertal staging was conducted using the Tanner staging, and relevant data were collected through a questionnaire. Data was analyzed using the Pearson’s correlation coefficient; we assumed that the data followed a normal distribution based on the large sample size of 568 girls. Results: Early breast and pubic hair development was significantly correlated with meat, fast food, French fries, and soft drink consumption. It was also observed that the age at menarche was significantly correlated with chicken consumption.

Conclusion: A significant relationship between early pubertal development and excessive consumption of chicken and beef was observed along with varying relationships between fat, soft drink, caffeine, calcium, and fruit and vegetable intake and pubertal development. Reduced organic chicken and beef intake was highly recommended.
Research Title: CT Optimization for Diagnosis of Some Acute Abdomen Cases


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ABSTRACT

The acute abdomen is one of the most frequent causes for presentation to the emergency department. Imaging plays an important role for an accurate diagnosis, which in turn diminishes morbidity and mortality. The aim of this study was to demonstrate optimum CT aspects and emphasize on the important features of CT for those patients presenting with an acute abdominal pain at the Emergency Department both in general and in a number of selected conditions (appendicitis, small-bowel obstruction, acute pancreatitis, and diverticulitis). The reported data by this study are based on the author working experience, which forms a continuous protocol adjustment process. The present study provides evidence that CT would result in definite diagnosis of patients with abdominal pain in terms of the detection of some urgent conditions.
Human immunodeficiency virus (HIV) infection associated aneurysmal vasculopathy is a rare complication of HIV infection affecting the pediatric and adult population. We present a case of a 7-year-old male child known to have a congenitally acquired HIV infection presenting with a ruptured left distal internal carotid artery fusiform aneurysm that was diagnosed on MRI scans 6 months prior to his presentation. He underwent craniotomy and successful aneurysm reconstruction. He had uncomplicated postoperative course and experienced a good recovery. This case is among the few reported pediatric cases of HIV-associated cerebral arteriopathy to undergo surgery. We also reviewed the relevant literature of this rare condition.
Objective: This study aimed to identify the proportion of patients who had clinical deterioration in the medical ward that required intensive care unit transfer and the factors associated with this transfer.

Methods: A retrospective study of all patients admitted to the medical wards of King Abdulaziz University Hospital between 2010 and 2013 was performed. The demographics, admitting department, diagnosis at the time of admission to the ward, and cause of intensive care unit transfer were collected. Patients at risk for deterioration and early intensive care unit transfer were identified using physiologic threshold criteria.

Results: A screening of 38380 patients admitted to the various medical services during the study period was performed. Of these, 356 (0.9%) required intensive care unit transfer. Most patients were initially admitted from the emergency department (66.3%), while transfers from another hospital comprised approximately 1%. Intensive care unit transfer patients were more likely to have ischemic heart disease (P < 0.001), diabetes (P < 0.001), renal failure (P < 0.001), or sepsis associated with pressure ulcers (P < 0.001). They were also more likely to be bedridden (P < 0.001) or initially ventilated in the medical ward (P < 0.001). The mortality rate of the patients was 3.9% with patients who died being more likely to have unstable blood pressure at the time of admission (P = 0.026).

Conclusion: This study identified several factors that were associated with intensive care unit transfer. Clinicians should consider these factors when determining patient disposition to ensure timely and appropriate management.
ABSTRACT

Background: Cisplatin (CIS) is a potent antineoplastic agent with high therapeutic efficacy against many kinds of tumors. Its use is limited by its nephrotoxicity. The aim of this work was to minimize cisplatin effective dose and the possible reduction of its severe side effects. The present study was designed to assess the role of sulfur containing agent dimethyl sulfoxide (DMSO) on sensitization of mammary carcinoma, Ehrlich ascites carcinoma (EAC), to the action of cisplatin and at the same time the possible protective effect against cisplatin induced nephrotoxicity in experimental animals.

Methods: To evaluate these effects we have explored the cisplatin effect on the survival time of tumor-bearing animals, tumor weight, cisplatin cellular uptake, apoptosis induction and cell cycle distribution and renal function in presence and absence of DMSO.

Results: Cisplatin at dose of 4.5 mg/kg increased the mean survival time of tumor bearing mice to 37 days compared with tumor bearing control mice. Pretreatment of tumor bearing mice with DMSO 50 % (2 ml/kg equal to 1 gm/kg) 2 h. before cisplatin showed a significant increase in their mean survival time 43 days compared to cisplatin treated animals. DMSO pretreatment retained rat's serum urea and creatinine levels to normal compared to animals treated with cisplatin alone.

Conclusion: DMSO pretreatment enhanced the cytotoxic activity of cisplatin against the growth of EAC in vivo and showed protective effects against cisplatin-induce nephrotoxicity.
ABSTRACT

Background: Linear growth in females is influenced by many factors, one of them is puberty. Due to the worldwide downward trend in age of menarche, early puberty could be one of the causative factors of short stature.

Objective: The study was aimed at finding out the effect of early puberty on final height and to detect deviation from the target height in young females. The age group selected for the study, ranges from 6-14 years, living in Jeddah, Saudi Arabia.

Methods: This study was carried out in Jeddah for the complete month of July 2014. For the conduction of this study, a cross sectional study design was used. The total sample size was 586 young females selected from different areas in Jeddah. A manual height measuring tape and board was used to measure the height to the nearest value of 0.5 cm. Pubertal staging was done using the Tanner stage and the relevant data and information was gathered and assembled by the help of a questionnaire. For the analysis of data in this study, Multiple Linear Regression and Pearson’s Correlation Coefficient were used.

Results: Mean of child’s final height of 149.4 cm +/- 9.5, in comparison to the mean of their target height of 157.8 +/- 6.4, shows an 8.4 cm difference. Moreover, the correlation coefficient analysis showed a significant association between child’s height in cm and age of menarche for child with (p-value = 0.001) and (r) = 0.349. This indicates a positive relation between the two variables.

Conclusion: The menarcheal age and height are significantly related; the early onset of the signs of puberty or menarche is associated with a shorter height than the target height.
Research Title: Effect of Ramadan fasting in Saudi Arabia on serum bone profile and immunoglobulins

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ABSTRACT

Background: Each year Muslims fast from dawn to sunset for 1 month (Ramadan). In Saudi Arabia, the sleep–wake cycle during Ramadan is severely disturbed and is associated with abolition of the circadian cortisol rhythm, exposing Saudis to continuously increased cortisol levels, which may influence the immune response. In addition to cortisol, sleep and fasting affect the secretion of parathyroid hormone (PTH) and hence bone metabolism.

Methods: Our objective was to investigate the effect of Ramadan type fasting on secretory patterns of PTH, markers of bone metabolism, and serum immunoglobulins. Blood samples from healthy young volunteers were collected at 9 a.m. and 9 p.m. (± 1 hour) before (Shaban) and 2 weeks into Ramadan. Calcium, phosphorus, magnesium, albumin, alkaline phosphatase, 25-OH vitamin D, intact PTH (iPTH), and immunoglobulin (Ig) A, M and G were measured.

Results: During Ramadan, evening-adjusted calcium was higher (p = 0.036) and phosphate lower (p < 0.001) than the corresponding morning value. Moreover, the Ramadan mean morning phosphate was higher and the evening level lower was than Shabaan values (p = 0.010 and p <0.001, respectively), while mean iPTH level was decreased compared with the morning value (p = 0.001), and the evening mean during Shabaan (p = 0.029). Mean IgG concentration was significantly lower during Ramadan (p = 0.003 and p = 0.021 for morning and evening, respectively).

Conclusions: Changes in dietary practices during Ramadan modulated PTH secretion to a pattern which might be beneficial to bone health. Combined effects of fasting and disturbed sleep led to a noted decrease in IgG level. Therefore, a possible beneficial effect of fasting on bone turnover is combined with decreased immune response.
ABSTRACT

Background and aim: Regular physical exercise (RPA) have a great role in management of type 1 diabetes mellitus (T1DM). We aimed from this study to correlate between regular physical activity and glycaemic control in pediatric age group with T1DM.

Patients and methods: This is a cross-sectional study, includes 243 T1DM children and adolescents visiting pediatric diabetes clinic at King Abdul-Aziz University Hospital (KAUH). Clinical and laboratory characteristics of patients were all recorded. Patients were divided into two groups, good glycemic control (HbA1c<8%) and poor glycemic control (HbA1c ≥ 8%). The collected data used to examine cross-sectional association between glycaemic control (HbA1c) and physical activity.

Results: There was no significant difference between two groups regarding age, gender, mother education, father education, family history of type 1 diabetes and duration of RPA ( P value>0.05 ), while there was significant difference between two groups regarding RPA and frequency of RPA /week( P value<0.05 ). We found. Lower level of HbA1c in patients with more frequent RPA (P<0.05). Patients with no RPA were at 3.5 times risk of poor glycemic control (HbA1c ≥ 8%). Patients with long duration of diabetes had higher HbA1c.

Conclusion: Children and adolescents with T1DM should be encouraged to participate regularly in physical activity which results in better glycaemic control.
ABSTRACT

Chronic nicotine administration increased levels of gastrin, ghrelin and histamine but decreased prostaglandinE(2). Nicotine administered orally and by inhalation had a marked negative impact on the histological structure of the gastric mucosa compared with intraperitoneal administration. The negative impact of nicotine administration on gastric structure was associated with an increased concentration of gastrin and decreased prostaglandinE(2), which might be the cause of gastric/peptic ulcers in heavy smokers. The increase in ghrelin concentration and its effect following chronic nicotine administration needs further investigation.

The aim was to assess the effects of different routes of chronic nicotine administration on gastric morphology and hormonal secretion; mainly gastrin, ghrelin, histamine and prostaglandinE(2) (PGE(2)). Forty adult male albino rats were randomly assigned into four groups (10 rats per group), treated for 21 days as follows: control group (given standard rat pellets and water only); oral nicotine-treated group [50 g (ml drinking water)(-1)]; intraperitoneal nicotine-treated group [0.5 mg (kg body weight)(-1)]; and inhaled nicotine-treated group [0.5 mg (kg body weight)(-1)]. Concentrations of gastrin, ghrelin, PGE(2) and histamine in serum and gastric tissue homogenates were assessed using ELISA kits. Stomach fundus was processed for histopathology andimmunohistochemistry using light and electron microscopy. Different routes of chronic nicotine administration resulted in a significant increase in serum and gastric homogenate gastrin and ghrelin concentrations and a significant decrease in serum and homogenate PGE(2) concentrations compared with the control group. Moreover, nicotine administration via oral and inhalation routes caused gastric erosion, transformation of peptic cells into the mucous variety, a significant increase in parietal cell numbers and an increase in expression of gastrin. In conclusion, the negative impact of nicotine administration on gastric structure that is associated with an increased concentration of gastrin and decreased concentration PGE(2) might be the leading cause of gastric/peptic ulcers in heavy smokers. The increased ghrelin concentration and its effect following nicotine chronic administration needs further investigation. Based on these findings, we suggest that the alteration in gastric structure following chronic administration of nicotine can be prevented by reducing gastrin secretion and/or targeting its receptors.
ABSTRACT

Background: Studies are needed to examine predictors of success in medical school. The aim of this work is to explore factors that potentially influence excellence of medical students.

Methods: The study was conducted in the Medical Faculty of King Abdulaziz University during October 2012. A self-administered questionnaire was used. Medical students with a grade point average (GPA) ≥4.5 (out of 5) were included and compared to randomly selected medical students with a GPA <4.5, who were available at the time of the study.

Results: A total of 359 undergraduate students participated in the study. 50.4% of the sample was students with a GPA ≥4.5. No statistically significant difference regarding the time spent on outings and social events was found. However, 60.7% of high GPA students spend less than 2 hours on social networking per day as compared to 42.6% of the lower GPA students (P<0.01). In addition, 79% of high GPA students prefer to study alone (P=0.02), 68.0% required silence and no interruptions during studying time (P=0.013), and 47% revise their material at least once before an exam (P=0.02).

Conclusion: Excellent medical students have many different characteristics. For example, they do not use social networking for prolonged periods of time, and they have strong motivation and study enjoyment. Further studies are needed to examine whether these differences have a real impact on GPA or not.
**ABSTRACT**

**Objectives:** To investigate the relationship between metabolic control, acute and long-term complications, the coexistence of autoimmune diseases, and to assess the different factors that can affect the glycemic control level among children with type 1 diabetes mellitus (T1DM).

**Methods:** This is a cross-sectional study that included 228 T1DM children and adolescents visiting the pediatric diabetes clinic at the King Abdulaziz University Hospital (KAUH), Jeddah, Saudi Arabia from January 2013 to January 2014. The clinical and laboratory characteristics of the patients were recorded. Metabolic control, complications, and associated autoimmune diseases were evaluated.

**Results:** The mean age of patients was 10.99 years, and the glycated hemoglobin (HbA1c) level was 8.8%. Acute complications included ketoacidosis in 65.4% of patients, and hypoglycemic attacks in 68.9%. Long-term complications were detected in patients including retinopathy (4.4%), microalbuminuria (16.2%), and dyslipidemia (8.3%). Autoimmune thyroiditis was noted in 14%, and celiac disease was found in 19.7% of patients. A significant difference was found in pubertal and pre-pubertal age groups in terms of glycemic control (p=0.01).

**Conclusion:** The level of HbA1c was found to be higher among the pubertal age group. A relationship between autoimmune diseases and gender was determined.
**Research Title:** Helical computed tomography scanning of the larynx and upper trachea in rabbits

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### ABSTRACT

**Objectives:** To determine the efficacy, tolerability, and safety of an aqueous extract of Costus speciosus (C. speciosus) rhizome in pediatric and adult patients suffering from acute pharyngitis and tonsillitis as an alternative to antibiotics use.

**Methods:** This pilot cohort trial was conducted at King Abdulaziz University in Saudi Arabia between May and December 2014, among 15 patients with acute pharyngitis and tonsillitis who were administered nasal drops of aqueous extract of C. speciosus rhizome at a dose of 15-30 drops every 8 hours for 3 days. The primary outcome measure was the clinical improvement and remission rate within the first 5 days.

**Results:** The administration of C. speciosus resulted in an improvement in acute symptoms in 60% of the patients treated within the first 24 hours, and remission rate of 93% by day 5, without any recorded adverse effects.

**Conclusion:** This study revealed a significant efficacy of the aqueous extract of C. speciosus rhizome in acute pharyngitis and tonsillitis.
ABSTRACT

**Background:** In 2007 Faculty of Medicine (FOM), King Abdulaziz University (KAU) reoriented the medical curriculum and integrated professionalism. This study was conducted to assess the perception of professionalism attitudes by medical graduates who graduated from the new curriculum that incorporated the professionalism module and compare it to those who did not.

**Methods:** This cross sectional study was conducted at the teaching hospital of the FOM, KAU using a modified version of the well-constructed questionnaire designed to assess the student’s attitudes toward professionalism was distributed to all interns in the academic year of 2013-2014. Statistical analysis was carried out using Statistical Package of Social Science (SPSS) version 16.

**Results:** Higher mean scores with significant differences in all aspects of professionalism were observed in interns graduated from the new curriculum when compared to those of the old one and was previously reported by Eldeek et al., (2012). The importance of adhering to high ethical and moral behavior and the need of humanity in the efficacy of the medical practice were the most significant attributes with effect size of 0.64 and 0.58 respectively. Studying in the clinical years represented the first helpful source of the participant to develop their perception about professionalism.

**Conclusion:** The new developed curriculum at the FOM succeeded to improve the graduate perception about professionalism.
**ABSTRACT**

**Background:** Human immunodeficiency virus (HIV)–associated cerebral aneurysmal vasculopathy is a rare complication of HIV affecting pediatrics and adults and has been the subject of many case reports and case series.

**Methods:** We performed a systematic literature search of PubMed, Embase, Scopus, Web of Science, Science Direct, and Google Scholar up to April 10, 2015. Our inclusion criteria encompassed all reported original case series and reports of HIV-associated cerebral aneurysms diagnosed radiologically, and we analyzed the clinical characteristics and management of the reported cases.

**Results:** We identified 61 patients reported in the literature (45 pediatric and 16 adults). The median age was 9.8 and 36.5 of pediatric and adult patients, respectively. Weakness was the most common presenting symptom in adult and pediatric patients. The most common affected artery was the middle cerebral artery (MCA). Approximately, 87.2% of pediatric cases and 42.9% of adult cases were on antiretroviral therapy (ART) at presentation. The mortality rate was 60% and 35.7% among pediatric and adult patients, respectively. The optimal management is not well established. Variable response to ART was reported with possible survival benefits when antiretroviral therapy is initiated early.

**Conclusion:** HIV-associated cerebral aneurysmal arteriopathy is associated with high mortality. The optimal management is not well established but early initiation of antiretroviral therapy may improve the survival rate in those patients.
**Research Title:** Immunoexpression of cyclin D1 in colorectal carcinomas is not correlated with survival outcome

**Source:**
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**Affiliated Department(s):** Colon Cancer Chair; Medicine; Pathology

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**ABSTRACT**

**Background:** Colon and colorectal cancer (CRC) research has entered a new era with recent updates of molecular events and prognostic markers. Among other prognostic markers, exaggerated expression of nuclear CCND1 has key role in tumour pathogenesis and metastases of CRC and has also been claimed to predict response to treatment.

**Objectives:** This study was designed to evaluate the prognostic and predictive value of CCND1 in CRC and the correlation of CCND1 expression with the different clinicopathological parameters.

**Methods:** Paraffin blocks from 117 primary CRC were retrieved from the archives of the Department of Pathology at King Abdulaziz University. Tissue microarrays were designed and constructed. The immunostaining of CCND1 was performed and analysed.

**Results:** There were more cases with low nuclear immunoexpression of CCND1 in both primary tumours and nodal metastasis (p < 0.001). Cyclin D1 did not show association with clinicopathological features except with lymphovascular invasion. Low nuclear immunoexpression of CCND1 was associated with negative lymphovascular invasion (p = 0.046). There was no statistically significant correlation between CCND1 immunoexpression and survival probability (Log Rank = 2.474, p = 0.116).

**Conclusion:** Our study indicates that CCND1 immunoexpression cannot be used as a predictor of survival in CRC. It also shows no significant correlation with clinicopathological features except with lymphovascular invasion.
Colorectal cancer (CRC) is common worldwide. The high prevalence of the disease raises concerns about how CRC influences the health-related quality of life (QoL). To explore the impact of physiological symptoms and complications of CRC on patients’ QoL, we conducted a cross-sectional survey using the FACT-C self-report instrument. The chi-square test was used to compare qualitative data. We found that pain was reported by most of the patients (n = 31; 77.5 %). Furthermore, male patients were more likely to complain of pain “mostly” as compared with females (P = .032). We found no significant differences between genders regarding general health-related questions. A greater proportion of male patients often complained of abdominal cramps (P = .542), weight loss (P = .086), and diarrhea (P = .408). More than half of the patients (n = 26; 65 %) reported having a good appetite; a greater proportion of males reported having a good appetite “mostly” (P = .014). Social and psychological qualities of life were not significantly different between male and female patients. Male and female patients did not differ in their report of disease acceptance (P = .420) and ability to enjoy life (P = .744). No difference was also found between genders regarding contentment with QoL (P = .793) or ability to sleep well (P = .695). Furthermore, there were no differences between genders regarding job fulfillment (P = .272). Our results add to the growing body of knowledge about the effect of CRC on QoL. Importantly, the differences in self-reported pain and appetite between male and female patients in our study suggest the importance of gender-based treatments in improving patients’ QoL.
Interprofessional education (IPE) is when members or students of two or more professions learn from and about each other to improve collaboration and quality of care. The aim of this study was to identify the awareness and importance of IPE among medical and nursing students and graduates at King Abdulaziz University. A cross-sectional study was conducted with fourth-year medical students, fourth-year nursing students, interns, and internal medical residents at King Abdulaziz University and hospital. A survey was completed by all the participants after they gave their consent. Participants were asked whether they knew the meaning of IPE. We explained IPE to those who did not know what it was. Then, each participant was asked to rate all 11 items on the survey with one of five choices: strongly agree, agree, undecided, disagree and strongly disagree. A total of 105 professionals participated in the study. The participants were primarily fourth-year medical and nursing students, all of whom were women. However, for the medical interns and medical residents, we included both men and women. Only 12 (11.4%) participants knew the meaning of IPE, all of whom were medical residents. The majority—77 of 103 (75%), most of whom were nursing students—responded that IPE is important. The difference between the groups was also significant (P = 0.008). In conclusion: Our study showed that our medical students and graduates valued IPE and thought that the implementation of IPE in their education would improve both patient care and health care provider satisfaction.
Lennox-Gastaut syndrome (LGS) is a severe pediatric epilepsy syndrome characterized by mixed seizures, cognitive decline, and generalized slow (<3Hz) spike wave discharges on electroencephalography. Atonic seizures result in dangerous drop attacks with risks of injury and impairment of the quality of life. The seizures are frequently resistant to multiple antiepileptic (AED) drugs. Newer ARDs, such as rufinamide, are now available. When multiple AED trials fail, non-pharmacological treatments such as the ketogenic diet, vagus nerve stimulation, and epilepsy surgery, should be considered. The aim of this review is to present an updated outline of LGS and the available treatments. Although the prognosis for complete seizure control remains poor, the addition of newer therapies provides an improved hope for some of these patients and their families. Further long term randomized controlled trials are required to compare different therapeutic interventions in terms of efficacy and tolerability.
Lycopene supplementation decreases oxidative stress and exhibits beneficial effects on bone health, but the mechanisms through which it alters bone metabolism in vivo remain unclear. The present study aims to evaluate the effects of lycopene treatment on postmenopausal osteoporosis. Six-month-old female Wistar rats (n = 264) were sham-operated (SHAM) or ovariectomized (OVX). The SHAM group received oral vehicle only and the OVX rats were randomized into five groups receiving oral daily lycopene treatment (mg/kg body weight per day): 0 OVX (control), 15 OVX, 30 OVX, and 45 OVX, and one group receiving alendronate (ALN) (2 μg/kg body weight per day), for 12 weeks. Bone densitometry measurements, bone turnover markers, biomechanical testing, and histomorphometric analysis were conducted. Micro computed tomography was also used to evaluate changes in microarchitecture. Lycopene treatment suppressed the OVX-induced increase in bone turnover, as indicated by changes in biomarkers of bone metabolism: serum osteocalcin (s-OC), serum N-terminal propeptide of type 1 collagen (s-PINP), serum crosslinked carboxyterminal telopeptides (s-CTX-1), and urinary deoxypyridinoline (u-DPD). Significant improvement in OVX-induced loss of bone mass, bone strength, and microarchitectural deterioration was observed in lycopene-treated OVX animals. These effects were observed mainly at sites rich in trabecular bone, with less effect in cortical bone. Lycopene treatment down-regulated osteoclast differentiation concurrent with up-regulating osteoblast together with glutathione peroxidase (GPx) catalase (CAT) and superoxide dismutase (SOD) activities. These findings demonstrate that lycopene treatment in OVX rats primarily suppressed bone turnover to restore bone strength and microarchitecture.
Research Title: Maternal knowledge of acute seizures

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Affiliated Department(s): Pediatrics

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ABSTRACT

Objective: To study maternal knowledge and behavior during acute seizures.

Methods: A cross-sectional study conducted from September 2013 to January 2014 included consecutive mothers presenting at the Pediatric Neurology Clinics of King Abdulaziz University Hospital, Jeddah, Kingdom of Saudi Arabia. A structured 30-item questionnaire was designed to examine their demographics, knowledge, and behavior on acute seizures. Disclosure. The authors declare no conflicting interests, support or funding from any drug company.

Results: A total of 92 mothers were interviewed and 41% witnessed at least one acute seizure in their affected child (range 1-15 years, mean 4.5). Up to 26% felt not knowledgeable at all regarding the acute care and management of seizure. Mothers with higher education (college or university degree) were more likely to feel very knowledgeable (19% versus 11%, p=0.02). Only 10% were aware of an antiepileptic drug that could be used at home to stop prolonged seizures, and 35% mentioned that they would wait for 15 minutes before taking the child to the emergency department. Most mothers (93%) wanted more information. Those who felt strongly regarding that (66%), were more likely to be younger (<27 years) (p=0.01), and have at least 3 out of 7 mismanagement decisions (p=0.003).

Conclusion: Maternal level of knowledge and behavior during acute seizures needs improvement. Many mothers have significant misinformation, negative behavior, and poor management practices. Increased awareness and educational programs are needed.
Colorectal cancer (CRC) is a leading cause of cancer-associated mortality worldwide. Cisplatin (CIS) is one of the most active cytotoxic agents in current use and it has proven efficacy against various human malignancies. However, its clinical usefulness has been restricted by detrimental side effects, including nephrotoxicity and myelosuppression. The aim of the present study was to attempt to decrease the required dose of CIS, in order to minimize its side effects, and increase its capability to arrest, delay or reverse carcinogenesis. In addition, the present study aimed to ameliorate CIS resistance in CRC cells, using the natural compound resveratrol (RSVL). RSVL (3,4',5-trihydroxy-trans-stilbene) is a naturally occurring polyphenol present in the roots of white hellebore (Veratrum grandiflorum O. Loes) and extracted from >70 other plant species. RSVL can exert antioxidant and anti-inflammatory activities, and it has been shown to be active in the regulation of numerous cellular events associated with carcinogenesis. The present study evaluated the effects of RSVL on sensitization of both parent and CIS-resistant HCT-116 CRC cells to the action of cisplatin. The CIS was administered at a dose of 5 and 20 μg/ml, and CIS cytotoxicity, apoptosis, cell cycle and cisplatin cellular uptake were examined in the presence and absence of RSVL (15 μg/ml). RSVL treatment showed anti-proliferative effects and enhanced the cytotoxic effects of cis against the growth of both parent and CIS-resistant HCT-116 CRC cells, with a half maximal inhibitory concentration of 4.20 μg/ml and 4.72 μg/ml respectively. RSVL also induced a significant increase in the early apoptosis fraction and enhanced the subsequent apoptotic effects of CIS. The cellular uptake of CIS was significantly increased in the presence of RSVL, as compared with CIS treatment alone, and RSVL treatment sensitized the CIS-resistant HCT-116 cells. In conclusion, RSVL treatment increased the cytotoxic activity of CIS against the growth of both parent and CIS-resistant HCT-116 CRC cells.
Hypertension is commonly observed in the pediatric population. Moreover, it is a well-known cause of morbidity and mortality in children. Pediatric hypertension is most commonly renal in origin and is caused by either parenchymal disease or by renal artery stenosis. Although medical treatment is the first-line therapy for this condition, it may occasionally fail to control blood pressure (BP). Some patients with renal hypertension due to chronic kidney disease (CKD) are resistant to antihypertensive medications and even to aggressive dialysis aimed at achieving ideal body volume control. In such patients, unilateral or bilateral native nephrectomy may be successful in controlling BP. Previous studies have reported that patients may have a partial or a poor response to surgery whereas others have reported a delay in response of up to 6 months after surgery. Postoperative volume-mediated hypertension has been reported in patients with autosomal recessive polycystic kidney disease (ARPKD) and in those with focal segmental glomerulosclerosis (FSGS), although these patients were managed successfully with intensified dialysis. However, no studies have reported a failure of treatment accompanied by a paradoxical increase in BP after nephrectomy, that is, BP levels that are higher than preoperative baseline levels.

Although a previous study has indicated that preoperative hypertension-related signs and symptoms are significantly associated with the response to nephrectomy, there’s limited evidence of predictors of a successful response to surgery.

In the present report, we describe a case of a 6-year-old boy with ARPKD who experienced a paradoxical increase in BP following bilateral native nephrectomy. The increase in BP failed to respond postoperatively despite the administration of 6 antihypertensive agents as well as intensive hemodialysis to avoid volume-related hypertension.
ABSTRACT

Objectives: The study was done to determine the perception of clinical years’ medical students and interns about assessment methods used in Faculty of Medicine, King Abdulaziz University, Jeddah, Saudi Arabia.

Methods: A cross sectional study was conducted during the educational year 2012/2013. A multistage stratified random sample method was used to select 600 senior medical students (4th-6th) and interns. Perception of medical students and interns about different assessment formats was inquired using 3 points Likert scale.

Results: About two-fifths of participants agreed that assessment methods are comprehensive, reflecting what they taught, and challenging them. MCQs were the commonest (56.8%) preferred written assessment format. OSCE (74.1%) and OSPE (70.6%) were seen as good tools for assessing clinical competencies. Students had good perceptions towards peer assessment, log-book and open book exams. Males preferred peer assessment method more than females, with a statistical significant difference ($\chi^2 = 6.43, p< 0.05$).

Conclusion: Assessment plan needs further improvements and should be designed prospectively along with learning outcomes, as only about 40 % of participants agreed with assessment items. The current development of the faculty Assessment Unit will provide much help. This will lead to better preparation of medical students for their future responsibility as tomorrow’s doctors.
ABSTRACT

Purpose: The study aimed at evaluating the empathy scores in third year undergraduate medical students in King Abdulaziz University; explore the factors which might have an effect on them and how might these factors affect them.

Method: A cross-sectional study was done on a sample that was taken randomly from 3rd year medical students at King Abdulaziz University (n=163) by giving them the student version of the Jefferson Scale of Physician Empathy (JSPE-S).

Results: There was no statistically significant difference between female and male students in the total empathy score; female students showed significantly higher scores than males in the compassionate care and the put oneself in patient’s shoes (mean scores 44.9 vs 42.2 and 13.7 vs 12.5, respectively; t= -2.20 and -2.25, p<0.05). There was a statistically significant difference on the scores among students who selected "surgery" rather than "medicine" as their future specialties. Students who has a higher GPA showed significantly higher scores in the total score and the put oneself in patient’s shoes category (mean scores 13.7 vs 11.6; t= 2.92, p<0.05). There was a significant positive correlation between GPA and empathy scores. No statistically significant difference was found in empathy score between students regarding family status.

Conclusion: Many personal, cultural and academic factors affect students’ empathy scores. In this study, students’ attitudes towards empathy carry a predominantly emotional rather than a cognitive component. Further studies are needed to evaluate all components of empathy to select those which could be teachable.
**Research Title:** Prevalence of obstructive sleep apnea among patients with coronary artery disease in Saudi Arabia

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**ABSTRACT**

**Background:** Despite the association between obstructive sleep apnea (OSA) and coronary artery disease (CAD), few studies have investigated this issue in Saudi Arabia.

**Objectives:** This study aimed to identify the prevalence of OSA among CAD patients.

**Subjects and methods:** This was a cross-sectional (descriptive) study conducted at King Abdul-Aziz University Hospital in Jeddah, Saudi Arabia from April 2012 to December 2013. All consecutive patients referred to the cardiac catheterization lab for coronary angiography who exhibited evidence of CAD were included in this study. This study was conducted in two stages. During the first stage, each participant was interviewed individually. The administered interview collected data pertaining to demographics, comorbidities, and the STOP-BANG questionnaire score. The second stage of this study consisted of a diagnostic overnight polysomnography (PSG) of 50% of the subjects at high risk for OSA according to the STOP-BANG questionnaire.

**Results:** Among the patients with CAD (n=156), 128 (82%) were categorized as high risk for developing OSA. PSG was conducted on 48 patients. The estimated prevalence of OSA in the study sample was 57%. Approximately 61% of the documented sleep apnea patients suffered from moderate to severe OSA.

**Conclusion:** This local study concurs with reports in the literature indicating that OSA is very common among CAD patients.
The purpose was to determine the short-term course of depression among dialysis patients in Saudi Arabia and identify baseline characteristics that may influence course.

Thirty-nine dialysis patients in Jeddah, SA, were identified with subthreshold, minor, or major depressive disorders using the Structured Clinical Interview for Depression (SCID) and followed up at 6 and 12 weeks using the Longitudinal Interview and Follow-up Evaluation (LIFE) schedule. Depressive symptoms were tracked using the Hamilton Depression Rating Scale (HDRS). Patient characteristics measured at baseline included demographic, psychosocial, physical health, and treatment factors.

Of the 20 patients with major or minor depressive disorder, eight (40 %) fully remitted by 6 weeks and an additional three patients remitted over the next 6 weeks, leaving 45 % with significant depressive symptoms persisting beyond 12 weeks. Subthreshold disorders followed a similar course (42 % with persistent symptoms). Few patients received treatment for depression. Those with more education, severe health problems, poorer psychological function, more severe depressive symptoms, or a family psychiatric history were less likely to remit. Similar factors predicted change in depressive symptoms assessed by HDRS, especially high medical co-morbidity, severe illness, and overall poor psychological functioning.

Nearly one-half of depressed dialysis patients in Saudi Arabia continue to have significant symptoms beyond 12 weeks of follow-up, few of whom were treated. Specific characteristics at baseline identify depressed dialysis patients at greater risk of persistent symptoms who need treatment.
Patients on hemodialysis experience considerable psychological and physical stress due to the changes brought on by chronic kidney disease. Religion is often turned to in order to cope with illness and may buffer some of these stresses associated with illness. We describe here the religious activities of dialysis patients in Saudi Arabia and determined demographic, psychosocial, and physical health correlates. We administered an in-person questionnaire to 310 dialysis patients (99.4% Muslim) in Jeddah, Saudi Arabia, that included the Muslim Religiosity Scale, Structured Clinical Interview for Depression, Hamilton Depression Rating Scale, Global Assessment of Functioning scale, and other established measures of psychosocial and physical health. Bivariate and multivariate analyses identified characteristics of patients who were more religiously involved. Religious practices and intrinsic religious beliefs were widespread. Religious involvement was more common among those who were older, better educated, had higher incomes, and were married. Overall psychological functioning was better and social support higher among those who were more religious. The religious also had better physical functioning, better cognitive functioning, and were less likely to smoke, despite having more severe overall illness and being on dialysis for longer than less religious patients. Religious involvement is correlated with better overall psychological functioning, greater social support, better physical and cognitive functioning, better health behavior, and longer duration of dialysis. Whether religion leads to or is a result of better mental and physical health will need to be determined by future longitudinal studies and clinical trials.
Objectives: To review cases of ovarian cysts managed at a University Hospital, and to identify the factors necessitating the use of laparotomy over laparoscopy.

Methods: We carried out a retrospective chart review of all cases of ovarian cysts diagnosed and managed at the Department of Obstetrics & Gynecology, King Abdulaziz University Hospital, Jeddah, Saudi Arabia between January 2010 and August 2014. All data collected from medical record charts, patient details, clinical presentations, ovarian cysts description, and pathology type were recorded, and management by laparoscopy or laparotomy was identified. Ethical approval was obtained from ethical hospital committee.

Results: There were 244 cases of ovarian cysts during the study period. The age ranged from 3 months to 77 years of age. The parity from 0-6. The height range from 37-180 cm. The weight range from 3-161 kg, and calculated body mass index ranged from 12-47. Out of 244 patients diagnosed, 165 were married (67.4%). Of those, only 16 patients were pregnant (6.6%). The most common presentation was abdominal pain in 142 patients (58.2%). Only 79.9% were ovarian cysts, and 17.5% were either para-ovarian or retroperitoneal. The right ovaries were affected in 63.1%, and only 18.9% were bilateral. The types of ovarian cysts included functional cysts 33.2%, benign cyst-adenoma 19.3%, and dermoid cysts 12.3%.

Conclusion: Factors associated with laparotomy management rather than laparoscopy included older age >35, single, pregnant, or patients presenting with abdominal pain, and more than one cyst.
ABSTRACT

Aim: The prevalence of obstructive sleep apnea (OSA) in end-stage renal disease (ESRD) patients was reported to be 10-fold that in the general population. OSA can worsen the clinical symptoms and cardiovascular complications of ESRD. We aimed to investigate the prevalence of symptoms and risk of OSA among Saudi patients with ESRD.

Settings And Design: This multi-center, cross-sectional study was conducted in Jeddah, Saudi Arabia, between June 2012 and September 2013. Methods: The prevalence of OSA was assessed using the Berlin questionnaire. The presence of daytime sleepiness was evaluated using the Epworth sleepiness scale. Data were also collected on the medical history, clinical, and laboratory findings of participants.

Results: In all, 355 patients (61% male) were enrolled (mean age: 45.5 15.4 years). The overall prevalence of high-risk of OSA was 44.2% (males, 47.3%; females, 44.8%; P = 0.65). The prevalence of excessive daytime sleepiness (EDS) was 74%. Controlling for age, gender and body mass index, multivariate analysis revealed that hypertension and hepatitis C infection were the only comorbidities significantly associated with OSA (odds ratio [OR]: 3.827 and 0.559; confidence interval [CI]: 2.120-6.906 and 0.324-0.964; P < 0.0001 and 0.036, respectively). OSA was also strongly associated with EDS (OR: 3.054; CI: 1.676-5.565; P < 0.0001).

Conclusions: In Saudi Arabia, the risk of OSA is more common in ESRD patients than in the general population. OSA is strongly associated with EDS. Interestingly, a significant negative correlation between OSA and hepatitis C infection was noted, which warrants further investigation.
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<th>Surgical Treatment for Hepatocellular Carcinoma</th>
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**ABSTRACT**

Hepatocellular carcinoma (HCC) is an epithelial tumor derived from hepatocytes; it accounts for 80% of all primary liver cancers and ranks globally as the fourth leading cause of cancer-related deaths. HCC treatment is a multidisciplinary and a multimodal task, with surgery in the form of liver resection and liver transplantation (LT) representing the only potentially curative modality. However, there are variable opinions and discussions about applying these surgical options and using other supporting treatments. This article is a narrative review that includes articles published from 1984 to 2013 located by searching scientific databases such as PubMed, SCOPUS, and Elsevier, with the main keyword of hepatocellular carcinoma in addition to other keywords such as liver transplantation, liver resection, transarterial chemoembolization, portal vein embolization, bridging therapy, and downstaging. In this review, we focus mainly on the surgical treatment options offered for HCC, in order to illustrate the current relevant data available in the literature to help in applying these surgical options and to use other supporting treatment modalities when appropriate.
ABSTRACT

Clinical observation hinted improved symptoms of restless legs syndrome (RLS) after vitamin D supplements. Hence, the aim of this study is to evaluate the effect of vitamin D supplementation on the severity of RLS symptoms.

Twelve adult subjects diagnosed with primary RLS and vitamin D deficiency were recruited. Patients with secondary RLS were excluded from this study. The complete cell count; serum levels of ferritin, iron, glycated hemoglobin, and vitamin D3 (25 (OH) vitamin D); and renal and bone profiles of the patients were assayed. Patients with vitamin D deficiency (< 50 nmol/l) were treated with vitamin D3 supplements (high oral dose or intramuscular injection). The severity scores of RLS were reassessed after the vitamin D3 level was corrected to > 50 nmol/l and compared with those before the administration of the supplements.

The median pretreatment vitamin D level was 21.7 nmol/l (13.45-57.4), which improved to 61.8 nmol/l (42.58-95.9) (P = 0.002) with the treatment. The median RLS severity score improved significantly from 26 (15-35) at baseline to 10 (0-27) after correction of the vitamin D levels (P = 0.002).

This study indicates that vitamin D supplementation improves the severity of RLS symptoms and advocates that vitamin D deficiency is conceivably associated with RLS.
ABSTRACT

Aims: The primary objective of this study is to investigate the treatment of Graves’ Disease (GD) with radioactive iodine (131I-NaI), presenting the clinical symptoms suffered from patients, and evaluating the level of triiodothyronine (T3), thyroxine (T4) and thyroid-stimulating hormone (TSH) before and after the therapy procedure.

Study Design: This project is considered as a retrospective project, non-randomized, observational clinical case series. Clinical symptoms produced by GD were stratified according to patients’ gender and age, and a comparison between T3, T4 and TSH was done before and after the radiiodine therapy.

Place and Duration of Study: This study was conducted under supervision of the Department of Nuclear Medicine, King Abdulaziz University Hospital (KAUH) and the Department of Diagnostic Radiology (KAU), Jeddah, KSA, from November 2012 to May 2013.

Methodology: The records of patients with clinical diagnosis of Thyrotoxicosis who were registered in the nuclear medicine department during academic year 2012-2013 to perform thyroid scan retrospectively were analyzed. Data from 21 patients was collected before and after the administration of radioiodine therapeutic activity. Thyroid scintigraphy and thyroid functional tests (TFT) were conducted on all patients enrolled in the present study.

Results: The most common clinical symptoms produced by GD were tachycardia, weight loss, excessive sweating and tremors. A total of 90% of the patients were under anti-thyroid drug medication before taking radiiodine therapy while 10% were not. TFT results showed that 95% of patients presented abnormal thyroid function. Aside from excessive sweating, no significant association between age and clinical symptoms was observed. A significant increase in TSH level and decrease in T3 and T4 was observed at three-months after therapy procedure. Within six months post-therapy, 60% of patients showed clinical symptoms of hypothyroidism, 30% presented TFT results compatible with normal thyroid function, and only 10% showed no response to treatment.

Conclusion: Radioactive iodine is an excellent alternative for GD treatment compared to other therapeutic approaches, presenting less complication than surgery procedure and reverse possibility when patients are treated with anti-thyroid drug medication.
ABSTRACT

Colorectal carcinoma is a significant source of major morbidity and mortality. Sonic hedgehog (Shh) is expressed in normal gastrointestinal tract mucosa and in many malignancies. The purpose of the present study is to investigate the relationship between Shh immunoexpression in CRC and clinicopathological characteristics. Paraffin blocks of 155 primary CRCs and 37 nodal metastases were retrieved and tissue microarrays were constructed. Immunohistochemistry was performed using anti-Shh antibody. Immunostaining was scored and results were analysed in relation to the clinicopathological parameters. Shh was overexpressed in primary CRC (p = 0.02) and in nodal metastasis (p = 0.004). There was no difference between Shh immunoexpression in primary CRC and in nodal metastasis (p = 0.941). High Shh immunoexpression was associated with well differentiated tumours (p = 0.004). However, there was no association with other clinicopathological parameters. Shh overexpression was not associated disease free survival (log-rank = 0.079, p = 0.778). Shh is overexpressed in well differentiated CRC. However, Shh is not associated with other clinicopathological and prognostic factors. Loss of Shh may be associated with proliferation and loss of differentiation in CRC. Further molecular studies are required to address the potential importance of Shh signalling in CRC and to test Shh inhibitors and activators as potential therapeutic targets in CRC.
ABSTRACT

Background: The term intussusception refers to invagination of a segment of the gastrointestinal tract into the lumen of an adjacent segment. This is a rare entity and it is more prevalent in children and less common in adults. The diagnosis of intussusception in adults is difficult as a result of the nonspecific signs and symptoms. As there are many common causes of acute abdomen, intussusception should be considered when more frequent etiologies have been ruled out. The laparoscopic approach offers both a diagnostic option and a therapeutic one for intussusception in adults.

Case presentation: We report a forty-one year old male patient, who presented to our Emergency Department complaining of peri-umbilical pain associated with nausea and vomiting for 1 day. Diagnosed with transient small bowel intussusception without any obvious underlying pathology. This report is the first to present an intra-operative video showing the small bowel intussuscepting and reducing spontaneously. Furthermore, the authors present a review about this rare condition, including previously reported similar cases in literature.

Conclusion: Transient intussusception is extremely rare and is a challenging condition. Imaging techniques, especially CT scan, are helpful in the diagnosis of intussusception. However, laparoscopy offers the advantage of distinguishing transient intussusception from persistent intussusception.
### 2016 Undergraduate Medical Students’ Involvement in Authorship of Research

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Abstract

Background: Irritable bowel syndrome (IBS) is a highly prevalent gastrointestinal disorder that can cause disability and economic burden. Nurses are a vital part of the medical team and their well-being is an important issue. Yet, few studies have been done concerning IBS among nurses.

Objectives: To determine the prevalence, severity, and predictors of IBS among nurses working at King Abdulaziz University Hospital, Jeddah, Saudi Arabia.

Materials and methods: A cross-sectional study was conducted among 229 nurses who fulfilled the eligibility criteria. They were selected by stratified random sampling during 2014-2015. A validated, confidential, self-administered data collection sheet was used for collection of personal and sociodemographic data. Rome III Criteria, IBS Severity Scoring System (IBS-SSS), Hospital Anxiety and Depression Scale (HADS), and Pittsburgh Sleep Quality Index (PSQI) were included. Both descriptive and inferential statistics were done. A multiple logistic regression analysis was done to determine the predictors of IBS.

Results: The prevalence of IBS among nurses was 14.4%, and IBS-Mixed type was the commonest variety (54.5%). Positive family history of IBS, working in outpatient clinics, having day shift, poor sleep quality, and high anxiety and depression scale scores were significantly associated with IBS. After controlling for confounding factors in regression analysis, the predictors of IBS were food hypersensitivity (aOR = 4.52; 95% CI: 1.80 - 11.33), morbid anxiety (aOR = 4.34; 95% CI: 1.49-12.67), and positive family history of IBS (aOR = 3.38; 95% CI: 1.12-13.23).

Conclusion: The prevalence of IBS was 14.4%. Food hypersensitivity, morbid anxiety, and family history were the predictors of IBS. Screening and management of IBS, food hypersensitivity, and psychological problems among nurses are recommended.
Research Title: A systematic review of the prevalence and risk factors of irritable bowel syndrome among medical students

Journal: TURKISH JOURNAL OF GASTROENTEROLOGY
Publisher: AVES
Volume / Issue: 27/1
Pages: 10-16
ISSN: 2148-5607
Department: Family and Community Medicine
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Abstract

Background/Aims: Irritable bowel syndrome (IBS) represents a great challenge to public health, particularly among medical students. The aim of the study was to determine the global prevalence and risk factors of IBS among medical students.

Materials and Methods: Data were obtained through searches in PubMed, Ovid, the Cochrane database, Embase, Google scholar, Institute for Scientific Information (ISI) "Web of Science," and Medline from 1990 to June 2015. The search terms included "Irritable Bowel Syndrome" and "Medical students" and "prevalence, risk factors". More than 100 articles were reviewed, scrutinized, and critically appraised for the eligibility criteria, and the relevant articles were selected.

Results: Sixteen studies were identified, and the prevalence of IBS among medical students ranged from 9.3% to 35.5%. The relatively high prevalence among medical students may be attributed to their special stressful learning environment. Some studies found that female gender, family history of IBS, psychiatric stress, anxiety, depression, infections, dietary factors, and sleep disorders were associated with IBS.

Conclusion: A relatively high prevalence of IBS was prevalent among medical students. Annual screening of IBS and introduction of stress management courses are recommended.
Aim: To evaluate the expression pattern of matrix metalloproteinases (MMPs); MMP-2, MMP-7 and MMP-9 in colorectal cancer (CRC) and determine its prognostic potential.

Patients & methods: CRC samples of 127 patients were studied. Protein expressions of MMP-2, -7 and -9 were analyzed by immunohistochemistry and association with clinicopathological variables was statistically analyzed.

Results: Overexpressions of MMP-2 and MMP-9 correlated with poor outcome as evaluated by univariate Kaplan-Meier for disease-free survival (p = 0.04, p = 0.0001) and disease-specific survival (p = 0.01, p = 0.01), respectively. Cox analysis of MMP-2 and -9 were significant independent predictors of disease-free survival (p = 0.006, p = 0.018) and disease-specific survival (p = 0.004, p = 0.049), respectively.

Conclusion: MMPs expression patterns provide useful prognostic information in CRC, while predicting the patients at high risk for recurrent disease.
The chemosensitizing effect of aqueous extract of sweet fennel on cisplatin treated HeLa cells

Background: Cisplatin is an important chemotherapeutic agent that is widely used in treatment of several malignancies, but its side effects on normal tissues and organs limit its use. The aim of this study was to evaluate the effect of aqueous extract of sweet fennel alone and in combination with cisplatin on human cervical cancer adenocarcinoma cell line (HeLa cells) searching for an effective, inexpensive therapy with minimal side effects.

Materials and Methods: HeLa cell line was used to study the cytotoxic effect of different concentrations of the aqueous extract of sweet fennel alone and in combination with 50 μg/ml cisplatin. Quantitative measure of drug interaction was quantified by the combination index. Gas chromatography-mass spectrometry (GC-MS) and high-performance liquid chromatography (HPLC) were used to analyze the sweet fennel decoction. MTT assay was used to examine cell viability percentage. Electron microscopy was applied to study the ultrastructure of the cells.

Results: The phenyl propanoids (23%) and phenols (12%) constituted the highest percentage of the aqueous extract. Increasing the concentration of sweet fennel from 50 μg/ml to 80 μg/ml, decreased the percentage of the cell viability of HeLa cells from 86.74% to 78.28%, respectively. Further decrease to 11.31% was demonstrated when 50 μg/ml of fennel was combined with 50 μg/ml cisplatin (additive effect). In addition to the signs of apoptosis observed in HeLa cells at 50 μg/ml of fennel, disruption of both nuclear and cytoplasmic membranes and presence of autophagolysosomes were noticed at a dose of 80 μg/ml. Combination of 50 μg/ml of cisplatin with 60, 70, and 80 μg/ml of sweet fennel revealed no significant difference in comparison to cisplatin alone. The combination with 50 μg/ml of sweet fennel revealed marked vacuolization of the cytoplasm, fragmentation of the nucleus, and complete disruption of nuclear membrane.

Conclusion: Combination of cisplatin and the 50 μg/ml of the fennel could enhance cervical cancer growth inhibition. This combination could be effective in lowering the dose of single or repeated cumulative courses of cisplatin and hence decreases its hazardous side effects. In vivo studies and the evaluation of different combination doses of cisplatin and sweet fennel are recommended.
Research Title: The association between body mass index and duration spent on electronic devices in children and adolescents in Western Saudi Arabia

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<td>Authors:</td>
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<td>Correspondence Email:</td>
<td><a href="mailto:aagha@kau.edu.sa">aagha@kau.edu.sa</a></td>
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Abstract

Objectives: To evaluate the relationship between body mass index (BMI) and the duration spent on electronic devices, and to assess the factors that can cause obesity among children.

Methods: A cross-sectional study including 541 participants. Data was collected from March to June 2015 via ambulatory pediatric clinics in Jeddah, Kingdom of Saudi Arabia. The BMI standard deviation was calculated based on Center of Disease Control and Prevention (CDC) standards.

Results: The mean age of the participants was 10.1 years. Children who spent >= 2 hours daily on electronic devices showed an increased BMI, and made up 68.4% of the sample.

Conclusion: An increased BMI was more common among children who spent >= 2 hours daily on electronic devices. The relationship between BMI, reduced physical activity, and eating during television viewing was determined.
Introduction: Many studies described c-Met involvement in cancer development and progression by its multiple biological responses, which stimulate proliferation, differentiation, survival, motility, migration, angiogenesis and invasion. This study portrays the immunostaining of c-Met in endometrial neoplasms, and assesses its value as diagnostic and prognostic marker.

Methods: This study retrospectively recruited 102 cases that include 72 and 30 cases of malignant and benign endometrial tissues respectively. These cases were retrieved from the archives of Pathology Department at King Abdulaziz University, Jeddah, Saudi Arabia. Tissue microarrays and immunostaining were used to show the phenotype of c-Met.

Results: A total number of 13 (18.05%) tumor cases were positive for c-Met immunostaining. Yallow to brown cytoplasmic and/or membranous expression of c-Met was detected in 2/9 (22.2%) of papillary serous endometrial carcinomas, 9/53 (17%) of endometrioid adenocarcinomas, and one case of each endometrial stromal sarcoma and malignant mixed Mullerian tumor. Twenty three (76.6%) control cases showed positive immunostaining. c-Met immunostaining was common in the cytoplasm more than membranes in malignant tumors while it was cytoplasmic and membranous in benign tissues. Significant different c-Met immunostaining distribution was observed between tumor cases and control group (P-Value = 0.0000). Furthermore, inverse odds ratio shows that tumor cases are 14.92 times less likely of having positive c-Met immunostaining (odds ratio 0.067 with 95% confidence interval 0.024-0.189). This study did not find relation between c-Met expression and disease recurrence, survival or any of the other clinicopathological parameters in endometrial tumors.

Conclusion: This study in favor of c-Met expression is not a valuable factor for tumor development, recurrence, and survival in endometrial tumors. Greater c-Met staining was seen in normal and benign endometrial tissue compared to endometrial carcinomas. Loss of c-Met expression gives an indication for endometrial tumors.
**Research Title:** Religious beliefs, practices, and health in colorectal cancer patients in Saudi Arabia

**Journal:** PSYCHO-ONCOLOGY  
**Publisher:** WILEY-BLACKWELL  
**Volume / Issue:** 25/3  
**Pages:** 292-299  
**ISSN:** 1099-1611  
**Department:** Internal Medicine  
**Authors:** Mahmoud Shaheen Al Ahwal, Faten Al Zaben, Mohammad Gamal Sehlo, Doaa Ahmed Khalifa, Harold G Koenig  
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### Abstract

Objective: Colorectal cancer (CRC) patients experience considerable psychological stress because of changes brought on by their illness. Religion may be a resource for such patients. We examined the prevalence of religious beliefs and practices in CRC patients and correlation with demographic, social, psychological, and physical health characteristics.

Methods: Seventy CRC patients (all Muslim) in Jeddah, Saudi Arabia, were surveyed using a 13-item Muslim religiosity scale. Standard measures were used to assess depressive symptoms, depressive disorder, and social support; demographic and social factors, psychiatric history, and disease factors were also measured.

Results: All 70 participants (100%) engaged in group worship and prayer (Fard) five times/day, and 75.7% never skipped or combined two or more obligatory prayers; 71.4% read or recited the Qur'an several times/week or daily; 80.0% gave money to the poor each year (Zakat); 71.4% fasted throughout the month of Ramadan (Sawm) and other times as well; 91.4% said they definitely experienced the presence of Allah; and 74.3% said their entire approach to life was definitely based on their religious beliefs. Overall religiosity was inversely related to depressive symptoms (B=-0.58, SE=0.30, p=0.026) and suicidal ideation (B=-0.07, SE=0.03, p=0.025), after controlling for financial status and social factors.

Conclusions: Religious involvement was widespread in this sample of CRC patients in Saudi Arabia and was related to fewer depressive symptoms and less suicidal ideation. No relationship was found with stage of disease or duration of treatment.
King Abdulaziz University, Faculty of Medicine
Undergraduate and Graduate Students Publications

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Abstract

Background: Chronic inflammatory bowel diseases (IBD), including ulcerative colitis (UC) and Crohn’s disease (CD) are thought to occur because of loss of balance between effector and regulatory T-cells. As dendritic cells (DCs) play a pivotal role in priming T-cells, this work is designed to investigate circulating DC subsets in children with IBD and to explore their correlations with effector T-cell subsets, regulatory T-cells (Treg), and routine inflammatory biomarkers.

Methods: The frequencies of blood CD11c+ myeloid (mDCs) and CD123+ plasmacytoid DC (pDCs) subsets, as well as T-helper CD4+CD25+Foxp3+ Treg, CD4+ IL-17+ (Th17), CD4+ IFN-γ + (Th1) and CD4+IL-4+ (Th1), were estimated by flow cytometry in 23 patients with Crohn’s disease (CD), 14 with ulcerative colitis (UC) and 14 healthy volunteers (HCs). The clinical and inflammatory markers were also investigated. Results: IBD patients showed decreased pDCs and mDCs compared with healthy controls; however, pDCs were significantly lower in CD (Figure 1). The ratio of mDCs/pDCs showed significant increase in CD compared with UC and HCs. Treg cells were found significantly decreased in the patients with UC and CD compared with healthy controls (both at p < 0.01). The percentage of Th17 was found significantly increased in CD (p < 0.05) compared with UC patients and healthy subjects (p = 0.014). UC and CD patients had significantly (p < 0.01, p < 0.05) higher Th17/Treg ratios compared with healthy controls. mDCs/pDCs ratio showed significant positive correlations with ASCA-A, ASCA-G, and Th17 (r = 0.438, p < 0.05; r = 0.411, p < 0.01, r = 0.535, p = 0.001 respectively) (Figure 2). Conclusions: Our study demonstrates that the mDCs/pDCs ratio is deregulated in paediatric IBD, and was found associated with reduced Treg cells and increased effector Th17 T-cells, suggestion that dendritic cell subsets play a role in the pathogenesis of paediatric IBD.
**Abstract**

Objectives: To assess the impact of congenital heart diseases (CHDs) on bio-psychosocial aspects of the quality of life (QOL) of patients and their families.

Methods: A cross-sectional study was carried out between May 2014 and August 2015, including children aged < 16 years, and followed-up at King Abdulaziz University Hospital, Jeddah, Kingdom of Saudi Arabia for CHD. A broad questionnaire was administered to investigate biological, psychological, and social dimensions of afflicted children, their parents, and siblings. Outcomes were computed as impact scores (0-100%) for each dimension and family member.

Results: A total of 180 children (104 [57.8%] males; mean age +/- standard deviation [SD] = 5.65 +/- 4.8 years) were included. There were 25% children complaining of recurrent respiratory infections, 35% of frequent hospitalizations, 38.9% had milestone delay, and 12 (6.7%) only had a social security registration. Mothers declared difficulty coping with their children's disease in 20% of cases and 22.2% reported being depressed. Mean +/- SD impact scores in afflicted children were: 26.1 +/- 26.2 (biological), 28.7 +/- 28.8 (psychological), and 20.2 +/- 25.7 (social) dimensions. Mothers' impact scores were higher than fathers'. Complex CHDs had an additional impact, and children from families with less knowledge on CHD had relatively greater impact scores.

Conclusion: Congenital heart diseases impact all aspects of QOL of patients and their families, and are associated with high comorbidity. Social and psychological support and education for patients and their parents are crucial factors for improving QOL.
**Abstract**

Dravet syndrome (DS) is a severe epilepsy syndrome characterized by early onset of multiple types of seizures. We report the first case of reflex seizures triggered by diaper change in a girl at 9 months old and 2 years old with a mutation in the SCN1A gene causing DS. Reflex seizures have been reported in patients with DS provoked by increased body temperature or visual stimulation. The case we report widens the spectrum of triggers causing reflex seizures in children with DS. Cortical hyperexcitability resulting from the genetic defect explains the tendency to experience such reflex seizures.
Clusterin has anti-apoptotic, regeneration and migration stimulating effects on tumor cells. This study investigates the relation between clusterin expression and the clinicopathological parameters in endometrial carcinomas. Seventy one cases of previously diagnosed endometrial carcinoma (including 59 endometrioid adenocarcinoma, 9 serous adenocarcinoma, 1 clear cell adenocarcinoma, and 2 malignant mixed Mullerian tumor) and 30 tissue samples of non-cancerous endometrium (including 16 proliferative endometrium, 10 secretory endometrium and 4 endometrial polyps) were employed for clusterin detection using tissue microarrays and immunostaining. A total number of 23 (32.4%) cases were positive for clusterin immunostaining. Brown granular cytoplasmic expression of clusterin was detected in 33.9% of endometrioid adenocarcinomas, 22.2% papillary serous endometrial carcinomas. Three (10%) control cases showed granular cytoplasmic expression. Positive clusterin immunostaining was found more frequent in well differentiated and stage I endometrial carcinomas, showing significant statistical association (p-value = 0.036 and p-value = 0.002 respectively). Significant difference in clusterin expression was observed between tumor cases and control group (P-Value = 0.019), i.e., endometrial carcinoma cases are more than four times likely to show positive clusterin immunostaining (odds ratio 4.313 with 95% confidence interval 1.184-15.701). This study did not find relation between clusterin expression and disease recurrence, survival or any of the other clinicopathological parameters in endometrial tumors. The results of our study confirms the diagnostic values of clusterin in supporting the diagnosis of endometrioid carcinoma. When clusterin is expressed in endometrial tumors, it is associated with lower stage. The correlation of clusterin with tumor stage suggests involvement of this molecule in endometrial tumor progression.
**Research Title:** Bacterial contamination of cell phones of medical students at King Abdulaziz University, Jeddah, Saudi Arabia

**Journal:** Journal of Microscopy and Ultrastructure

**Publisher:** Elsevier

**Volume / Issue:** 4/3

**Pages:** 143-146

**ISSN:** 2213-879X

**Department:** Medical Microbiology and Parasitology, Internal Medicine

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### Abstract

Cell phones are commonly used in healthcare settings for rapid communication within hospitals. Concerns have been increased about the use of these devices in hospitals, as they can be used everywhere, even in toilets. Therefore, they can be vehicles for transmitting pathogens to patients. This study aimed to examine the presence of pathogenic bacteria on the surfaces of cell phones that are used frequently by preclinical medical students. This cross-sectional study identified both pathogenic and nonpathogenic bacteria on cell phones of 105 medical students at King Abdulaziz University, Jeddah, Saudi Arabia, using standard microbiological methods. Out of 105 cell phones screened, 101 (96.2%) were contaminated with bacteria. Coagulase-negative staphylococci were the most abundant isolates (68%). Seventeen (16.2%) cell phones were found to harbor Staphylococcus aureus. Gram-positive bacilli were isolated from 20 (19%) samples. Viridans streptococci and Pantoea species were also isolated but at lower levels. Our findings indicate that cell phones can act as reservoirs of both pathogenic and nonpathogenic organisms. Therefore, full guidelines about restricting the use of cell phones in clinical environments, hand hygiene, and frequent decontamination of mobile devices are recommended at an early stage in medical schools, to limit the risk of cross-contamination and healthcare-associated infections caused by cell phones.
Abstract

Background: The aim of this study was to investigate the relationship among management modality, glycemic control, components of metabolic syndrome (MS) and serum levels of γ glutamyl transferase (GGT) and C-reactive protein (CRP) in patients with type 2 diabetes (T2DM).

Methods: Patients with T2DM, not suffering from diabetes complications, were recruited from outpatient clinics at two hospitals in Jeddah. Anthropometric measurements and blood pressure (BP) were taken. A treatment plan was recorded. Fasting blood samples were obtained to measure glucose, glycated hemoglobin (HbA1c), lipids profile, highly sensitive (hs)-CRP and GGT.

Results: A total of 71 men and 82 women were recruited. Lower mean HbA1c was found in people receiving oral glucose-lowering drugs compared with those on insulin therapy (p < 0.001). Management modality had no effect on mean GGT or hs-CRP. Higher mean GGT was associated with poor glycemic control, dyslipidemia, hypertension, and abdominal obesity. GGT correlated significantly (p < 0.05) and directly with triglycerides in men (r = 0.401) and diastolic BP (r = 0.279 for men, r = 0.194, for women), but inversely with high-density lipoprotein cholesterol (HDL-C) (r = -0.298 for men, r = -0.171 for women). hs-CRP correlated with waist circumference (p < 0.05, r = 0.312, for men, r = 0.305, for women), with a higher mean being found in men with poor glycemic control (p = 0.015), in hypertensive women (p = 0.030), and in patients who were abdominally obese (p < 0.05).

Conclusions: High levels of GGT and hs-CRP are associated with components of MS and poor glycemic control, hence increased cardiovascular risk. Due to their value as independent risk predictors of vascular injury, these measures should be included in routine monitoring of patients with T2DM.
**Abstract**

Background: Anxiety is an emotion experienced by most of individuals at some time during their life. Oral health is an essential component of the overall public health, while dental anxiety can lead to deterioration of such health. The purpose of the study was to determine the prevalence and predictors of dental anxiety among patients attending outpatient clinics of King Abdulaziz University Hospital (KAUH), Jeddah.

Methods: A cross-sectional study was conducted among a sample of 231 adult patients who attended the outpatient clinics of KAUH, Jeddah, during the year 2013/2014. A standardized interviewing questionnaire was used and contained Corah’s Dental Anxiety Scale (DAS) was included.

Results: The prevalence dental anxiety among participants was 50.6%. Females obtained a significantly higher mean DAS compared to males (Student’s t-test = 3.78, p < 0.001). Dental anxiety was also higher among younger participants. Multiple linear regression model revealed that predictors of dental anxiety were the previous cancellation of dental appointment (t-test =2.998, p < 0.001, B = 2.998), followed by memorizing poor dental practice, gender and age. The highest percentage of severe anxiety was related to dental extraction (46.0%). Sweaty hands (56.1 %), fast breathing (21.5 %) & increased heart rates (13.6 %) were the commonest reported somatic manifestations accompanying visiting dentists.

Conclusions: Dental anxiety represents a common problem among Saudi adults attending KAUH. Dental anxiety was predicted by cancellation of dental appointment(s), memorization of poor dental practice, gender and age. Enhancing awareness of the community about oral health and how to avoid dental anxiety through educational campaigns is recommended.

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<td>Authors:</td>
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**Abstract**

Objectives: To identify the prevalent organisms associated with respiratory tract infections according to age groups. To identify the most common antibiotics prescribed among pediatric age groups.

Methods: A retrospective cohort study conducted on patients aged 0-18 years, admitted to the inpatient department (IPD) diagnosed with respiratory tract infection between Jan 1 2009 to Jan 31 2015 in King Abdulaziz University Hospital (KAUH). Demographic information, diagnosis, date of admission, laboratory investigations, and treatment were collected from patients’ electronic and paper records then analyzed. Exclusion criteria were based on congenital defects, chronic diseases, and compromised immunity.

Results: 122 patients with respiratory tract infections were selected for the study (73 males and 49 females). 45.9% of which were infants-toddlers (n=56). The most common diagnosis was pneumonia unspecific (n=32), followed by acute tonsillitis (n=24) and otitis media (n=22). 52 microorganisms were isolated from clinical samples, 14% being Pseudomonas aeruginosa and 13% Streptococcus pneumoniae. 171 antimicrobials were prescribed during the study period. Penicillins were the most frequent (n=78), followed by Cephalosporins (n=45) and Macrolides (n=22). 6.897% resistance was detected among 87 files with culture and sensitivity tests, 30% of which were positively cultured, ranking resistance with 20%.

Conclusions: Despite the results showing minimal resistance, antibiotic resistant organisms remain a global concern that needs to be addressed to prevent the spread of antimicrobial resistant infections.
Research Title: The Awareness of Folic Acid Supplements among Women of Childbearing Age in King Abdulaziz University Hospital, Jeddah, Saudi Arabia

Journal: Journal of Nursing and Care
Publisher: OMICS International
Volume / Issue: 5/3
Pages: 1-6
ISSN: 2167-1168
Department: Ob-Gyne
Authors: Ayman A Bukhari, Osama S Bajouh, Marwa A Aljehani, Nouf J Alzahrani, Amal M AlQuhtani, Ahmad MS Almrstani

Correspondence Email: bukhari84@hotmail.com

Abstract

Background: This study aimed to assess the awareness of the importance of folic acid in preventing neural tube defects (the timing of folic acid supplementation and the right doses) in Jeddah the western region of Saudi Arabia.

Method: A sample of 501 married women in the reproductive age (19-45 years) who visited the outpatients clinics at King Abdulaziz University Hospital between August and October/2015 were asked to participate in a survey study targeting the awareness and the use of folic acid before and during pregnancy. First step was collecting participants’ responses on a range of questions related to socio-demographic and medical characteristics. Then in second step they were provided with questions related to their awareness before and after reading the distributed intervention brochure.

Results: Of the 501 Participants, 317 (63.3%) were Saudis, many were above 30 years of age (55.1%), 460 (91.8%) heard about folic acid and 429 (85.6%) have taken it. However, only 169 (33.7%) knew that it must be given during preconception and as early as the 1st 12 weeks of gestation. A significant difference was found before and after reading the brochure in participants’ knowledge about the benefits of folic acid in preventing neural tubal defect, the critical time of administration, and the right doses (P<0.000, P<0.000, P<0.000) respectively. University education was the strongest predictor to have the right information with significant difference (P<0.000). 279 (71.2%) of the participants reported the medical staff as to be their main source of information.

Conclusion: The health care professionals and media need to increase women awareness about the importance of taking folic acid supplementation in the proper time to reduce the risk of neural tube defects.
Abstract

Purpose: To review the incidence and risk factors for retinopathy of prematurity (ROP) King Faisal Specialist Hospital and King Abdulaziz University Hospital in Jeddah, Saudi Arabia.

Material and methods: In this prospective cohort study, preterm infants who were admitted to a neonatal intensive care unit from 2012 to 2013 were evaluated for ROP. Inclusion criteria were, preterm infants with gestational age <32 weeks and/or birth weight <1500 g. The risk factors that were assessed were intraventricular hemorrhage, patent ductus arteriosus (PDA), sepsis and hydrocephalus. The relative risk was used to measure the risk and logistic regression was used to adjust for confounding factors. Statistical significance was indicated by \( p < 0.05 \).

Results: Thirty-one of 92 (33.7%) preterm infants had unilateral or bilateral ROP. The mean gestational age was 26.7 weeks (range, 24–29 weeks) and mean birth weight was 0.843 kg (range, 0.606–1.450 kg). There were 7 infants with stage 1 ROP, 10 infants with stage 2, 14 infants with stage 3 and no cases of stage 4 or 5. Twelve (13%) infants had plus disease and received laser therapy within 72 h of diagnosis. Statistically significant risk factors for ROP were PDA (\( p = 0.0005 \)) and intraventricular hemorrhage (\( p = 0.0005 \)).

Conclusion: The incidence of ROP was 33.7% and risk factors were PDA and intraventricular hemorrhage. Laser therapy was very effective for the treatment of plus disease and preventing progression of ROP. Clinicians should assess for potential risk factors when monitoring premature infants.
Research Title: Vitamin D Status And Its Correlation With Blood Pressure In Premenopausal Saudi Women: A Cross-Sectional Study

Journal: European Medical, Health and Pharmaceutical Journal
Publisher: Central Bohemia University
Volume / Issue: 9/1
Pages: 10-17
ISSN: 1804-9702
Department: Clinical Biochemistry

Authors: Sarah Al Mazeedi, Hanan Al Kadi, Mohammed Ardawi

Abstract
Vitamin D deficiency is a major health problem in the Saudi population. A negative association between blood pressure and vitamin D level has been suggested in several clinical and epidemiological studies and evidence for an effect of vitamin D in lowering blood pressure was reported. These findings indicate that 1,25(OH)2D3 deficiency may play a role in the pathogenesis of hypertension through its effect on the renin-angiotensin system. We are the first to investigate the correlation between blood pressure or renin concentration and vitamin D status in the Saudi population.

METHODS: we included 201 healthy Saudi premenopausal females (20-45 years old). Blood pressure was measured by a standardized method using an automated blood pressure monitor (BPTru). Fasting blood samples were collected from each participant after 20 minutes of rest in the seated position. Serum cholicalciferol, PTH and renin concentration were measured by sandwich chemiluminescence immunoassay method (DiaSorin, Italy).

RESULTS: The analysis included 192 subjects who were normotensive (blood pressure <140/90 mmHg). A total of 34% of women had a severe deficiency (vitamin D ≤ 12.5 nmol/L); 41% had moderate deficiency (vitamin D levels between 12.5 - 25 nmol/L); 23% had mild deficiency (vitamin D level ≥ 25 < 50 nmol/L); and 2% had insufficiency (vitamin D level ≥ 50 - ≤ 75 nmol/L). None had a sufficient level of ≥75 nmol/L. The systolic blood pressure ranged from 79-130.5 mmHg and the diastolic from 48.5-85.5 mmHg. Both systolic and diastolic blood pressures were significantly higher in women that were in the lower 2 quartiles of vitamin D. However, linear regression analysis adjusting for potential confounders showed that 25(OH)D level was not a predictor of either systolic or diastolic blood pressures. A negative correlation (although not significant) was found between vitamin D level and plasma renin concentration in this study group.

CONCLUSION: Vitamin D deficiency was highly prevalent among the study group. Vitamin D was a not a predictor of either systolic or diastolic blood pressure. There was a negative correlation between vitamin D level and renin concentration although not statically significant. It is possible that any underlying relationship was obscured by the relatively young age group or due to the narrow blood pressure range of the studied population. A larger sample size including hypertensive subjects may be needed.
Abstract

Aim of the work: Extensive study has been made to get specific ratio of the women who had uterine fibroid and the total range of incidence of the leiomyoma.

Methods and Material: Retrospective study of (1111) women patients referred from obstetrics and gynecology clinics (Women’s’ age between 15 and 79 years, mean was 52yrs). Data was collected from January 2013 to December 2014 at the Hospital of king Abdulaziz University.

Results: A total of 236(21.2%) of 1111 patients were cases of uterine fibroid, while the remaining 875(78.8%) cases had normal ultrasound findings. According to the clinical symptoms that related to fibroid, bleeding which included 65(27.5%) was the commonest symptom for the patient’s then abdominal pain 32(13.6%). The 123(52%) of the women presented with solitary fibroids and 113(48%) women with multiple leiomyomata.

Conclusions: Uterine fibroid highly related with reproductive age by (56.3%) and this result is matching to the result published in previous studies.
Abstract

Background: Osteoporosis in children has various underlying causes related to hereditary or secondary to different diseases like: hematological diseases, gastrointestinal diseases, renal diseases, endocrine diseases, drug-induced and immobilization.

Objective: To investigate the causes of osteoporosis in pediatrics age group presented to pediatric clinic in King Abdulaziz University Hospital.

Methods: One hundred thirty one children and adolescents with osteoporosis, visiting pediatric clinic at King Abdulaziz University Hospital (KAUH), Jeddah, Saudi Arabia from 2003 to 2015. Seventy five patients had primary osteoporosis which represents 57.3% of the studied sample of the population. Secondary osteoporosis was found in Fifty six patients which represents 42.7% of the sample of the population. Various underlying causes of primary and secondary of osteoporosis were evaluated by reviewing medical records file.

Results: The mean age group is 11.43 years. Primary osteoporosis specifically osteogenesis imperfect accounts for 57.3% of the cases. Among the secondary cases, hematological diseases, gastrointestinal diseases, endocrine diseases, Renal disease, immobilization, chronic use of steroid, were the most common accounting for 9.2%, 9.2%, 6.9%, 6.1%, 6.1%, 5.4% of the cases respectively.

Conclusion: Osteogenesis imperfecta is the most common cause of children osteoporosis at KAUH, Jeddah, Saudi Arabia. While secondary osteoporosis is still to be considered and screened for.
Research Title: Lack of AMACR Immunostaining is an Independent Predictor of Poor Prognosis in Colorectal Carcinoma

Journal: Clinical & Experimental Pathology
Publisher: OMICS International
Volume / Issue: 6/3
Pages: 1-6
ISSN: 2161-0681
Department: Pathology, Internal Medicine, Colon Cancer Chair
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Abstract

Background: AMACR (Alfa-Methylacyl-CoA Racemase) overexpression has become a useful biomarker of prostate cancer. In the present cohort we are aiming to analyse AMACR immunostaining in normal colonic mucosa, colorectal adenoma, and colorectal carcinoma (CRC) to explore the significance of immune-staining in relation to clinic-pathological features, prognosis, and survival.

Materials and Methods: The study included 38 normal colonic mucosae, 40 colorectal adenomas, 196 CRC, and 49 associated lymph node metastasis. Tissue microarrays were designed and constructed and immunostaining was done using anti-AMACR antibody.

Results: AMACR was absent in normal colonic mucosa while it showed positive immunostaining in 47.5% of adenomas, 53.6% colorectal carcinomas and 36.7% of nodal metastasis. There was no statistically significant difference between AMACR immunostaining in primary CRC in relation adenomas, and nodal metastasis. Low AMACR immunostaining showed significant association with the occurrence nodal metastasis (p=0.039) and distant metastasis (p=0.022). There was no significant association between AMACR immune-staining and other clinic pathological parameters. Regression analysis revealed that reduced AMACR immunostaining was an independent predictor of positive surgical resection margins, presence of Lymph vascular invasion, distant metastasis, and lymph node metastasis. AMACR immunostaining was not related to both diseases free survival and overall survival.

Conclusion: AMACR immune-staining correlated with nodal metastasis and distant metastasis. Loss of immunostaining of AMACR is an independent predictor of lymph vascular invasion, positive surgical margin, nodal and distant metastasis. AMACR may serve as biomarker of progression and prognosis of CRC.
### Abstract

Background: Internationally, there is growing concern about the adverse health effects of mobile phone use by young people.

Aim: To determine the pattern of mobile phone use among medical students and determine the potential association between degree of use and self-reported health impacts.

Methods: A cross-sectional study was carried out on 472 medical students in King Abdulaziz University. Self-administered specially designed questionnaire was used to collect data regarding the following: Socio-demographic characteristics, pattern of phone use and self-reported health complaints.

Results: The students’ median duration of mobile phone use was 330 min/day and was significantly higher in females (P= 0.04). A positive significant correlation was observed between the health complaints score and the average daily duration of use (r =0.139, P=0.002). Adjusted multiple logistic regression analysis revealed that heavy mobile use was significantly associated with self-reported sleep disturbances, headache (AOR=4.76), fatigue (AOR=4.67), depression (AOR=2.63), nervousness (AOR=1.64), musculoskeletal pain (AOR=2.14) and visual problems (AOR=2.40).

Conclusion: mobile phone use occupies a significant part in the daily life of medical students. The heavy use of mobile phone in calling and non-calling activities was associated with a high level of subjective health complaints with dose dependent pattern. After controlling for other important predictors, heavy mobile use was associated with sleep disturbances, headache, depression, nervousness, eye and musculoskeletal problems. Excessive use of mobile phones should be avoided and social awareness increased through health education activities. In addition, employing a speaker-phone device for longer daily use and recommended parental procedures are taken to prevent young people being woken by their mobile phones.
**Research Title:** Invasive aspergillus sinusitis with orbitocranial extension  

**Journal:** Asian Journal of Neurosurgery  
**Publisher:** Wolters Kluwer - Medknow  
**Volume / Issue:**  
**Pages:**  
**ISSN:** 2248-9614  
**Department:** Internal Medicine, ORL, Pathology  
**Authors:** Saleh S Baeesa, Rakan F Bokhari, Khalid B Alghamdi, Hisham B Alem, Jaudah A Al-Maghrawi, Tariq A Madani  
**Correspondence Email:** sbaeesa@kau.edu.sa  

### Abstract

**Context:** Invasive sinonasal aspergillosis is a silently progressive disease that, left untreated, may invade the adjacent intracranial and intra-orbital compartments incurring serious morbidity. **Aim:** To evaluate our results of a collaborative surgical management plans for patients with invasive sinonasal aspergillosis with orbitocranial extension.

Setting and Design: Retrospective study. Materials and Methods: Between the years 2000 and 2012, 12 patients with Aspergillus sinusitis with orbitocranial extension were treated at our institution. Preoperative CT and MRI scans were done in all cases and cerebral angiography in two patients with subarachnoid hemorrhage (SAH). Surgical combined transcranial and endonasal approaches to the skull base were considered in all patients. Adjuvant antifungals were administered postoperatively with regular clinical and radiologic follow up.

Results: All cases had a long history of headache and nasal obstruction (n = 12). Five presented with unilateral proptosis, one with meningitis, one with epilepsy, two with SAH, and one patient presented with trigeminal neuralgia. Craniotomy alone was chosen for the patients with isolated sphenoiditis (n = 2) while a combined cranial and endonasal approach was elected for the other patients (n = 10). Adjuvant antifungal therapy was used for 3-12 months. Patients were followed up clinically and radiologically for an average 36-month period (range = 12-50 months) with disease eradication achieved in eight patients (67%). Two died as consequence to SAH. Follow up also showed that three patients (25%) had sinunasal recurrence requiring evacuation through an endonasal approach.

Conclusions: Surgical intervention, with adjuvant antifungal therapy, aiming for safe total removal of the fungal burden, whenever feasible, has a major role in the management of invasive sinonasal aspergillosis with orbitocranial extension with minimal morbidity and good outcomes.
### Research Title:
Placenta previa. A 13 years experience at a tertiary care center in Western Saudi Arabia

### Journal:
Saudi Medical Journal

### Publisher:
Saudi Medical Journal

### Volume / Issue:
37/7

### Pages:
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### Department:
Ob-Gyne

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## Abstract

Objectives: To review cases of placenta previa in the last 13 years in a tertiary teaching hospital to identify risk factors for maternal morbidity.

Methods: A retrospective analysis of all cases of placenta previa managed at King Abdulaziz University Hospital (KAUH), Jeddah, Kingdom of Saudi Arabia from January 2001 to December 2013.

Results: The total number of deliveries was 55,862 deliveries, and 11,412 (20.3%) delivered by cesarean section (C/S). The charts of 230 cases diagnosed with placenta previa was reviewed, and different variables were collected and analyzed. Diagnoses were achieved in 94% of them using ultrasound. The prevalence rate of placenta previa was 4.1 per 1000 births. Cesarean section was carried out as an emergency procedure in 130 (56.5%) women and as elective in 100 (43.5%) women. Of them, 26 patients were admitted to the intensive care unit (ICU) (11.3%), all of which received blood transfusion >6 units and 22 patients had a hysterectomy for uncontrollable bleeding.

Conclusion: Placenta previa is one of the leading causes of maternal morbidity and mortality. Every hospital must have a protocol, or algorithm for the management of placenta previa. Risk factors for maternal morbidity included complete previa, history of previous C/S, emergency C/S at a gestational age of less than 36 weeks, and estimated blood loss more than 2000 ml.
A preliminary exploration of ulnar variance in healthy wrists at a tertiary hospital in Jeddah

Saudi Medical Journal
37/8
843-846
1658-3175
Orthopedics, Radiology
Bayan A Ghalimah, Reem L Mimish, Khalid G Khashoggi, Amre S Hamdi
bayantash.bt@gmail.com

Abstract

Objectives: To gain preliminary insight by exploring ulnar variance changes in a Saudi-based sample.

Methods: This 6-month (December 2013 to June 2014) cross-sectional study was conducted on a randomly selected healthy adult volunteers with a sample size of 104, at King Abdulaziz University Hospital, Jeddah, Saudi Arabia. Posteroanterior (PA), anteroposterior (AP), and PA grip views are taken. The variables of interest were the PA, AP, and PA fist measurements of both right and left wrists. An independent t-test was used to compare means between groups.

Results: A total of 104 volunteers were recruited. Among 17 participants who had a negative ulnar variance on right PA views, a significantly high proportion (n=9; 56.2%) maintained a negative value on fist views; 7 participants (43.8%) had a neutral ulnar variance while none (0%) had a positive value (p less than 0.001). Similarly, a significant proportion of participants who had neutral, or positive values on right PA views maintained the same values on right fist views (p less than 0.001). On radiographs of the right wrist, the ulnar variance decreased with a change in wrist position, with an absolute difference in magnitude of 2.13 (p less than 0.001) between PA and AP views. Similarly, the ulnar variance on the left side decreased significantly between PA and AP views (absolute difference in magnitude, 1.68; p less than 0.001).

Conclusions: Ulnar variance changes in our sample are similar to what is reported in the literature.
## Abstract

**AIM:** To compare the effect of different treatment regimens (oral hypoglycemic agents [OHGs], insulin therapy, and combination of both) on glycemic control and other cardiometabolic risk factors in type 2 diabetes mellitus (T2DM) patients in Saudi.

**SUBJECTS AND METHODS:** Patients with T2DM, but no serious diabetic complications, were randomly recruited from the diabetes clinics at two large hospitals in Jeddah, Saudi Arabia, during June 2013 to July 2014. Only those without change in treatment modality for the last 18 months were included. Blood pressure and anthropometric measurements were measured. Treatment plan was recorded from the patients’ files. Fasting blood sample was obtained to measure glucose, HbA1c, and lipid profile.

**RESULTS:** A total of 197 patients were recruited; 41.1% were men and 58.9% were women. The mean (±SD) age was 58.5 ± 10.5 years. Most patients (60.7%) were on OHGs, 11.5% on insulin therapy, and 27.7% were using a combination of insulin and OHGs. The mean HbA1c was lower in patients using OHGs only, compared with means in those using insulin, or combined therapy in patients with disease duration of ≤10 years (P = 0.001) and also in those with a longer duration of the disease (P < 0.001). A lower mean diastolic and systolic blood pressure was found among patients on insulin alone (P < 0.01). No significant differences were found in lipid profiles among the groups.

**CONCLUSION:** Insulin therapy, without adequate diabetes education, fails to control hyperglycemia adequately in Saudi T2DM patients. There is a challenge to find out reasons for poor control and the ways as to how to improve glycemic control in T2DM.
Abstract

Background: We sought to investigate the association between children born small for gestational age and short stature and to identify the related risk factors in Jeddah, Saudi Arabia.

Methods: This was a cross-sectional study that included 643 short-statured children who were patients at an ambulatory pediatric clinic at King Abdulaziz University Hospital, Jeddah, Saudi Arabia, from February 2015 to August 2015. Anthropometric measurements of the children were taken. Additionally, potential maternal and fetal risk factors were evaluated.

Results: The mean age of the 643 children was 8.7 years, and 21% were born small for gestational age; their mean height was 1.52 standard deviations below the mean. Additionally, 79% were born appropriate for gestational age, and their mean height was within 2 standard deviations of the mean. We confirmed a significant correlation between current height and birth weight (P = 0.0001), r= 0.205 positive weak correlation. Furthermore, of the children born small for gestational age, the following maternal complications were present during pregnancy: genital tract infections (23.3%), high blood pressure (16.1%), fetal distress (20.8%), and maternal malnutrition (28%).

Conclusion: The prevalence of short stature among children born small for gestational age was higher than that in children born appropriate for gestational age. Furthermore, we determined a significant correlation between short stature and being born small for gestational age.
Objective: To assess the awareness of physicians at King Abdulaziz University Hospital (KAUH), a tertiary care centre in Jeddah, Saudi Arabia, about the scope of practice of otolaryngologist (OTL) - head and neck surgeons. Furthermore, to identify diseases of the head and neck in which physicians may underestimate the role of OTLs.

Study Design: Cross-sectional analysis.

Background: The scope of practice of ear, nose and throat surgeons has impressively widened to include many subspecialities such as head and neck surgery (HNS). Encountering diseases that used to be or could be handled by other surgical specialities may cause confusion among physicians. This confusion may extend to mislead some physicians while referring.

Methods: A total of 336 questionnaires were distributed to physicians at KAUH. The questionnaire targeted consultants, specialists and residents of different departments. The survey asked the responders which specialty they believed was the expert in managing certain clinical conditions related to OTLs. The respondents were allowed to choose one or more specialty for each question.

Results: One hundred and seventeen questionnaires of the total 336 were analysed with a response rate of 34.8%. The analysis showed that 94.9% of the respondents believed that OTLs were experienced in dealing with pharyngeal lesions. Regarding hoarseness, 96% of the physicians thought that it was a symptom managed by OTLs. About 94% of the respondents chose OTLs as experts in managing patients with a foreign body ingestion. Almost 89% (88.9%) thought that OTLs were the physicians who perform tracheostomies. However, regarding cold or flu and oral lesions, OTLs only scored 68.4% and 64.1%, respectively.

Conclusion: The study revealed the awareness of physicians at KAUH in regards to the extent of services provided by OTL-HNS as not fully satisfactory. It is our job as OTLs to raise awareness of our speciality among colleagues of other departments.
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<th><strong>Research Title:</strong></th>
<th>Efficiency of Using Pediatrics Emergency Services and Triage Evaluation</th>
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<td><strong>Journal:</strong></td>
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<td><strong>Department:</strong></td>
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<td><strong>Authors:</strong></td>
<td>Sherif El Desoky, Suleiman Mashat, Suliman Bana, Mohamed Alama, Nawaf Dhabab, Ghassan M Malibari, Manal Halwani, Amr S Albanna, Jameela A Kari</td>
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## Abstract

**OBJECTIVE:** The aim of the study was to evaluate the pediatric emergency department (PED) in a main teaching hospital.

**METHOD:** Retrospective review of all children presented to PED at King Abdulaziz University Hospital from September to November 2014 was performed. We classified priority into the following 5 stages: 1, need resuscitation; 2, emergent; 3, urgent; 4, less urgent; and 5, nonurgent.

**RESULTS:** A total of 2567 children (58.9% boys) attended PED for 3 months. Toddler age group was the highest. Respiratory complaints were the commonest (36%), followed by gastrointestinal complaints (20%). The majority were classified as priority 3 (52.3%) and priority 4 (30.7%). The admission rate was 12.3% and the mean (range) length of stay (LOS) was 5.85 (0.2-25) hours. Saudi nationals were less likely to wait for 5 hours or longer, less likely to be admitted, but more likely to leave PED without being evaluated. There was a negative correlation between higher priorities and time from triage to PED. There was a positive correlation between the higher priorities and LOS.

**CONCLUSIONS:** Most children who were seen in PED were priority 3 and therefore needed to be seen. However, a considerable percentage of priority 4 and 5 could have been seen in ambulatory clinics. Most lower priorities were Saudi nationals who were most likely to leave without being seen. Prolonged LOS, overcrowding, and high percentage of admission are the main challenges.
**Research Title:** Perspectives of interns and residents toward do-not-resuscitate policies in Saudi Arabia

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<th>Journal:</th>
<th>Advances in medical education and practice</th>
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<td>Volume / Issue:</td>
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<td>Department:</td>
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<td>Authors:</td>
<td>Abdullah S Amoudi, Mohammed H Albar, Amjed M Bokhari, Sultan H Yahya, Anas A Merdad</td>
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**Abstract**

Objective: Do-not-resuscitate (DNR) orders in Saudi Arabia were first regulated by a fatwa on a national level in 1988, one that excludes the patient and their families from decision making. Although the core of this policy is taken up by all hospitals in Saudi Arabia, there is no homogeneity in implementation. Here, we appraise what interns and residents know of these policies and their attitudes toward DNR.

Methods: Interns and residents in four major hospitals in Jeddah, King Abdulaziz University Hospital, National Guard Hospital, King Fahad General Hospital, and King Fahad Armed Forces Hospital, were given a questionnaire in English with four blocks of questions.

Results: A total of 140 questionnaires were included in our study. From these questionnaires, we conclude a lack of familiarity with DNR’s policies and the fatwa and also a lack of understanding when it comes to treating DNR-labeled patients. The majority opinion was to include the patient in the decision-making process who is excluded according to the fatwa. Participants considered patients' dignity, religious concerns, and legal concerns to be important in considering resuscitation.

Conclusion: We conclude a need to emphasize the issue of DNR and treatment of DNR patients in medical ethics classes in Saudi Arabia and put more effort to enact national DNR laws that include the patient in the decision-making process.
**Research Title:** Infrequent Immunohistochemical Expression of Napsin A in Endometrial Carcinomas

**Journal:** Appl Immunohistochem Mol Morphol  
**Publisher:** Lippincott, Williams & Wilkins  
**Volume / Issue:** 10.1097/PAI.0000000000000350  
**ISSN:** 1062-3345

**Department:** Pathology, Ob-Gyne, Chair for Abdullah Basalamh of the Women’s Tumors

**Authors:** Jaudah A Al-Maghrabi, Nadeem S Butt, Nisrin Anfinan, Khalid Sait, Hesham Sait, Anas Marzouki, Mohamad Nidal Khabaz

**Correspondence Email:** n/a

### Abstract

INTRODUCTION: Many studies described napsin A as a specific diagnostic marker that aids in differentiating lung adenocarcinomas from other respiratory tumors. This study describes the expression phenotype of napsin A in endometrial neoplasms, it investigates the relationship between this expression profile and the clinicopathologic parameters, and assess its utilization as an independent predictive marker.

METHODS: A total of 76 cases of previously diagnosed endometrial carcinoma (including 53 endometrioid adenocarcinomas, 6 endometrioid adenocarcinomas with squamous differentiation, 9 serous adenocarcinomas, 6 clear cell adenocarcinomas, and 2 malignant mixed mullerian tumors) and 30 tissue samples of noncancerous endometrium (including 16 proliferative endometriums, 10 secretory endometriums and 4 endometrial polyps) were retrieved from the archives of Pathology Department at King Abdulaziz University, Jeddah, Saudi Arabia. For napsin A detection, tissue microarrays and immunostaining were used.

RESULTS: A total number of 12 (15.78%) cases were positive for napsin A immunostaining. Brown granular cytoplasmic expression of napsin A was detected in 9.4% of endometrioid adenocarcinomas, 16.7% of endometrioid adenocarcinomas with squamous differentiation, 22.2% of papillary serous endometrial carcinomas, and 66.7% of clear cell carcinomas. Three (10%) control cases showed similar granular cytoplasmic expression. Positive napsin A immunostaining was more frequent in clear cell carcinoma, and there is a significant association between positive napsin A immunostaining and clear cell carcinoma (P-value=0.007). Significant associations have been found also between napsin A expression and older ages (above 60 y) and higher stage (IVB), the P-values of which were 0.035 and 0.043, respectively, but not with the tumor recurrence or survival rate.

CONCLUSIONS: Although napsin A is infrequently expressed in endometrial carcinomas, positive results of napsin A immunostaining in endometrial neoplasms might support the diagnosis of clear cell carcinoma when the pathologic differential diagnosis includes other histologic subtypes.
### Abstract

Brain metastatic papillary thyroid carcinomas (PTCs) are afflicted with unfavorable prognosis; however, the underlying molecular genetics of these rare metastases are virtually unknown. In this study, we compared whole transcript microarray expression profiles of a BRAF mutant, brain metastasis from a PTC, including its technical replicate (TR), with eight non-brain metastatic PTCs and eight primary brain tumors. The top 95 probe sets (false discovery rate (FDR) p-value < 0.05 and fold change (FC) > 2) that were differentially expressed between the brain metastatic PTC, including the TR, and both, non-brain metastatic PTCs and primary brain tumors were in the vast majority upregulated and comprise, e.g. ROS1, MYBPH, SLC18A3, HP, SAA2-SAA4, CP, CCL20, GFAP, RNU1-120P, DMBT1, XDH, CXCL1, PI3, and NAPSA. Cytokines were represented by 10 members in the top 95 probe sets. Pathway and network analysis (p-value < 0.05 and FC > 2) identified granulocytes adhesion and diapedesis as top canonical pathway. Most significant upstream regulators were lipopolysaccharide, TNF, NKkB (complex), IL1A, and CSF2. Top networks categorized under diseases & functions were entitled migration of cells, cell movement, cell survival, apoptosis, and proliferation of cells. Probe sets that were significantly shared between the brain metastatic PTC, the TR, and primary brain tumors include CASP1, CASP4, C1R, CC2D2B, RNY1P16, WDR72, LRRC2, ZHX2, CITED1, and the noncoding transcript AK128523. Taken together, this study identified a set of candidate genes and biofunctions implicated in, so far nearly uncharacterized, molecular processes of a brain metastasis from a PTC.
Abstract

Objectives: To investigate patients' perception regarding medical students' role in the operating theatre.

Methods: A cross-sectional study was conducted on a randomly selected sample at King Abdulaziz University Hospital.

Results: 131 participated in this study. 77 of the participants were females and 50 participants were males. 46.4% think that it was important for the future doctors to be in theater during surgery. 60.2% thought that medical students only observed surgeons in the theatre and 39% thought that medical students performed minor procedures in the theatre.

Conclusions: Patients underestimated the importance of medical students' attendance and involvement in theatre compared to bedside teaching and outpatient clinics. Patients believed that medical students should obtain their consent prior to observing them in the theatre.
Effect of the Family Food Environment and Dietary Behaviors on Obese Children and Adolescents

JOURNAL OF DIABETES & METABOLISM
Wiley-Blackwell
Volume / Issue: 7/3
Pages: Article No.: UNSP 661
ISSN: 2155-6156
Department: Pediatrics
Authors: Abdulmoein Eid Al-Agha, Nouf Mohammed AL-Nosani
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Abstract

Introduction: The prevalence of overweight and obesity among the children are increasing in the last two decades in Kingdom of Saudi Arabia. However, there are limited studies regarding dietary behaviour on children and adolescents with obesity.

Materials and methods: A cross-sectional study data collected over six months August 2014-February 2015. Sample size was 293 children and adolescents (4-16 years old age) randomly selected from the ambulatory clinic in King Abdulaziz University Hospital. Data analysed by using statistical package for social science (SPSS), version 16.

Results: There was a significant relation between eating outside the home and Body Mass Index and ratio of center circumference to hip, (p = 0.018). The data shows that children who eat while they watch television have higher Body Mass Index score than who were not (p = 0.036) r = 0.143. Moreover, there were also association of children dietary behaviour and Body Mass Index scores of children. Children who drink soft drinks (p = 0.023, r = 0.141) and not doing exercises (p = 0.01, r = 0.347 and p = 0.008, r = -0.167 have high Body Mass Index respectively). On the other hand, we found that kids who eat with their families have lower weight while height was controlled (p = 0.012, r = -0.335).

Conclusion and recommendations: Findings, along with the results of the present study, suggest that the availability of obesity-promoting foods in an adolescent's home and eating behaviour promotes the consumption of these foods/fluids and increase the risk of obesity for both sexes. Therefore we recommended that to regulate the availability of unhealthy food/fluids may reduce adolescent BMI change as well we advise to decrease fast food and soft drinks consumption.
Purpose: To assess Quality of Life, job satisfaction and their related factors among nurses working in King Abdulaziz University Hospital, Jeddah, Saudi Arabia. Material and methods: A cross-sectional survey was conducted among 268 nurses, 2014/2015. A validated, confidential data collection sheet was utilized. It contained the World Health Organization Quality of Life-BREF (WHOQOL-BREF), and Job Descriptive Index/Job in General (JDI/JIG) scales. Results: The majority of nurses (83.5%) perceived their general QOL as very good and good. Age, marital status, having children, nationality, income, education, residence, working experience, department and shift time were associated with QOL domains (p<0.05). Similarly, working experience, income, shifts, working in inpatient and surgical departments were associated with job satisfaction. Positive correlations were found between job satisfaction and different QOL domains, and between different JDI/JIG subscales together. Conclusion: Improvement of the modifiable factors as nurses’ income and shift time is needed for better QOL and job satisfaction.
**Research Title:** Prognostic value of HER2 status in bladder transitional cell carcinoma revealed by both IHC and BDISH techniques

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<td><strong>Authors:</strong></td>
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**Abstract**

Background: Her2/neu is an oncogene that plays an important role in the pathogenesis of many cancer types. In bladder carcinoma (BC), the clinical significance of Her2/neu status remains under-investigated and poorly linked to the patients’ clinic-pathological features and survival status. Thus, the current study was conducted to assess Her2/neu status in a cohort of patients' in Saudi Arabia, and to explore its prognostic value in BC.

Methods: A total of 160 consent patients of transitional cell carcinoma (TCC) of bladder were arranged on a tissue microarray (TMA) and stained by immunohistochemistry (IHC) and bright-field dual in situ hybridization (BDISH) methods. The intensity of Her2/neu protein receptor immunostaining was evaluated, correlated to Her2/neu gene amplification status in TCC and assessed for potential clinical value by correlation measures.

Results: IHC data demonstrated that Her2/neu protein is expressed in 60% (2+ and 3+) of our TCC patient’s cohort from Saudi Arabia. Her2/neu gene amplification is detected in 25% by BDISH. There was a strong association between Her2/neu protein levels and lymph node invasion (p = 0.04), tumor stage (p = 0.002), vascular invasion and borderline significance with distant metastasis (p = 0.07). Amplification of Her2/neu gene was associated with tumor grade (p = 0.03) and poor disease-specific survival (p = 0.02), in that, patients with non-amplified Her2/neu gene live longer. Interestingly, there was a reasonable concordance rate (71%) between IHC and BDISH data in the analyzed cohort.

Conclusion: The study showed that 25% of our patients’ cohort has Her2/neu over-expression. This Her2/neu (over-expression/amplification) status was concordant using either IHC or BDISH and significantly associated with disease aggressiveness and poor outcome. These findings suggested a potential impact of anti-Her2 targeted therapy in the treatment of bladder cancer with amplified/overexpressed HER2 that needs further investigation.
Research Title: Serum cystatin is a useful marker for the diagnosis of acute kidney injury in critically ill children: prospective cohort study

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Abstract

Background: Acute kidney injury (AKI) has been associated with high morbidity and mortality rates among critically ill children. Cystatin C is a protease inhibitor, and studies have shown that it is a promising marker for the early diagnosis of AKI. Our goal in this study was to assess whether serum cystatin C could serve as an accurate marker for the diagnosis of AKI.

Methods: This prospective study was undertaken in the pediatric intensive care unit at King Abdulaziz University Hospital. Serum creatinine and serum cystatin C levels were both measured in patients on admission (0 h) and at 6, 12, and 24 h after admission. AKI was diagnosed according to the modified pRIFLE criteria. Receiver operating characteristic (ROC) curve analysis was performed to assess the utility of serum cystatin C for diagnosing AKI.

Results: A total of 62 patients were enrolled in this study, and 32 were diagnosed with AKI according to the modified pRIFLE criteria (51.4%). The area under the ROC curve for serum cystatin indicated that it was a good marker for the diagnosis of AKI at 0, 6, 12 and 24 h, with sensitivities of 78, 94, 94 and 83 %, respectively. However, the specificities of serum cystatin C at 0, 6, 12, and 24 h were 57, 57, 60 and 50 %, respectively. The optimal cutoff value was 0.645 mg/L. The area under the ROC for serum creatinine showed sensitivities of 50, 65.4, 69.2 and 57.7 % and specificities of 67.7, 70, 60 and 70 % at 0, 6, 12 and 24 h, respectively. The optimal cutoff value for serum creatinine was 30 mu mol/l. Comparisons of ROC curves revealed that serum cystatin C was superior to serum creatinine for the diagnosis of AKI at 12 h (p = 0.03), but no differences were detected at 0, 6 or 24 h.

Conclusion: Serum cystatin is a sensitive, but not a specific, marker for the diagnosis of AKI in critically ill children.
Impact of Acute Kidney Injury on Long-term Mortality and Progression to Chronic Kidney Disease among Critically Ill Children

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n/a

Objectives: Long-term outcome of acute kidney injury (AKI) in pediatric critical care unit (PICU) has not been well established. The aim of this study was to determine the 24 months outcome of AKI following admission to PICU.

Methods: We followed 80 children admitted to PICU with a diagnosis of AKI, based on pediatric modified RIFLE criteria, for two years. The impact of AKI on the two-year mortality was estimated using the Cox proportional hazards regression model. Factors affecting long-term progression to chronic kidney disease (CKD), including hypertension and proteinuria, were also evaluated.

Results: The mortality at two years follow-up was 48% with the highest mortality occurred during the first four months post PICU admission (40%). By the end of two years; 22.2% had reduction in the GFR, 33.3% had proteinuria and 73.3% were hypertensive. Proteinuria of 30 mg/dl or more at baseline was associated with worse renal function during follow-up. Based on RIFLE criteria; failure stage at the time of admission increased the two-year mortality rate by more than three times, as compared to risk stage. Renal injury, on the other hand, did not increase mortality rate.

Conclusions: AKI was associated with high mortality particularly in the first four months following admission to PICU. Significant percentage of the survivors had evidence of CKD after two years of follow-up.
**Abstract**

Objectives: To determine the prevalence of hypertension, obesity, hematuria, and proteinuria among healthy adolescents and to determine the associated risk factors.

Methods: This is a cross-sectional study of 8 intermediate schools in Jeddah, Saudi Arabia between March 2015 and June 2015. Samples were selected randomly and equal proportions from each school for both genders were ensured. Both blood pressure and body mass index were measured and a brief questionnaire was filled out for the specified studied group. Urine dipstick analysis was carried out for 294 children. A second questionnaire was completed for hypertensive and obese subjects in addition to those with hematuria and proteinuria.

Results: A total of 401 children (200 males) with a mean (SD) age of 13.87 (1.27) were included. Hypertension was found in 17.2% with a male to female ratio of 1.4:1. Pre-hypertension was found in 4.2% of our sample with a male to female ratio of 2.1:1. Obesity was found in 19.2% with a male to female ratio of 1.5:1. Obesity was found to be the most significant risk factor for hypertension with a related risk: 2.87, 95% and confidence interval: 1.9-4.3. For urine abnormalities, 10.2% of samples were positive for proteinuria, 17% for hematuria, and 3.1% for both.

Conclusion: It was found that there is a positive correlation between the incidence of obesity and hypertension in adolescents. Hematuria and proteinuria were also found to be high. Screening and prevention programs are therefore recommended.
Research Title: Diverse etiology of hyperlipidemia among hospitalized children in Western region of Saudi Arabia

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Abstract

Objectives: To determine the various etiologies of primary and secondary hyperlipidemia among children visiting the pediatric endocrine clinic.

Methods: This is a retrospective, cross-sectional, cohort study conducted at King Abdulaziz University Hospital (KAUH), Jeddah, Kingdom of Saudi Arabia from January 2010 to 2015 that included 253 children aged from birth to 12 years old. Data were obtained by reviewing medical reports of patients who presented with hyperlipidemia to the clinic, and their laboratory investigation results using KAUH electronic "Phoenix" system.

Results: Of the 253 children who were reviewed, those who have shown to have abnormal lipid metabolism with nephrotic syndrome were 35.6%, diabetes mellitus 17.8%, primary/idiopathic hyperlipidemia 19.4%, hypothyroidism 7.1%, obesity 4.3%, metabolic syndrome 2.8%, chronic liver disease 2% and chronic renal failure 1.2%. The body mass index relative to gender and age in this group of children showed that 23.2% were underweight, 38.4% were normal weight, 8.9% were overweight, and 29.5% were obese.

Conclusion: The highest prevalence of hyperlipidemia was in nephrotic syndrome, followed by primary/idiopathic hyperlipidemia and diabetes mellitus.
Abstract

Background/Aims: p16 is a tumor suppressor gene acting as a cell cycle regulator. The present study was conducted to compare p16 expression in normal, dysplastic, and malignant colonic mucosa, and to explore its relation to clinicopathological variables and follow-up data in colorectal carcinoma (CRC).

Patients and Methods: Tissue microarrays were performed from 25 normal colonic mucosae, 41 colonic adenomas, and 191 CRC, with corresponding 50 nodal metastases. Immunohistochemistry was performed using anti-p16 antibody, sections were scored, and statistical analysis was performed. K-ras mutation detection was also performed.

Results: Immunoreexpression of p16 was significantly higher in CRC than in adenomas (P = 0.033) and normal colonic mucosa (P = 0.005). There was no statistically significant difference between p16 expression in CRC and nodal metastasis. There was no significant association between p16 immunoreexpression in CRC and all clinicopathological data and survival probability. K-ras mutations were detected in 34% of CRC. However, there was no correlation between K-ras status and p16 expression (P = 0.325).

Conclusion: Absence of p16 expression is correlated to a benign course of CRC adenomas. p16 has a key role in CRC progression and can be used as a marker for colorectal adenoma. On the other hand, it has no role as a predictive and/or prognostic factor in CRC. Further extended studies are required to explore the role of p16 as indicator of premalignant lesions in the colon and to test its relation with CRC histological grade, as well as to test its value as a new therapeutic target.
Abstract

Background: Diabetic retinopathy is a serious complication of DM, it occurs due to poor control of DM and lack of knowledge on the complications of DM. Among many approaches, strong awareness of retinopathy by diabetic patients could help in the early detection, management and prevention of this complication. Aim: this study was conducted to assess the awareness of diabetic retinopathy among diabetics in Saudi Arabia.

Methods: A hospital-based, cross sectional study was conducted using a pre-tested questionnaire. All diabetic patients seen at the diabetes clinic in King Abdulaziz University Hospital were recruited. Questionnaire was distributed on all participants. The questionnaire contained questions to determine awareness of retinopathy and its risk factors. Data obtained was analyzed using the statistical package for social sciences (SPSS) 16.0.

Results: A total of 357 diabetic patients were involved with a mean age of 50 years. 61% of patients were aware of DR. Only 38% were aware that annual retinal examinations are required and 70% were not aware what the treatment for DR is. And only 50% of all the respondents went for eye checkups.

Conclusion: Although a large proportion of diabetics in Saudi Arabia are aware that diabetes can affect their eyes, there is however little or no knowledge of its risk factors and prevention. There is therefore a need for increasing this awareness in order to decrease the number of cases of blindness resulting from DR in Saudi Arabia.
### Research Title:
Cyclin D1 expression is associated with stage, grade and survival in urinary bladder carcinoma

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### Abstract

This study investigates the association between cyclin D1 immunohistochemical phenotype and the clinicopathological findings in bladder cancer. One hundred and twenty eight cases of previously diagnosed bladder cancer and 24 tissue samples of normal bladder were utilized for cyclin D1 expression detection using tissue microarrays and immunohistochemistry. High grading score of nuclear cyclin D1 immuno expression has been found in 66 (51.6%) bladder cancer cases, while 12 (50%) control cases showed cyclin D1 immunoreactivity. Strong cyclin D1 immunohistochemical staining has been significantly linked with low grades (P=0.001), low stages (P=0.005), while low scores of cyclin D1 immunostaining were associated with muscularis propria invasion (P=0.003), lymph node invasion (P=0.024), and vascular invasion (P=0.010). Furthermore, histotype of bladder cancer slightly associated with cyclin D1 immunostaining (P=0.049), all of the squamous cell carcinoma cases showed low level of cyclin D1 immunostaining, while 55.4% of urothelial carcinoma cases revealed strong cyclin D1 immunostaining. Significant different survival distributions have been observed with cyclin D1 staining of transformed epithelium (P=0.026). High cyclin D1 staining of transformed epithelial cells is positively associated with poor survival. Our results confirm the great values of cyclin D1 in the prognosis of bladder cancer. These preliminary findings recommend that cyclin D1 may be a valuable tissue biomarker for presaging grade, stage, and poor prognosis in bladder cancer.
The objective of the study was to determine the level of Knowledge, Attitude and Practice (KAP) of patients attended dental clinics at King Abdulaziz University Hospital (KAUH) regarding cross infections and infection control in dentistry. A cross-sectional study was conducted among 225 patients who attended the dental clinics of KAUH, Jeddah, Saudi Arabia, 2014. A standardized, confidential, anonymous, interviewing questionnaire was used. Knowledge about dental infections was assessed by 12 MCQs. The attitudes were assessed through answering seven statements on a three-point Likert scale. Patients’ self reported practices were also evaluated. Descriptive and inferential statistics were done. Results of the study revealed that 39.5%, 38.7% and 21.8% of the participants obtained poor, fair and satisfactory level of knowledge about infections and infection control in dentistry, respectively. Social media was the commonest source of information about dental infection. Participant’s educational level was significantly associated with the level of knowledge about dental infection. Patients had positive attitudes towards infection control in dentistry. Regarding self-reported practice, only few participants would ask dentists about sterilization of dental instruments (9.3%), wearing face mask (13.3%) and gloves (16.4%) if they don't do so. In conclusion, our participants had good attitudes towards infection control in dentistry. However, their knowledge and practice need improvements. Conduction of educational programs is needed through social media, mass media, schools and public places. These programs involve both patients and providers.
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<th>Incidence of shoulder dystocia and its relation to brachial plexus palsy: a 10 year retrospective review at King Abdulaziz University Hospital</th>
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**Abstract**

Background: Objective of the study was to determine the incidence of shoulder dystocia (SD) in King Abdulaziz University Hospital (KAUH), with a focus on Brachial Plexus Palsy (BPP) and the accompanying risk factors.

Methods: We conducted a retrospective study of all vaginal deliveries between 2005 and 2014. Out of 29,199 vaginal deliveries, 236 cases were diagnosed with SD at KAUH in Jeddah, KSA. The following maternal and perinatal variables were reviewed by the patients' medical records: (booking status, maternal age, gestational age, maternal Body Mass Index (BMI), presence of diabetes, previous history of SD, instrumental delivery, Birth weight, Erb's and Klumpke's palsies).

Results: A total of 236 cases had SD with an incidence of (0.8%). Only 55 cases among all had BPP. The Erb's palsy was found in 54 cases (30.7%) while Klumpke's palsy was found only in one case (0.6%). There were 121 (68.8%) cases with no BPP and a remaining of 60 unknown BPP outcomes. From the total number of cases with SD, mothers with overweight and obesity were found in 93% of the cases.

Conclusions: Most of clinically diagnosed SD cases did not give the consequence of BPP. However, this complication in addition to other complications of SD mandates extra caution in cases with risk factors.
Background: Colorectal cancer (CRC) is a common cancer. Relatives of CRC patients are at a higher risk for developing CRC. Although screening rates remains low, early screening shows decrease in mortality of CRC.

Objective: To determine the impact of physician counseling on raising the awareness of CRC patients and their relatives about the importance of early CRC screening.

Method: A Cross-sectional study was performed on CRC patients and their relatives with a sample size of 104 patients and 30 patient's relatives. Data was collected through a telephone – interview and using a validated questionnaire, visits to the oncology division and the surgical department.

Results: 104 CRC patients and 30 relatives were included. 22 patients (21.2%) received counseling by the physician and 82 patients (78.8%) were not.25 patients (24%) counseled their relatives. 67% of CRC patients did think it is important to counsel their relatives and 40% of the relatives did not think it is important to proceed with CRC screening.

Conclusion: This study demonstrates the role of physician counseling in patient awareness of the risk of CRC among their relatives. Therefore, improving physician’s counseling skills is greatly needed in our community to improve the early detection of CRC among the relatives of CRC patient in Saudi Arabia.
Abstract

Background: To investigate the correlation between xenoestrogen and the impact on early pubertal development among young girls in Western Saudi Arabia.

Methods: This was a cross-sectional study of 794 young girls. Data were collected between June 5, 2016 and August 25, 2016 from the Pediatric Endocrine Clinic at King Abdulaziz University Hospital, Jeddah, Saudi Arabia. The clinical characteristics of the participants were recorded.

Results: The mean age of the participants was 10.87 years. The most common xenoestrogen products used daily included plastic packaging materials (n=353; 44.5%), pesticides (n=351; 44.2%), and plastic water bottles (n=311; 39.2%); the least common product used daily was food preservatives (n=101; 12.7%). There was a significant inverse relationship between the use of plastic packaging materials and age of breast (p=0.027) and pubic hair (p=0.005) development. Furthermore, there was a significant association between the increased use of pesticides and early development of pubic hair (p=0.044). A total of 516 participants were yet to experience menarche, which represented 65% of the total sample size for this study.

Conclusion: There was a direct relationship between the frequent usage of various xenoestrogen products and early development of breasts, pubic hair, and age of menarche among young girls living in Western Saudi Arabia.
Abstract

Objectives: To report rare metastasis in breast from rectal cancer.

Case Report: A 47-year-old married lady who presented with rectal bleeding for six weeks and diagnosed as a case of adenocarcinoma with no metastasis underwent neoadjuvant radiotherapy and chemotherapy and then abdominoperineal resection on follow-up found to have left breast mass and skin lesion in upper abdominal wall. Mammogram showed BIRADS-5. Tru cut biopsy showed mucinous/signet ring adenocarcinoma and she underwent lumpectomy and sentinel lymph node biopsy and excision of skin lesion. Histopathology of breast lump and skin lesion came as mucinous adenocarcinoma of colonic origin, but all axillary lymph nodes were negative for malignancy.

Conclusion: Metastatic breast lump is rare entity and every effort to be put to diagnose it using modern diagnostic tools.
Abstract

Background: Type 2 diabetes (T2D) is one of the fastest growing public health problems in both developed and developing countries1 imposing a high financial burden on health care costs2. The IDF has estimated that the numbers of adults with diabetes is expected to rise from 387 millions in 2014 to 592 millions by 20352. Saudi Arabia shows one of the highest prevalence of diabetes in the world3. The aim of diabetes management is to keep the glycated Hemoglobin (Hb A1c) < 7.0%4, pre-prandial capillary plasma glucose between 70-130 mg/dl and peak postprandial capillary plasma glucose < 180 mg/dl to prevent, or at least delay further complications. 5 Insulin therapy is reported to lead to better glycemic control of T2DM in many populations6-10. The latest “Saudi National Reference For Diabetes Mellitus Guidelines In Primary Health Care” recommends the use of insulin in patients not able to reach glycated hemoglobin (HbA1c) level of 7.0% with other treatment regimens. Insulin will be made freely available in all primary health care centers, leading to more physicians prescribing it.

Aim: To compare the effect of currently used different treatment regimens (oral hypoglycemic agents, insulin therapy, and combination of both) on glycaemic control and other cardio metabolic risk factors in Saudi T2DM patients.

Methods: Using a cross sectional study design, patients diagnosed with type 2 DM were randomly recruited from the diabetes outpatients clinics at King Abdulaziz University hospital (KAUH), and King Fahad Armed Force Hospital (KFAFH) in Jeddah, between June 2013 and July, 2014. Ethical approval was obtained from the "Committees on the Ethics of Human Research" at the two hospitals. Only those without change in treatment modality for the last 18 months were asked to participate. A signed informed consent form was obtained from all those willing to participate before inclusion in the study. Exclusion criteria included: patients recently diagnosed with diabetes (less than 1 year period), pregnancy, having any other severe chronic illness or diabetic complications (i.e. end stage renal disease, liver disease, recent myocardial infarction, etc). Height was measured bare footed to the nearest 0.5 cm using a stationary stadiometer. Weight was measured to the nearest 0.5 Kg while wearing light street clothing using a portable calibrated scale (Omron BF 511). Both measurements were used to calculate body mass index (BMI). Blood pressure was measured following the recommendations of the Joint National Committee using a standard mercury sphygmomanometer with the cuff on the right upper arm. 11 In addition; using face-to-face interview; a questionnaire covering the management plan followed by the patient, and demographic information was completed. Treatment plan was recorded from files as, lifestyle modification (i.e. diet and exercise), oral hypoglycemic agents, insulin, or any combination of them. Glycated hemoglobin (HbA1c), and lipid profile were measured in fasting blood samples by routinely used automated methods at the biochemistry laboratory in the respective hospital. Hb A1c <7% was
considered controlled, in accordance to the American Diabetic Association Guidelines (ADA). Data was entered, coded, and analyzed using SPSS, version 20. One-way analysis of variance (ANOVA) was used to test for differences between means of different treatment groups. P-values <0.05 were considered statistically significant.

Results: One hundred and ninety-seven subjects were recruited from both locations (41.1% were males and 58.9% were females). Active, structured patients' education; including lifestyle modification; programs were not implemented in either hospital. Hence, none of the patients was managed by lifestyle modification alone. The majority of the patients were found to be using oral hypoglycemic agents only in comparison to insulin only, or combined therapy (Figure 1). Only 18.3% of the sample had controlled Diabetes mellitus (DM). Even though the mean HbA1c was high in all patients’ groups, there was a significant difference between the means when using different management methods of DM. The mean HbA1c was lower in patients using oral hypoglycemic agents only, compared to means of those using insulin, or combined therapy in patients with disease duration of ≤10 years (P= 0.001), and in those with longer duration of the disease (P= 0.001) as presented in (Table 1). However, there was no significant difference in means of BMI for patients' groups following different management methods (P= 0.188) (Table 1). Furthermore, there was no significant difference between means of lipids profile components; namely triglyceride, LDL, and HDL among different management methods groups (Table 1). In addition, results indicated that there are differences in means of systolic and diastolic blood pressure in patients with >10 years DM duration (P=.032, .045, respectively), with lower mean in the group taking insulin only. However, this was not noted in patients with ≤10 years duration of disease.

Table 1: Glycated hemoglobin, lipid profile, and Blood Pressure (Means± SD) in groups of patients using different management modalities

Discussion and Conclusion: Among all factors associated with better glycemic control in diabetic patients, active patients' education; including lifestyle modification; has been proven worldwide to be the main determinant 13. Even though a recent Saudi study showed significant association between diabetes education and glycemic improvement 14, such education programs are not usually implemented in government run health centers in the Kingdom of Saudi Arabia. Hence, it was not surprising to find poor glycaemic control among studied patients; even when insulin therapy is used; in the absence of well structure diabetes health education and diabetes educational material in the two centers. Therefore, it might be disadvantageous to encourage the wider dependence on insulin therapy without first investigating reasons for poor glycaemic control in Saudi patients with T2DM, and ways to improve it.
Abstract

This study investigates the relation between leptin expression and the clinicopathological parameters in endometrial carcinomas. Seventy-one cases of previously diagnosed endometrial carcinoma (including 59 endometrioid adenocarcinomas, 9 serous carcinomas, 1 clear cell adenocarcinoma, and 2 malignant mixed Mullerian tumors) and 30 tissue samples of non-cancerous endometrium (including 16 proliferative endometrium, 10 secretory endometrium and 4 endometrial polyps) were employed for leptin detection using tissue microarrays and immunostaining. A total number of 48 (67.6%) cases were positive for leptin immunostaining. Brown granular cytoplasmic expression of leptin was detected in almost 68% of endometrioid adenocarcinomas, 66.7% serous carcinomas. Twenty-one (70%) control cases showed granular cytoplasmic expression. Positive leptin immunostaining was found more frequent in transformed epithelial cells and stromal cells of endometrioid adenocarcinomas and serous carcinomas respectively, showing significant statistical association (P-value = 0.005). Tumor stage is also significantly associated with cell type leptin immunoreactivity (P-value = 0.007), a considerable fraction of stage II is associated with leptin immunostaining of transformed epithelium whereas leptin immunoreactivity in endometrial stromal cells is more frequent in stage III. Disease recurrence rate is significantly higher in patients whom endometrial stromal cells are positive for leptin immunostaining (P-value = 0.000). Poor survival status (death) is also significantly associated with a group of patients whom endometrial stromal cells showed positive leptin immunoreactivity (P-value = 0.000). Our results confirm the diagnostic and prognostic values of leptin in supporting the diagnosis and prognosis of endometrial carcinomas. These preliminary findings recommend that leptin may be a valuable marker for predicting histotype, stage, recurrence and poor prognosis in endometrial carcinoma.
Cerebral palsy (CP) is a common chronic motor disorder with associated cognitive, communicative, and seizure disorders. Children with CP have a higher risk of dental problems creating significant morbidity that can further affect their wellbeing and negatively impact their quality of life. Screening for dental disease should be part of the initial assessment of any child with CP. The objective of this article is to present an updated overview of dental health issues in children with CP and outline important preventative and practical strategies to the management of this common comorbidity. Providing adequate oral care requires adaptation of special dental skills to help families manage the ongoing health issues that may arise. As oral health is increasingly recognized as a foundation for general wellbeing, caregivers for CP patients should be considered an important component of the oral health team and must become knowledgeable and competent in home oral health practices.
Trend in Age at Menarche in Relation to Body Mass Index among Children and Adolescent Girls in Saudi Arabia

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Pediatrics
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Objective: It has been evaluated that the process of menarche occurs at a specified age, which enables a girl for reproduction. However, age of menarche is getting reduced on a constant basis in different western and eastern countries. Thus, this study has developed its objective to assess the decreased trend of menarcheal age, and its relationship with the body mass index of female individuals in the population of Saudi Arabia.

Methods: A cross sectional study has been conducted among Saudi girls who were aged between 8-17 years old. Participants were randomly selected from six shopping centers of Jeddah, Saudi Arabia over the course of one month. Personal interviews were carried out for collecting data on the menarche related age and other pubertal signs including thelarche and pubarche. Age of menarche was subsequently categorized as early (<11 years old) and normal/late (≥11 years old). Weight and height were measured for BMI calculation and participants were then classified as being obese/overweight (BMI>2SD) and normal or underweight (BMI<2SD).

Results: A total of 637 girls were recruited, of which, 25.4% only were experiencing the process of menarche at the time of study. Mean age of the study population was 11.2 ± 1.2. Mean BMI was 19.5 ± 4.6. Mean age at menarche was 11.9 ± 1.4 (95% CI: 11.6, 12.1), the minimum age was 8 and the maximum age was 16. Early menarche (<11 years of age) was found among 27 (16.7%) girls (95% CI: 9.2, 9.8). Normal/late menarche (≥11 years of age) was observed among 135 (83.3%) girls (95% CI: 12.2, 12.5). The mean menarcheal age among obese/overweight group was 11.2 ± 1.4 (95% CI 10.4, 12), while that of the normal/underweight group was 12 ± 1.4 (95% CI 11.7, 12.2), No significant difference was found between the two groups (P=0.668).

Conclusion: it has been concluded that extremely feeble relationship was present between the body mass index and menstrual age of the selected population. Advanced research studies are required for deriving out excessive outcomes related to the menarcheal age and BMI index.
Abstract

Introduction: Vitamin D deficiency considered to be the most common nutritional deficiency and one of the most common undiagnosed medical conditions in the world. It appears to be a widespread global problem prevalent in all age groups, with a reported prevalence of 30-80% in children and adults. This significant decreased in vitamin D level worldwide in different age group shows lack of awareness about vitamin D importance and its resources.

The aim of our study: To assess awareness, perception and understanding of vitamin D deficiency among families living in Jeddah/Saudi Arabia. Determining the resources of information about vitamin D deficiency in our society.

Methods: A cross-sectional retrospective study was conducted in ambulatory and pediatric clinic at KAUH and many malls in Jeddah - Saudi Arabia. Data were obtained from a questioner designed to collect information about vitamin D. The study population was formed of 1752 parents of children aged from 2 to 18, and dividing them to 746 highly educated, 491 low educated.

Results: It was found that the highly educated parents got the right answers in most of the questions. However both high and low education parents had the media as their source of information. However that the majority have heard about vitamin D, 82.9% fail to identify the best time for sun exposure and 65.5% recognize inability to go outside due to work or weather issues as common cause of vitamin D deficiency.

Recommendations: Improving health education to exposing to sunlight and consume vitamin D medication may be an effective step toward preventing vitamin D inadequacy.
Abstract

BACKGROUND/AIM: Osteoporosis is a systemic disease characterized by decreased bone density and increased tendency to develop fractures. Osteoporosis in children and adolescents is a rare disease usually secondary to Medical conditions or medications given to children. The condition affects normal bone growth and development and carries with it multiple morbidities (physical and psychological) if not corrected promptly. This study aims to share our experience with Zoledronic Acid Therapy in Pediatric patients with secondary osteoporosis.

METHOD: A retrospective study which included 46 patients aged 3 to 18 years. All patients received specific doses of Zoledronic acid and were followed up at King Abdulaziz University Hospital (KAUH) in Jeddah, Saudi Arabia. Clinical and laboratory data were collected for each patient from their files. Adverse events were also recorded.

RESULTS: The use of Zoledronic Acid in children and adolescents appears to be statically significant reduce fracture rate (p=0.005), bone turnover markers (Osteocalcin p= 0.003, CTX p= 0.008) and pain frequency in symptomatic individuals (p=0.000). Careful selection of cases is required to provide maximum benefits compared to risks associated with therapy.

CONCLUSION: This study demonstrates that Zoledronic has positive effects on clinical outcome and bone marker level as well as quality of life for Pediatric patients with Osteoporosis and their families, with no long-term side effects.
Objective: To evaluate parental perceptions of their child’s acute or chronic kidney disease, and to identify significant determinants of parental understanding among a sample of caregivers.

Method: This is a cross-sectional study, which was conducted over 4 month period from 1 February, 2014 to 30 May, 2014. The study involved structured face-to-face interviews for questionnaire completion with a convenience sample of 121 adult caregivers of children with acute or chronic kidney disease (aged 18–54 years) to explore their perceptions on their child’s condition. Subjects were recruited from the Pediatric Nephrology clinic at King Abdul-Aziz University Hospital in Jeddah, Saudi Arabia.

Results: Perceived diagnosis awareness (77%), understanding of complex information such as the use of clean intermittent transurethral catheter (67%), and effects of medication (51%). There was an association between perceived knowledge and understanding of the condition with caregiver level of education (P value=<0.0001). Understanding of disease etiology is associated with education level (P value <0.05). Perceived knowledge and understanding of kidney disease was significantly positively associated with time-taken to explain the disease (P value <0.0001). Overall satisfaction levels with explanations were positively associated with caregiver age (P value<0.05). Caregivers favoured use of educational materials, particularly video (95%).

Conclusion: This study reveals existing patient-doctor communication can be improved through the establishment of standardized guidelines and practice on what, when, and how to elaborate on the condition with caregivers; and the efficacy of these practices to be measured and regularly reviewed.
Mothers' Knowledge Regarding The Hazards Xenoestrogens Pose To Young Females: A Cross-Sectional Study In Western Saudi Arabia

**Journal:** Int. J. Adv. Res.

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**Volume / Issue:** 4/10

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**ISSN:** 2320-5407

**Department:** Pediatrics

**Authors:** Abdulmoein Eid Al-Agha, Abdulaziz Mohammed Alkahtani, Fotoun Abubaker Aqeel, Esraa Abdulhafiz Kashkari

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**Abstract**

Background: Xenoestrogens are endocrine-disrupting chemicals capable of altering or interfering with the natural actions of endogenous hormones. However, there is currently a paucity of data regarding the public’s knowledge of the risks xenoestrogens pose, especially for young females, and regarding their knowledge of measures that can be taken to prevent such risks. This study aim to investigate mothers’ knowledge of the hazards associated with xenoestrogen exposure in young females in western Saudi Arabia.

Methods: This cross-sectional study was conducted at the pediatric ambulatory clinic at King Abdulaziz University Hospital, Jeddah, Saudi Arabia, between June and August 2016. We randomly selected mothers with at least one daughter aged 6–15 years. In total, 794 mothers participated. Data were gathered on the participant demographics, beliefs about xenoestrogens, and knowledge of xenoestrogen-containing products and related risks.

Results: The mean age of the participants was 38.4 ± 7.01 years. Most were of Saudi origin (n = 625, 78.7%). There were 378 (47.6%) mothers with a low/average level of education, whereas 416 (52.4%) were highly educated. Only 219 (27.6%) had received previous information regarding xenoestrogens; the remaining 575 (72.4%) had not. There was a significant association between the mothers’ education level and their knowledge of xenoestrogen hazards.

Conclusions: Our findings indicate that knowledge of xenoestrogens among mothers in Saudi Arabia is limited. Hence, programs and activities using social media, as well as educational campaigns, need to be established to increase awareness.
Graduate Students
# 2014 Graduate Medical Students’ Involvement in Authorship of Research

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<td>Life Science Journal</td>
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ABSTRACT

Background: Radiosurgery is a well-established treatment modality for medically refractory trigeminal neuralgia. The exact mechanism of pain relief after radiosurgery is not clearly understood. Histopathology examination of the trigeminal nerve in humans after radiosurgery is rarely performed and has produced controversial results.

Case Description: We report on a 45-year-old female who received radiosurgery treatment for trigeminal neuralgia by Cyberknife. A 6-mm portion of the cisternal segment of trigeminal nerve received a dose of 60 Gy. The clinical benefit started 10 days after therapy and continued for 8 months prior to a recurrence of her previous symptoms associated with mild background pain. She underwent microvascular decompression and partial sensory root sectioning. Atrophied trigeminal nerve rootlets were grossly noted intraoperatively under surgical microscope associated with changes in trigeminal nerve color to gray. A biopsy from the inferolateral surface of the nerve proximal to the midcisternal segment showed histological changes in the form of fibrosis and axonal degeneration.

Conclusion: This case study supports the evidence of histological damage of the trigeminal nerve fibers after radiosurgery therapy. Whether or not the presence and degree of nerve damage correlate with the degree of clinical benefit and side effects are not revealed by this study and need to be explored in future studies.
Research Title: Congenital glucose-galactose malabsorption: a descriptive study of clinical characteristics and outcome from Western Saudi Arabia.


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Affiliated Department(s): Pediatrics

Author(s): Omar I Saadah, Sharifa A Alghamdi, Haifa H Sindi, Huda Alhunaitti, Yagoub Y Bin-Taleb, Bakr H Alhussaini

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ABSTRACT

Background and Study Aims: Congenital glucose galactose malabsorption (CGGM) is a rare autosomal recessive disorder caused by a defect in the sodium-coupled transport of glucose and galactose across the intestinal brush border presenting with neonatal diarrhoea. The aim of this study was to report the clinical and laboratory characteristics of patients with CGGM from the Western Saudi Arabia.

Patients and Methods: This is a retrospective review of CGGM patients in three major hospitals in the city of Jeddah, Saudi Arabia, namely King Abdulaziz University Hospital, King Faisal Specialist Hospital and Research Centre, and Maternity Children Hospital in the period between November 2001 and October 2011.

Results: Twenty-four patients with CGGM have been described. The median age at diagnosis was 4.5 months. Twelve (50%) were males. Sixteen (66.7%) were Saudi and 8 (33.3%) were non Saudi (5 Arabs and 3 Asians). Parents of 21 patients were consanguineous. Nine (37.5%) had affected siblings with CGGM. All presented with diarrhoea resulting in dehydration. Hypernatremia was seen in 7 (29.2%) patients, renal tubular acidosis in 4 patients. Renal stones and nephrocalcinosis were detected in 3 (12.5%) patients at 8 months, 12 months and 7 years, respectively. The median follow up was 41.6 months. All but three demonstrated normal weight gain. Five patients reported one or more symptoms of bloating (n=3), diarrhoea (n=3) and abdominal pain (n=1) during follow up. All had normal development and none had neurological complications secondary to dehydration.

Conclusion: Early recognition and management of this condition are crucial to prevent consequences of dehydration and death.
Research Title: Risk factors of coronary heart disease among medical students in King Abdulaziz University, Jeddah, Saudi Arabia

Source: BMC Public Health
Biomed Central Ltd
Volume 14, Article 411, page 1-9

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Affiliated Department(s): Family Medicine, Medicine,

Author(s): Nahla Khamis Ibrahim, Morooj Mahnashi, Amal Al-Dhahri, Borooj Al-Zahrani, Ebtihal Al-Wadie, Mydaa Aljabri, Rajaa Al-Shanketi, Rawiah Al-Shehri, Fatin M Al-Sayes, Jamil Bashawari

Correspondent’s Email: nahlakhamis@yahoo.com

ABSTRACT

Background: Nowadays, Cardiovascular Diseases (CVDs) represents an escalating worldwide public health problem. Providing consistent data on the magnitude and risk factors of CVDs among young population will help in controlling the risks and avoiding their consequences.

Objective: The objective was to estimate the prevalence of risk factors of Coronary Heart Disease (CHD) among medical students during their clinical clerkship (4th - 6th years).

Methods: A cross-sectional study was done during the educational year 2012-2013 at King Abdulaziz University (KAU), Jeddah. Ethical standards were followed and a multistage stratified random sample method was used for selection of 214 medical students. Data was collected through an interviewing questionnaire, measurements and laboratory investigations. Both descriptive and analytical statistics were done by SPSS version 21. CHD risk percent in thirty years was calculated using Framingham algorithm for each student, then the risk among all students was determined.

Results: The commonest risk factors of CHDs were daily intake of high fat diet (73.4%), physical inactivity (57.9%), overweight/or obesity (31.2%) and daily consumption of fast food (13.1%). Hyper-cholesterolemia (17.2%) and hypertension (9.3%) were also prevalent risk factors. Smoking prevalence was low (2.8%). Males had significantly higher mean scores for most of CHD risk factors compared to females (p < 0.05). Systolic Blood pressure was higher among males (119.47 +/- 11.17) compared to females (112.26 +/- 9.06). A highly statistical significant difference was present (Students't test = 4.74, p < 0.001). Framingham Risk Score revealed that CHD risk percent in thirty-years among all students was 10.7%, 2.3% and 0.5% for mild, moderate and severe risk, respectively.

Conclusion: An alarmingly high prevalence of CHD risk factors was prevailed among medical students, especially among males. However, a low prevalence of smoking may indicate the success of “Smoke-free Campus” program. Screening risk factors of CHD among medical students and implementation of intervention programs are recommended. Programs to raise awareness about CHD risk factors, encourage young adult students to adopt a healthy dietary behavior and promote physical exercise should be initiated.
**Research Title:** Combined use of cyclodextrins and hydroxypropylmethylcellulose stearoxy ether (Sangelose®) for the preparation of orally disintegrating tablets of type-2 antidiabetes agent glimepiride

**Source:** Journal of Inclusion Phenomena And Macrocyclic Chemistry Springer  
Volume 80, Issue 1-2, page 61-67

**ISSN:** 1573-1111

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**Affiliated Department(s):** Medicine

**Author(s):** H. Aldawsari, A. Altaf, Z. Banjar, M. Okubo, D. Iohara, M. Anraku, F. Hirayama, K. Uekama

**Correspondent’s Email:** fhira@ph.sojo-u.ac.jp

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**ABSTRACT**

Despite recent advances in the formulation of orally disintegrating tablets (ODTs), the efforts to enhance the swallowing of the drug after disintegration have been limited. In this study, the feasibility of the combined use of cyclodextrins (CyDs) and a functional drug carrier, hydroxypropylmethylcellulose stearoxy ether (Sangelose®) was investigated to improve usability of ODTs. Glimepiride, a potent third generation hypoglycemic agent for type 2 diabetes, was used as a model drug, because it is poorly water-soluble and elimination half life is fairly short. The direct compression method was employed for the preparation of glimepiride tablets, containing CyDs and Sangelose®), and various characteristics of the tablets were examined. In the cases of alpha-CyD and beta-CyD, a short disintegration time with an appropriate hardness was obtained, complying with ODT criteria. On the other hand, gamma-CyD, HP-beta-CyD and HB-beta-CyD increased the hardness and disintegration time of the tablets. The rheological evaluation revealed that CyDs, except gamma-CyD, significantly reduced the viscosity of the fluids after disintegration of the tablets, suggesting an ease of swallowing. This was ascribable to the complexation of the hydrophobic stearoyl moiety of Sangelose®) with CyDs after dissolution, leading to the inhibition of the polymer-polymer interaction of Sangelose® and to the decrease in viscosity of the solution. The interaction of glimepiride with alpha- and beta-CyDs was studied by the solubility method, demonstrating that glimepiride formed water-soluble complexes with these CyDs. Results obtained here suggested that alpha-CyD and beta-CyD can be particularly useful for the Sangelose®)-based ODT formulation, compared to gamma-CyD, HP-beta-CyD and HB-beta-CyD, because of the short disintegration time of the tablets containing alpha-CyD and beta-CyD, their shear-thinning effect on Sangelose® solutions and their solubility enhancing effect on the drug.
ABSTRACT

Objectives: To describe 8 cases of renal artery stenosis (RAS) in children with congenital anomalies of the renal tract.

Methods: We conducted a retrospective chart review of 78 children with RAS who were followed up at Great Ormond Street Hospital, London, United Kingdom between 2003 and 2012. We used an interventional radiology database to identify all patients who had RAS confirmed by digital subtraction angiography and examined all cases of congenital anomaly of the renal tract that had been diagnosed during childhood.

Results: We documented the following renal anomalies: multicystic dysplastic kidney (n=2), renal hypoplasia (n=1), congenital solitary kidney with hydronephrosis (n=1), and unilateral vesicoureteric reflux with poorly functioning kidneys (n=2). The anomaly was unknown in 2 cases. Seven children had unilateral nephrectomy at a median age of 2.5 years (range, 0.4-10 years) for various urological abnormalities. All children were confirmed to have RAS after presentation with hypertension at a median age of 10 (3.5-16.2) years. Angioplasty was performed in 7 children, of which 6 achieved control of their blood pressure on reduced medications.

Conclusion: We highlight the association between RAS and other renal anomalies, which indicates that they could share a common genetic background.
In this study, we investigated the performance of the FilmArray and matrix-assisted laser desorption ionization-time of flight mass spectrometry (MALDI-TOF MS) in identifying microorganisms from blood culture (BC) bottles prior to positivity. First, we used simulated BacT/Alert FA Plus BC bottles with five each for Escherichia coli and Staphylococcus aureus isolates. The FilmArray identified all 10 isolates before BC positivity with 9/10 at 5 h and 1 at 7.5 h after incubation in the BC system. MALDI-TOF MS failed to identify the isolates prior to positivity. When the bottles were incubated for 2.5 h at room temperature (RT) before we put them into the BC system, the FilmArray identified 6/10 at 2.5 h and the remaining 4 at 5 h. Finally, we tested simulated BC bottles after incubation at RT. Interestingly, 9/10 isolates were identified with the FilmArray after 8 h of incubation at RT. Second, we studied clinical BC bottles in quadruplicate. When three-fourths of the parallel bottles signaled positive, the FilmArray was run on the fourth nonsignaled bottle and was found to be positive in 14/15 such cases. Third, we analyzed the performance of the FilmArray in the identification of microorganisms from clinical BC bottles before incubation in the system. Two milliliters of broth from 400 BC bottles was collected after arrival at the laboratory and stored at -70 degrees C. Sixteen bottles later signaled positive in the system. When the frozen broth from these bottles was analyzed, the FilmArray identified all the microorganisms in 8/16 bottles prior to incubation in the BC system. This study shows that the FilmArray can identify microorganisms from BC bottles prior to positivity and in some cases even prior to incubation in the BC system.
ABSTRACT

Hospital readmissions within 30 days of initial discharge occur frequently. In studies of elderly patients receiving Medicare, readmissions have been associated with poor-quality inpatient care, ineffective hospital-to-home transitions, patient characteristics, disease burden, and socioeconomic status. Among adult family medicine patients spanning a wide age range, we hypothesize that previous hospitalizations, length of stay, number of discharge medications, medical comorbidities, and patient demographics are associated with a greater risk of hospital readmission within 30 days. A retrospective case-control study of 253 family medicine inpatients was conducted to determine the factors associated with 30-day readmission. Odds ratio and one sample T-test were computed to determine the risk factors for unscheduled re-admittance. The results indicated that Patients who were admitted again in 30 days had additional related morbidities (2.1 vs 1.2; P < .0001), and the characteristic associated morbidities of congestive heart failure, coronary artery disease, chronic obstructive pulmonary ailment, presence of a psychiatric disorder and recent cancer were all additionally widespread amongst cases. Also the study results indicated that unscheduled re-admittance is related to patient’s features. Patients with heart disease, cancer, pneumonia, septicemia and liver diseases were more prone to admitted again. The proportion of re-admittance was associated with extended stay in the hospital, increased morbidity rate and hospital expenses.
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<th><strong>Research Title:</strong></th>
<th>Clinically probable REM sleep behavior disorder: a case series and a literature review</th>
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| **Source:**         | Life Science Journal  
Marsland Press  
Volume 11, Issue 12, page 853-855 |
| **ISSN:**           | 1097-8135 |
| **Date and Year of Publication:** | 2014-DEC |
| **Impact Factor:**  | 2.296 |
| **Affiliated Department(s):** | Medicine |
| **Author(s):**      | Abdulraheem M Alshehri |
| **Correspondent’s Email:** | aalshehri@kau.edu.sa |

**ABSTRACT**

REM sleep behavior disorder (RBD) is a parasomnia and a movement disorder, manifested by dream enactment behaviors ranging from a simple limb movement to an aggressive kicking, punching, and yelling mirroring the dream content. It can be an idiopathic, or be the heralding event of an α-synucleinopathic neurodegenerative disorder. Diagnosis depends on polysomnographic confirmation of an active EMG correlate during REM sleep with video correlate of an abnormal REM sleep behavior, or a sleep disruptive behavior by history. The management includes measures to avoid falling of bed like bed rails, padding sharp edges, sleeping on the floor or in a sleeping bag till RBD is controlled. Medications of confirmed value include clonazepam and melatonin. In this series, three patients with Parkinson’s disease are presented. They have clinically probable RBD (pRBD) as the diagnosis was based on history of quite disruptive sleep behavior that responded dramatically to treatment with bedtime clonazepam.
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<th>Religious Involvement and Health in Dialysis Patients in Saudi Arabia</th>
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<td>Source:</td>
<td>Journal of Religion and Health</td>
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<td>Faten Al Zaben, Doaa Ahmed Khalifa, Mohammad Gamal Sehlo, Saad Al Shohaib, Salma Awad Binzaqr, Alae Magdi Badreg, Rawan Ali Alsaadi, Harold G Koenig</td>
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<tr>
<td>Correspondent’s Email:</td>
<td><a href="mailto:Harold.koenig@duke.edu">Harold.koenig@duke.edu</a></td>
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**ABSTRACT**

Patients on hemodialysis experience considerable psychological and physical stress due to the changes brought on by chronic kidney disease. Religion is often turned to in order to cope with illness and may buffer some of these stresses associated with illness. We describe here the religious activities of dialysis patients in Saudi Arabia and determined demographic, psychosocial, and physical health correlates. We administered an in-person questionnaire to 310 dialysis patients (99.4 % Muslim) in Jeddah, Saudi Arabia, that included the Muslim Religiosity Scale, Structured Clinical Interview for Depression, Hamilton Depression Rating Scale, Global Assessment of Functioning scale, and other established measures of psychosocial and physical health. Bivariate and multivariate analyses identified characteristics of patients who were more religiously involved. Religious practices and intrinsic religious beliefs were widespread. Religious involvement was more common among those who were older, better educated, had higher incomes, and were married. Overall psychological functioning was better and social support higher among those who were more religious. The religious also had better physical functioning, better cognitive functioning, and were less likely to smoke, despite having more severe overall illness and being on dialysis for longer than less religious patients. Religious involvement is correlated with better overall psychological functioning, greater social support, better physical and cognitive functioning, better health behavior, and longer duration of dialysis. Whether religion leads to or is a result of better mental and physical health will need to be determined by future longitudinal studies and clinical trials.
# 2015 Graduate Medical Students’ Involvement in Authorship of Research

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<td>Eman M Alissa, Wafa A Alnahdi, Nabil Alama, Gordon A Ferns</td>
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<td>2015/4</td>
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**Research Title:** Comparative study of analgesic and anti-inflammatory effects of Commiphora opobalsamum with diclofenac in rodents

**Source:** African Journal of Pharmacy and Pharmacology Academic Journals Vol. 9, Issue 32, Page: 806-817

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**Affiliated Department(s):** Pharmacology

**Author(s):** Akram A Al-Salmi, Mai AAA Sattar, Lateef M Khan, Sameer E Al-Harthi

**Correspondent’s Email:** n/a

**ABSTRACT**

This study aims to investigate the analgesic and anti-inflammatory effects of Commiphora opobalsamum in rodents in comparison with diclofenac, and its ability to enhance the activity of diclofenac in reduced doses. Wister rats or Swiss mice (5 groups/6 each) were administered methalonic extract of C. opobalsamum, saline and diclofenac 30 min before the test initiation by i.p. route. The analgesic activities were examined utilizing the acetic acid, hot plate and formalin paw lick techniques. The anti-inflammatory efficacy was examined by utilizing the granuloma induced by cotton pellet and paw edema induced by carrageenan C. opobalsamum demonstrated a stronger inhibition of writhing compared to diclofenac, and the 500 mg/kg dose completely inhibited the writhing response. In hot plate, C. opobalsamum co-administrated with diclofenac exhibited significant prolongation of reaction time compared to diclofenac alone. Furthermore, C. opobalsamum (500 mg/kg) significantly shortens the licking time compared to diclofenac at both phases. In addition, the suppression of paw edema induced by carrageenan was significant in comparison to diclofenac at first hour. Interestingly, significant weight reduction of granuloma tissue was perceived at all doses of C. opobalsamum in contrast to control group. This study provides a strong evidence of the analgesic and anti-inflammatory activity of extract of C. opobalsamum, additionally it has revealed significant anti-inflammatory effect, equivalent to on-steroidal anti-inflammatory drugs (NSAIDs). Moreover, the combination of reduced doses of C. opobalsamum and diclofenac with resultant synergistic potentiation of both analgesic and anti-inflammatory effect, necessitates a cautious approach to elucidate its mechanism with the concomitant meticulous study of its safety profile.
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Undergraduate and Graduate Students Publications

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<th>Identification of Two Homozygous Sequence Variants in the COL7A1 Gene Underlying Dystrophic Epidermolysis Bullosa by Whole-Exome Analysis in a Consanguineous Family</th>
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| Source:        | Annals of Human Genetics  
Wiley-Blackwell  
| ISSN:          | 0003-4800 |
| Month and Year of Publication: | SEPT 2015 |
| Impact Factor: | 1.926 |
| Affiliated Department(s): | Princess Al-Jawhara Albrahim Center of Excellence in Hereditary Disorders Research; Dermatology; Medical Genetics |
| Author(s):     | Rehab Serafi, Musharraf Jelani, Mona M Almramhi, Hussein SA Mohamoud, Saleem Ahmed, Yaser M Alkhiary, Jianguo Zhang, Huanming Yang, Jumana Y Al-Aama |
| Correspondent’s Email: | mjelani@kau.edu.sa |

**ABSTRACT**

Dystrophic epidermolysis bullosa (DEB) is an inherited skin disorder with variable severity and heterogeneous genetic involvement. Diagnostic approaches for this condition include clinical evaluations and electron microscopy of patients’ skin biopsies, followed by Sanger sequencing (SS) of a large gene (118 exons) that encodes the alpha chain of type VII collagen (COL7A1) located on Chromosome 3p21.1. However, the use of SS may hinder diagnostic efficiency and lead to delays because it is costly and time-consuming. We evaluated a 5-generation consanguineous family with 3 affected individuals presenting the severe generalised DEB phenotype. Human whole-exome sequencing (WES) revealed 2 homozygous sequence variants: the previously reported variant p.Arg578* in exon 13 and a novel variant p.Arg2063Gln in exon 74 of the COL7A1 gene. Validation by SS, performed on all family members, confirmed the cosegregation of the 2 variants with the disease phenotype. To the best of our knowledge, 2 homozygous COL7A1 variants have never been simultaneously reported in DEB patients; however, the upstream protein truncation variant is more likely to be disease-causing than the novel missense variant. WES can be used as an efficient molecular diagnostic tool for evaluating autosomal recessive forms of DEB.
Research Title: Chemosensitizing and nephroprotective effect of resveratrol in cisplatin-treated animals.

Source: Cancer Cell International
Biomed Central Ltd
Vol. 15, Issue 6, Page: 1-8

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Affiliated Department(s): Anatomy; Pharmacology

Author(s): Osman AM, Telity SA, Damanhouri ZA, Al-Harthy SE, Al-Kreathy HM, Ramadan WS, Elshal MF, Khan LM, Kamel F

Correspondent’s Email: n/a

ABSTRACT

Background: Cisplatin (CIS) is one of the most effective anticancer drug used in the treatment of several solid tumors. Its use is limited by its nephrotoxicity. The present study was designed to assess the role of a natural product resveratrol (RSVL) on sensitization of mammary carcinoma (Ehrlich ascites carcinoma) to the action of CIS and the possible protective effect against CIS-induced nephrotoxicity in rats.

Methods: The percent survival of female tumor bearing mice was used for determination the cytotoxic activity of CIS in the presence or the absence of RSVL. Uptake and cell cycle effect, serum creatinine (CREA), blood urea nitrogen (BUN), Reduced Glutathione (GSH) and histopathological examination of kidney tissues after CIS and/or RSVL therapy were also investigated.

Results: RSVL increased the intracellular level of CIS in EAC cells and there was a strong correlation between the high cellular level of CIS and its cytotoxicity. CIS at a dose level of 5 mg/kg increased the mean survival time of female tumor bearing mice to 25 days compared with 17 days for tumor-bearing control mice. Administration of RSVL at a dose level of 25 mg/kg simultaneously with CIS increased the mean survival time to 48 days with 60% survival of the tumor-bearing animals. Cell cycle analysis of tumor cells showed that CIS treatment decreases the proliferation index of tumor cells while in presence of RSVL there was more significant inhibitions. Also, CIS treatment caused increase in level of creatinine and blood urea with significant decrease in the GSH level. While, in the presence of RSVL, level of creatinine and blood urea restored to control level.

Conclusion: This study suggests that RSVL could increase the cytotoxic activity of CIS and protect against its nephrotoxicity.
ABSTRACT

We sought to explore the genotype-phenotype of Jervell and Lange-Nielsen syndrome (JLNS) patients in Saudi Arabia. We have also assessed the plausible effect of consanguinity into the pathology of JLNS. Six families with at least one JLNS-affected member attended our clinic between 2011 and 2013. Retrospective and prospective clinical data were collected and genetic investigation was performed. Pathogenic mutations in the KCNQ1 gene were detected in all JLNS patients. The homozygous mutations detected were Leu273Phe, Asp202Asn, Ile567Thr, and c.1486_1487delCT and compound heterozygous mutations were c.820_830del and c.1251+1G>T. All living JLNS patients except one had a QTc of >500ms and a history of recurrent syncope. β-Blockers abolished the cardiac-related events in all patients except two siblings with homozygous Ile567Thr mutation. Four of the six mutations were originally reported in autosomal dominant long QT syndrome (LQTS) patients. Eighty percent of the heterozygote mutation carriers showed prolongation of QTc, but majority of these reported no symptoms attributable to arrhythmias. Mutations detected in this study will be advantageous in tribe and region-specific cascade screening of LQTS in Saudi Arabia.
Research Title: Novel nonsense mutation in the PTRF gene underlies congenital generalized lipodystrophy in a consanguineous Saudi family


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Affiliated Department(s): Medical Genetics; Pediatrics; Princess Al-Jawhara Albrahim Center of Excellence in Hereditary Disorders Research

Author(s): Musharraf Jelani, Saleem Ahmed, Mona Mohammad Almramhi, Hussein Sheikh Ali Mohamoud, Khadijah Bakur, Waseem Anshasi, Jun Wang, Jumana Yousuf Al-Aama

Correspondent’s Email: n/a

ABSTRACT

Congenital generalized lipodystrophies (CGLs) are a heterogeneous group of rare, monogenic disorders characterized by loss of sub-cutaneous fat, muscular hypertrophy, acanthosis nigricans, hepatomegaly, cardiac arrhythmias, impaired metabolism and mental retardation. Four different but overlapping phenotypes (CGL1-4) have been identified, which are caused by mutations in AGPAT2 at 9q34.3, BSCL2 at 11q13, CAV1 at 7q31.1, and PTRF at 17q21.2. In this study, we performed genome-wide homozygosity mapping of two affected and one unaffected subject in a Saudi family using a 300K Human-CytoSNPs12v12.1 array with the Illumina iScan system. A common homozygous region at chromosome 17q22.1, from 34.4 to 45.3 Mb, was identified in both the affected individuals. The region is flanked by SNPs rs139433362 and rs185263326, which encompass the PTRF gene. Bidirectional DNA sequencing of the PTRF gene covering all of the coding exons and exoneintron boundaries was performed in all family members. Sequencing analysis identified a novel homozygous nonsense mutation in the PTRF gene (c. 550G>T; p. Glu184*), leading to a premature stop codon. To the best of our knowledge, we present a novel mutation of PTRF from Saudi Arabia and our findings broaden the mutation spectrum of PTRF in the familial CGL4 phenotype. Homozygosity mapping coupled with candidate gene sequencing is an effective tool for identifying the causative pathogenic variants in familial cases.
ABSTRACT

Chronic nicotine administration increased levels of gastrin, ghrelin and histamine but decreased prostaglandinE(2). Nicotine administered orally and by inhalation had a marked negative impact on the histological structure of the gastric mucosa compared with intraperitoneal administration. The negative impact of nicotine administration on gastric structure was associated with an increased concentration of gastrin and decreased prostaglandinE(2), which might be the cause of gastric/peptic ulcers in heavy smokers. The increase in ghrelin concentration and its effect following chronic nicotine administration needs further investigation.

The aim was to assess the effects of different routes of chronic nicotine administration on gastric morphology and hormonal secretion; mainly gastrin, ghrelin, histamine and prostaglandinE(2) (PGE(2)). Forty adult male albino rats were randomly assigned into four groups (10 rats per group), treated for 21 days as follows: control group (given standard rat pellets and water only); oral nicotine-treated group [50g/ml drinking water(-1)]; intraperitoneal nicotine-treated group [0.5mg/kg body weight(-1)]; and inhaled nicotine-treated group [0.5mg/kg body weight(-1)]. Concentrations of gastrin, ghrelin, PGE(2) and histamine in serum and gastric tissue homogenates were assessed using ELISA kits. Stomach fundus was processed for histopathology and immunohistochemistry using light and electron microscopy. Different routes of chronic nicotine administration resulted in a significant increase in serum and gastric homogenate gastrin and ghrelin concentrations and a significant decrease in serum and homogenate PGE(2) concentrations compared with the control group. Moreover, nicotine administration via oral and inhalation routes caused gastric erosion, transformation of peptic cells into the mucous variety, a significant increase in parietal cell numbers and an increase in expression of gastrin. In conclusion, the negative impact of nicotine administration on gastric structure that is associated with an increased concentration of gastrin and decreased concentration PGE(2) might be the leading cause of gastric/peptic ulcers in heavy smokers. The increased ghrelin concentration and its effect following nicotine chronic administration needs further investigation. Based on these findings, we suggest that the alteration in gastric structure following chronic administration of nicotine can be prevented by reducing gastrin secretion and/or targeting its receptors.
<table>
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<th>Research Title:</th>
<th>Case of Sjögren-Larsson syndrome with a large deletion in the ALDH3A2 gene confirmed by single nucleotide polymorphism array analysis</th>
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<td>ISSN:</td>
<td>1346-8138</td>
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<td>JUL 2015</td>
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<td>Affiliated Department(s):</td>
<td>Princess Al-Jawhara Albrahim Center of Excellence in Hereditary Disorders Research; Medical Genetics</td>
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<td>Author(s):</td>
<td>Nagwa EA Gaboon, Musharraf Jelani, Mona M Almramhi, Hussein SA Mohamoud, Jumana Y Al-Aama</td>
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<tr>
<td>Correspondent’s Email:</td>
<td><a href="mailto:mjelani@kau.edu.sa">mjelani@kau.edu.sa</a></td>
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**ABSTRACT**

Sjogren-Larsson syndrome (SLS) is a neurocutaneous disorder inherited in an autosomal recessive fashion. SLS patients are characterized by lipid metabolism error, primarily leading to cardinal signs of ichthyosis, spasticity and mental retardation. Additional signs include short stature, epilepsy, retinal abnormalities and photophobia. More than 90 mutations of the ALDH3A2 gene have been reported for SLS, and such variants can be successfully detected at a rate of 94% by direct DNA sequencing. We performed direct sequencing of ALDH3A2 gene from the index patient, however, no mutation could be detected. HumanCytoSNPs12 array analysis and subsequent targeted single nucleotide polymorphism analysis revealed a novel deletion mutation at chromosome 17p11.2. This 67-Kb region includes the first five coding exons of ALDH3A2, and is flanked by rs2245639 and rs962801. To the best of our knowledge, this mutation is novel and our findings broaden the mutation spectrum of ALDH3A2 causing SLS phenotype.
**Research Title:** Exome analysis identified a novel missense mutation in the CLPP gene in a consanguineous Saudi family expanding the clinical spectrum of Perrault Syndrome type-3

**Source:** Journal of The Neurological Sciences Elsevier Science Bv Vol. 353, Issue 2, Page: 149-154

**ISSN:** 1878-5883

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**Impact Factor:** 2.262

**Affiliated Department(s):** Princess Al-Jawahra Albrahim Center of Excellence in Hereditary Disorders Research; Medical Genetics; Pediatrics; Radiology


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**ABSTRACT**

Perrault syndrome (PRLTS) is a clinically and genetically heterogeneous disorder. Both male and female patients suffer from sensory neuronal hearing loss in early childhood, and female patients are characterized by premature ovarian failure and infertility after puberty. Clinical diagnosis may not be possible in early life, because key features of PRLTS, for example infertility and premature ovarian failure, do not appear before puberty. Limb spasticity, muscle weakness, and intellectual disability have also been observed in PRLTS patients. Mutations in five genes, HSD17B4, HARS2, CLPP, LARS2, and C10orf2, have been reported in five subtypes of PRLTS. We discovered a consanguineous Saudi family with the PRLTS3 phenotype showing an autosomal recessive mode of inheritance. The patients had developed profound hearing loss, brain atrophy, and lower limb spasticity in early childhood. For molecular diagnosis, we complimented genome-wide homozygosity mapping with whole exome sequencing analyses and identified a novel homozygous mutation in exon 6 of CLPP at chromosome 19p13.3. To our knowledge, early onset with regression is a unique feature of these PRLTS patients that has not been reported so far. This study broadens the clinical spectrum of PRLTS3.
In a continuation of our efforts to identify bioactive compounds from Red Sea Verongid sponges, the organic extract of the sponge Suberea species afforded seven compounds including two new dibrominated alkaloids, subereamollines C and D (1 and 2), together with the known compounds aerothionin (3), homoaerothionin (4), aeroplysinin-1 (5), aeroplysinin-2 (6) and a revised subereaphenol C (7) as ethyl 2-(2,4-dibromo-3,6-dihydroxyphenyl)acetate. The structures of the isolated compounds were assigned by different spectral data including optical rotations, 1D (1H and 13C) and 2D (COSY, multiplicity-edited HSQC, and HMBC) NMR and high-resolution mass spectroscopy. Aerothionin (3) and subereaphenol C (7) displayed potent cytotoxic activity against HeLa cell line with IC50 values of 29 and 13.3 µM, respectively. In addition, aeroplysinin-2 (6) showed potent antimigratory activity against the human breast cancer cell line MDA-MB-231 with IC50 of 18 µM. Subereamollines C and D are new congeners of the previously reported compounds subereamollines A and B with methyl ester functionalities on the side chain. These findings provide further insight into the biosynthetic capabilities of members of the genus Suberea and the chemical diversity as well as the biological activity of these compounds.
ABSTRACT

Background/Purpose: This study investigates challenges that students and faculty face to implement assessment for learning; and the activities, capabilities, enablers, and indicators which could impact performance.

Method: The study is a mixed methods research, cross-sectional, exploratory study. The study was organized through two phases of data collection and analysis (QUAL -> quan). Based on qualitative focus group discussions (FGD), we first gathered data through field notes. Later, we engaged in analysis using techniques drawn from qualitative data including categorization, theme identification, and connection to existing literature. Based on this analysis, we developed a questionnaire that could provide quantitative measures based on the qualitative FGD. We then administered the questionnaire, and the quantitative data were analyzed to quantitatively test the qualitative findings. Twenty-four faculty and 142 students from the 4th and 5th clinical years participated voluntarily. Their perception of FA and the cultural challenges that hinder its adoption were evaluated through a FGD and a questionnaire.

Results: The mean score of understanding FA concept was equal in faculty and students (p = 0.08). The general challenge that scored highest was the need to balance work and academic load in faculty and the need to balance study load and training and mental anxiety in students. There was no difference between faculty and students in perceiving "learning is teacher-centered" (p = 0.481); and "past learning and assessment experience" (p = 0.322). There was a significant difference between them regarding interaction with opposite gender (p<0.001). Students showed higher value as regards the "gap between learning theories and assessment practice", "grade as a priority", and "discrimination by same faculty gender".

Conclusion: The authors suggested a "Framework of Innovation in Endorsing Assessment for Learning". It emphasizes a holistic approach through all levels of the System: Government, Accreditation Bodies, Policy makers; Institution, and Classroom levels.
Colorectal cancer (CRC) is a leading cause of cancer-associated mortality worldwide. Cisplatin (CIS) is one of the most active cytotoxic agents in current use and it has proven efficacy against various human malignancies. However, its clinical usefulness has been restricted by detrimental side effects, including nephrotoxicity and myelosuppression. The aim of the present study was to attempt to decrease the required dose of CIS, in order to minimize its side effects, and increase its capability to arrest, delay or reverse carcinogenesis. In addition, the present study aimed to ameliorate CIS-resistance in CRC cells, using the natural compound resveratrol (RSVL). RSVL (3,4', 5'-trihydroxy-trans-stilbene) is a naturally occurring polyphenol present in the roots of white hellebore (Veratum grandiflorum O. Loes) and extracted from >70 other plant species. RSVL can exert antioxidant and anti-inflammatory activities, and it has been shown to be active in the regulation of numerous cellular events associated with carcinogenesis. The present study evaluated the effects of RSVL on sensitization of both parent and CIS-resistant HCT-116 CRC cells to the action of cisplatin. The CIS was administered at a dose of 5 and 20 µg/ml, and CIS cytotoxicity, apoptosis, cell cycle and cisplatin cellular uptake were examined in the presence and absence of RSVL (15 µg/ml). RSVL treatment showed anti-proliferative effects and enhanced the cytotoxic effects of cis against the growth of both parent and CIS-resistant HCT-116 CRC cells, with a half maximal inhibitory concentration of 4.20 µg/ml and 4.72 µg/ml respectively. RSVL also induced a significant increase in the early apoptosis fraction and enhanced the subsequent apoptotic effects of CIS. The cellular uptake of CIS was significantly increased in the presence of RSVL, as compared with CIS treatment alone, and RSVL treatment sensitized the CIS-resistant HCT-116 cells. In conclusion, RSVL treatment increased the cytotoxic activity of CIS against the growth of both parent and CIS-resistant HCT-116 CRC cells.
ABSTRACT

Diabetes mellitus is regarded as a serious chronic disease that carries a high risk for considerable complications. In folk medicine, the edible Grewia asiatica fruit is used in a number of pathological conditions. This study aimed to investigate the possible curative effect of G. asiatica fruit ethanolic extract against streptozotocin- (STZ-) induced hyperglycemia in rats. Furthermore, mechanism of antihyperglycemic action is investigated. Hyperglycemic rats are either treated with 100 or 200 mg/kg/day G. asiatica fruits extract. Serum glucose, liver glycogen, malondialdehyde (MDA), reduced glutathione (GSH), superoxide dismutase (SOD), interleukin-(IL-) 1β, and tumor necrosis factor- (TNF-) α are measured. G. asiatica fruits extract reduces blood glucose and pancreatic MDA levels. It increases liver glycogen and pancreatic GSH contents and SOD enzyme activity. Furthermore, Grewia asiatica fruits extract decreases serum IL-1β and TNF-α. The treatment also protects against STZ-induced pathological changes in the pancreas. The results of this study indicated that G. asiatica fruit extract exerts antihyperglycemic activity against STZ-induced hyperglycemia. The improvement in the pancreatic β-cells and antioxidant and anti-inflammatory effects of G. asiatica fruit extract may explain the antihyperglycemic effect.
In-Silico Analysis of Inflammatory Bowel Disease (IBD) GWAS Loci to Novel Connections

PLOS One Public Library Science Vol. 10, Issue 3

1932-6203 MAR 2015 3.534

Princess Al-Jawhara Albrahim Center of Excellence in Hereditary Disorders Research; Medical Genetics

Md Mesbah-Uddin, Ramu Elango, Babajan Banaganapalli, Noor Ahmad Shaik, Fahad A Al-Abbasi

n/a

ABSTRACT

Genome-wide association studies (GWASs) for many complex diseases, including inflammatory bowel disease (IBD), produced hundreds of disease-associated loci-the majority of which are noncoding. The number of GWAS loci is increasing very rapidly, but the process of translating single nucleotide polymorphisms (SNPs) from these loci to genomic medicine is lagging. In this study, we investigated 4,734 variants from 152 IBD associated GWAS loci (IBD associated 152 lead noncoding SNPs identified from pooled GWAS results + 4,582 variants in strong linkage-disequilibrium (LD) (r(2) >= 0.8) for EUR population of 1K Genomes Project) using four publicly available bioinformatics tools, e.g. dbPSHP, CADD, GWAVA, and RegulomeDB, to annotate and prioritize putative regulatory variants. Of the 152 lead noncoding SNPs, around 11% are under strong negative selection (GERP++ RS >= 2); and similar to 30% are under balancing selection (Tajima's D score > 2) in CEU population (1K Genomes Project)-though these regions are positively selected (GERP++ RS < 0) in mammalian evolution. The analysis of 4,734 variants using three integrative annotation tools produced 929 putative functional SNPs, of which 18 SNPs (from 15 GWAS loci) are in concordance with all three classifiers. These prioritized noncoding SNPs may contribute to IBD pathogenesis by dysregulating the expression of nearby genes. This study showed the usefulness of integrative annotation for prioritizing fewer functional variants from a large number of GWAS markers.
**Research Title:** Antimicrobial activities of Saudi honey against *Pseudomonas aeruginosa*

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| Month and Year of Publication: | APR 2015 |
| Impact Factor: | 0.741 |
| Affiliated Department(s): | Hematology |
| Author(s): | Alaa AM Al-Nahari, Saad B Almasaudi, M El Sayed, Elie Barbour, Soad K Al Jaouni, Steve Harakeh |
| Correspondent’s Email: | sharakeh@gmail.com |

**ABSTRACT**

Five types of imported and local honey were screened for both their bacteriocidal/bacteriostatic activities against both Imipenem resistant and sensitive *Pseudomonas aeruginosa* in both Brain Heart infusion broth and Mueller–Hinton agar. The results indicated that the effect was concentration and type of honey dependant. All types of honey tested exerted a full inhibition of bacterial growth at the highest concentration tested of 50% at 24 h of contact. The inhibitory effect of honey on bacterial growth was clear with concentrations of 20% and 10% and this effect was most evident in the case of Manuka honey as compared to Nigella sativa honey and Seder honey. Manuka honey UMF +20 showed a bacteriocidal activity on both Imipenem resistant and sensitive *P. aeruginosa*, while Seder honey and *N. sativa* honey exerted only a bacteriostatic effect. Manuka honey UMF +10 showed most effect on antimicrobial resistance. Manuka honey UMF +10 had an effect on modulation of Imipenem resistant *P. aeruginosa*. Conclusion: The results indicated that various types of honey affected the test organisms differently. Modulation of antimicrobial resistance was seen in the case Manuka honey UMF +10.
Papillon–Lefevre syndrome (PALS) is a rare, autosomal recessive disorder characterized by periodontitis and hyperkeratosis over the palms and soles. Mutations in the cathepsin C gene (CTSC) have been recognized as the cause of PALS since the late 1990s. More than 75 mutations in CTSC have been identified, and phenotypic variability between different mutations has been described. Next generation sequencing is widely used for efficient molecular diagnostics in various clinical practices. Here we investigated a large consanguineous Saudi family with four affected and four unaffected individuals. All of the affected individuals suffered from hyperkeratosis over the palms and soles and had anomalies of both primary and secondary dentition. For molecular diagnostics, we combined whole-exome sequencing and genome-wide homozygosity mapping procedures, and identified a recurrent homozygous missense mutation (c.899G>A; p.Gly300Asp) in exon 7 of CTSC. Validation of all eight family members by Sanger sequencing confirmed co-segregation of the pathogenic variant (c.899G>A) with the disease phenotype. This is the first report of whole-exome sequencing performed for molecular diagnosis of PALS in Saudi Arabia. Our findings provide further insights into the genotype–phenotype correlation of CTSC pathogenicity in PALS.
Research Title: Effects of Combined Administration of Nicotine and Caffeine on Adult Rat Prostate

Source: Saudi Journal of Internal Medicine
       Saudi Society of Internal Medicine
       Vol. 5, Issue 1, Page: 31-39

ISSN: 1658-5763

Month and Year of Publication: APR 2015

Impact Factor: n/a

Affiliated Department(s): Anatomy

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ABSTRACT

Objectives: Nicotine and caffeine have been shown to be a reproductive toxicant in animals and are associated with risk of cancer. The objective of this study was to evaluate the combined effect of these two drugs on rat prostate histology and serum testosterone level.

Settings: King Fahad Medical Research Center, King Abdulaziz University, Jeddah, Saudi Arabia. Design: Experimental study, animals were injected with 100 mg/kg bw of caffeine by intra peritoneal injection daily for one month, concomitantly nicotine was injected at 10 mg/kg bw three times /week by subcutaneous injection. Effect on rats’ body weight, histological changes in the prostate, and on serum testosterone level were observed.

Results: Nicotine at the tested dose causes increased interacinar space with reduction in stromal tissue (loose stroma), and also many congested blood vessels were noted in the stroma. The acini themselves become dilated and thin-walled with poorly infolded mucosa and reduction in the height of epithelial lining with flattened columnar cells. An increase in testosterone level was also noted with both the group treated with caffeine alone and with the group treated with both drugs with no significant effect on alanine transaminase or cholesterol.

Conclusion: At the used dose, nicotine caused toxic effects in male rat prostate that can be antagonized by concomitant treatment with caffeine.
**ABSTRACT**

**Purpose:** To determine the effect of three calmodulin antagonists (A-7, W-7 and W-13) on the subpopulations of CD44/CD24 immunophenotypes in MDA-MB-231 and MDA-MB-468 breast cancer cell lines.

**Methods:** Flow cytometry analysis was used to determine the proportion of the various subpopulations of the immunophenotypes, viz, CD44+CD24-, CD44-CD24+ and CD44+CD24+, when MDA-MB-231 and MDA-MB-468 cells were subjected to calmodulin antagonists. The effect of W-13 on the invasion properties of MDA-MB-231 and MDA-MB-468 was investigated using Matrigel invasion assay.

**Results:** A-7, W-7 and W-13 caused alterations in the subpopulation of CD44+CD24- in MDA-MB-231 cells. The most potent antagonist was W-13 as it reduced the proportion of tumorigenic CD44+CD24- to 0.64 ± 0.05 at a concentration of 80 µM. In contrast, the subpopulation of MDA-MB-468 cells, which had a low fraction of CD44+CD24-, was not altered when administered with W-7 but showed variations when incubated with W-13. Specifically, when the concentration of W-13 increased from 20 – 100 µM, the proportion of CD44+CD24+ was reduced from 92.93 ± 3.2 to 60.96 ± 2.4. The effect of W-13 on the subpopulations of CD44+CD24- and CD44+CD24+ in MDA-MB-231 and MDA-MB-468, respectively, reduced the invasion properties of the cells.

**Conclusion:** The calmodulin antagonist, W-13, has a significant antitumor effect on MDA-MB-231 and MDA-MB-468 breast cancer cells.
Research Title: Bone mineral density and cardiovascular risk factors in postmenopausal women with coronary artery disease

Source: BoneKEy Reports
Nature Publishing Group
Vol. 2015, Issue 4, Page: 1-7

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Affiliated Department(s): Clinical Biochemistry

Author(s): Eman M Alissa, Wafa A Alnahdi, Nabil Alama, Gordon A Ferns

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ABSTRACT

It has been suggested that osteoporosis and coronary artery disease (CAD) have overlapping pathophysiological mechanisms and related risk factors. The aim of this study was to investigate the association between several traditional cardiovascular risk factors and measures of bone mineral density (BMD) in postmenopausal women with and without clinically significant CAD defined angiographically. A case–control study was undertaken of 180 postmenopausal women (aged between 48 and 88 years) who were recruited from King Abdulaziz University Hospital, Saudi Arabia. Study subjects underwent dual-energy x-ray absorptiometry and coronary angiography. The presence of hypertension, diabetes, dyslipidemia, obesity, smoking and physical activity was identified from clinical examination and history. Demographic, anthropometric and biochemical characteristics were measured. Univariate and multivariate analyses were employed to explore the relationships between cardiovascular risk factors, including BMD, and the presence of CAD. CAD patients were more likely to have a lower BMD and T-score at the femoral neck than those without CAD (Po0.05). Significant differences were found between the groups for fasting lipid profile, fasting blood glucose and anthropometric measures (Po0.05). Conditional logistic regression showed that 3 risk factors were significantly related with the presence of CAD: high-density lipoprotein-cholesterol (odds ratio, OR: 0.226, 95% confidence interval, CI: 0.062–0.826), fasting plasma glucose (OR: 1.154, 95% CI: 1.042–1.278) and femoral neck T-score (OR: 0.545, 95% CI: 0.374–0.794). This study suggests an association of low BMD and elevated CAD risk. Nevertheless, additional longitudinal studies are needed to determine the temporal sequence of this association.
**Research Title:** Dimethylsulfoxide exacerbates cisplatin-induced cytotoxicity in Ehrlich ascites carcinoma cells

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**ABSTRACT**

**Background:** Cisplatin (CIS) is a potent antineoplastic agent with high therapeutic efficacy against many kinds of tumors. Its use is limited by its nephrotoxicity. The aim of this work was to minimize cisplatin effective dose and the possible reduction of its severe side effects. The present study was designed to assess the role of sulfur containing agent dimethyl sulfoxide (DMSO) on sensitization of mammary carcinoma, Ehrlich ascites carcinoma (EAC), to the action of cisplatin and at the same time the possible protective effect against cisplatin induced nephrotoxicity in experimental animals.

**Methods:** To evaluate these effects we have explored the cisplatin effect on the survival time of tumor-bearing animals, tumor weight, cisplatin cellular uptake, apoptosis induction and cell cycle distribution and renal function in presence and absence of DMSO.

**Results:** Cisplatin at dose of 4.5 mg/kg increased the mean survival time of tumor bearing mice to 37 days compared with tumor bearing control mice. Pretreatment of tumor bearing mice with DMSO 50 % (2 ml/kg equal to 1 gm/kg) 2 h. before cisplatin showed a significant increase in their mean survival time 43 days compared to cisplatin treated animals. DMSO pretreatment retained rat's serum urea and creatinine levels to normal compared to animals treated with cisplatin alone.

**Conclusion:** DMSO pretreatment enhanced the cytotoxic activity of cisplatin against the growth of EAC in vivo and showed protective effects against cisplatin-induced nephrotoxicity.
Effect of vitamin D3 on thyroid function and de-iodinase 2 expression in diabetic rats

Objective: This study aimed to assess the effect of vitamin D3 administration to diabetic rats on thyroid profile and deiodinase 2 (D2).

Methods: Thirty male Wistar rats were included into three groups; control, streptozotocin-induced diabetic and diabetic supplemented with vitamin D3 groups. Ten weeks later, serum levels of free T4, free T3 and TSH were measured. Tissue homogenates from liver, kidney, muscle, femur bone, heart and brain were obtained and assessed for D2 mRNA.

Results: Diabetic rats demonstrated significant increase in free T4 and significant decrease in free T3. These changes were ameliorated by vitamin D3 administration. D2 mRNA was significantly reduced in all tissue homogenates obtained from diabetic rats, while vitamin D3 treatment significantly enhanced D2 in liver and brain homogenates.

Conclusion: Diabetes mellitus inhibited peripheral conversion of T4 into T3 secondary to reduction in D2 expression. Vitamin D3 greatly corrected the alterations in thyroid profile and D2 expression.
Date palm is an important crop, especially in the hot-arid regions of the world. Date palm fruits have high nutritional and therapeutic value and possess significant antibacterial and antifungal properties. In this study, we performed bioactivity analyses and metabolic profiling of date fruits of 12 cultivars from Saudi Arabia to assess their nutritional value. Our results showed that the date extracts from different cultivars have different free radical scavenging and anti-lipid peroxidation activities. Moreover, the cultivars showed significant differences in their chemical composition, e.g., the phenolic content (10.4-22.1 mg/100 g DW), amino acids (37-108 molg-1 FW) and minerals (237-969 mg/100 g DW). Principal component analysis (PCA) showed a clear separation of the cultivars into four different groups. The first group consisted of the Sokary, Nabtit Ali cultivars, the second group of Khlas Al Kharj, Khla Al Qassim, Mabroom, Khlas Al Ahsa, the third group of Khals Elshiokh, Nabot Saif, Khodry, and the fourth group consisted of Ajwa Al Madinah, Saffawy, Rashodia, cultivars. Hierarchical cluster analysis (HCA) revealed clustering of date cultivars into two groups. The first cluster consisted of the Sokary, Rashodia and Nabtit Ali cultivars, and the second cluster contained all the other tested cultivars. These results indicate that date fruits have high nutritive value, and different cultivars have different chemical composition.
Research Title: Does the maternal age affect the mesenchymal stem cell markers and gene expression in the human placenta? What is the evidence?


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Author(s): Saleh Al-Karim, Nasra Naeim Ayuob, Soad Shaker Ali

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ABSTRACT

Background: Although the human placenta is considered medical wastes, it has become a main source of stem cells. Due to their easy isolation, ability to resist immune rejection and ability to differentiate into different types of adult cells, placental stem cells are considered superior to other stem cells.

Objectives: This study aimed to assess the impact of the maternal age on the expression of mesenchymal stem cell (MSC) markers CD105 and CD29 in different areas of a term human placenta and to identify the differential expression of these markers in different placental areas.

Subjects and methods: In this comparative cross sectional study, one hundred term placentas were collected after delivery from healthy mothers divided into five groups according to their age. Placentas were processed to assess both immune- and gene-expression of CD105 and CD29 surface antigen markers. Data of the different studied age groups was compared using the Statistical Package of Social Science (SPSS) software.

Results: CD105 and CD29 immunoexpression in decidua basalis, fetal membrane and placental villi showed significant negative correlations with the maternal age. CD105- and CD29-positive MSCs were significantly abundant in the decidua basalis and placental villi. Real-time polymerase chain reaction results were consistent with those of the immunohistochemical study.

Conclusion: Labeling the placenta-driven MSCs with the specific area from which the cells were taken as well as the mother's age is advised and could be helpful in controlling the quality of the cell banks as well as the favorable outcome of the therapeutic applications.
**ABSTRACT**

**Background:** Asthma, a common lung disease in children, is caused by excessive immune responses to environmental antigens.

**Objective:** Given the immuno-modulatory properties of vitamin D, the aim of the current study was to investigate the relationship between vitamin D levels and markers of asthma severity.

**Methods:** This was investigated in a 70 Saudi children with and without asthma and were recruited from the King Abdul Aziz University Hospital, Jeddah, Saudi Arabia, over the period of 11 months (May 2011-April 2012). Childhood asthma control test instrument was employed to assess the level of asthma control among asthmatic patients. Anthropometric measurements were taken and interviewer-administrated questionnaire was completed for all study participants. Pulmonary function test was performed by recording changes in the peak expiratory flow. Venous blood samples were withdrawn for measurements of vitamin D, bone profile, cytokines profile (interleukin-10, tumor necrosis factor-alpha, platelets derived growth factor), and atopy markers (IgE and eosinophil count).

**Results:** Hypovitaminosis D is highly prevalent among asthmatic children with highly significant increase in several markers of allergy and asthma severity as compared with healthy control children. Significant correlations between several inflammatory and immunological markers and vitamin D levels were also found. Finally, lower 25-hydroxyvitamin D levels were associated with a higher asthma prevalence in multivariable analysis.

**Conclusion:** Our study showed that hypovitaminosis D is highly prevalent in the whole population in addition to a highly significant increase in several markers of allergy and asthma severity among asthmatic children as compared with healthy control children.
ABSTRACT

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**Conclusion:** Our study showed that hypovitaminosis D is highly prevalent in the whole population in addition to a highly significant increase in several markers of allergy and asthma severity among asthmatic children as compared with healthy control children.
**ABSTRACT**

**Objective:** To identify the frequency and reasons of operations cancellation in 25 Makkah region hospitals in Saudi Arabia.

**Methods:** Retrospective evaluation of the rate of surgery cancellation in 25 hospitals of Makkah region was performed in this study. The data of scheduled surgeries from 15 different surgical specialties was collected from January to December 2013. Frequency and reasons of cancellation of elective surgical cases in different specialty were studied with a view to recommend suggestions for improvement. Data was analyzed on SPSS - 16.

**Results:** There are 120 operating rooms (OR) in 25 Makkah region hospitals and during the year 2013, a total of 16,211 surgery cases were listed, and 1,238 (7.6%) cases were canceled. Contribution to total cancellation was highest in orthopedic 33.8% followed by general surgery 27.5%, obstetrics 7.7% and ENT 5.2%. According to category, 42.81% rate of cancellation was patient related, 20.03% facility related, 9.45% due to improper work-up, 1.45% associated with anesthesia, 7.19% related to surgeons, and 18.90% other/and not recorded reasons.

**Conclusions:** Present study found 7.6% cancelation rate in Makkah region hospitals and three most common causes for cancellations were patients related, facility related and improper work-up.
## 2016 Graduate Medical Students’ Involvement in Authorship of Research

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**Research Title:** The alkylglycerol monooxygenase (AGMO) gene previously involved in autism also causes a novel syndromic form of primary microcephaly in a consanguineous Saudi family

**Journal:** JOURNAL OF THE NEUROLOGICAL SCIENCES  
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**ISSN:** 1878-5883

**Department:** Pediatrics, Medical Genetics, Princess Al-Jawhara Albrahim Center of Excellence in Hereditary Disorders Research

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**Abstract**

Autosomal recessive primary microcephaly (MCPH) refers to a genetically heterogeneous group of neurodevelopmental disorders in which patients exhibit a marked decrease in occipitofrontal head circumference at birth and a variable degree of intellectual disability. To date, 18 genes have been reported for MCPH worldwide. We enrolled a consanguineous family from Saudi Arabia presenting with primary microcephaly, developmental delay, short stature and intellectual disability. Whole exome sequencing (WES) with 100x coverage was performed on two affected siblings after defining common regions of homozygosity through genome-wide single nucleotide polymorphism (SNP) microarray genotyping. WES data analysis, confirmed by subsequent Sanger sequence validation, identified a novel homozygous deletion mutation (c.967delA; p.Glu324Lysfs*12) in exon 10 of the alkylglycerol monooxygenase (AGMO) gene on chromosome 7p21.2. Population screening of 178 ethnically matched control chromosomes and consultation of the Exome Aggregation Consortium database, containing 60,706 individuals’ exomes worldwide, confirmed that this mutation was not present outside the family. To the best of our knowledge, this is the first evidence of an AGMO mutation underlying primary microcephaly and intellectual disability in humans. Our findings further expand the genetic heterogeneity of MCPH in familial cases.
Abstract

Phthalates are a class of high volume production chemicals used as plasticizers for household and industrial use. Several members of this chemical family have endocrine disrupting activity. Owing to ubiquitous environmental distribution and exposure of human population at all stages of life, phthalate contamination is a continuous global public health problem. Clinical and experimental studies have indicated that several phthalates are associated with adverse effects on development and function of human and animal systems especially the reproductive system and exposures during pregnancy and early childhood are by far of utmost concern. Sex hormone-binding globulin (SHBG) is a plasma carrier protein that binds androgens and estrogens and represents a potential target for phthalate endocrine disruptor function in the body. In the present study, the binding mechanism of the nine phthalates i.e. DMP, DBP, DIBP, BBP, DNHP, DEHP, DNOP, DINP, DIDP with human SHBG was delineated by molecular docking simulation. Docking complexes of the nine phthalates displayed interactions with 15-31 amino acid residues of SHBG and a commonality of 55-95% interacting residues between natural ligand of SHBG, dihydrotestosterone, and the nine phthalate compounds was observed. The binding affinity values were more negative for long chain phthalates DEHP, DNOP, DINP, and DIDP compared to short chain phthalates such as DMP and DBP. The Dock score and Glide score values were also higher for long chain phthalates compared to short chain phthalates. Hence, overlapping of interacting amino acid residues between phthalate compounds and natural ligand, dihydrotestosterone, suggested potential disrupting activity of phthalates in the endocrine homeostasis function of SHBG, with long chain phthalates expected to be more potent than the short chain phthalates.
### Abstract

Objectives: To estimate the prevalence of intimate partner violence (IPV) among female patients, age 18-60 years, attending primary health care centers (PHCCs) and to measure its determinants, and reporting behavior.

Methods: A cross-sectional study design using validated, translated, and self-administered questionnaire among 497 Saudi female patients attending PHCCs in Taif, Kingdom of Saudi Arabia (KSA) from January to February 2015 was employed. A 2-stage probability sampling was adopted for selection of PHCCs in the first stage, and then participants in the second stage.

Results: The estimated prevalence of IPV during the last year was 11.9%. Predictors of IPV related to abused women included divorced status and divorced parents; while those related to abusers (husbands) included widowed parents, exposure to violence in childhood, and alcohol or drugs addiction. Most of the abused wives (56%) talked regarding their IPV to their families, their husbands' families (15.2%), or their friends (11.8%); while only a minority (3.3%) complained to the police or to a judge, and no one reported this to a family physician, or to women protection agency.

Conclusion: One out of 10 women is a victim of IPV in Taif, KSA. Intimate partner violence is significantly associated with a number of victim and abuser-related psychosocial factors, the detection of which might help screening for individuals at risk.
Identification of stem cells in vivo opens up the possibility of their expansion in vitro, exploiting their multipotency in treating diabetes type 1 and type 2. Little is known about the relationship between a common pancreatic transcription factor (Pdx-1) and stem cell markers (CK19, CD29, CD56) in mice during pancreatic organogenesis. In this study the focused was on the prenatal immunohistochemical expression of stem cell markers (Pdx-1, CK19, CD29, and CD56) with special reference to their site and degree of expression during the prenatal pancreatic organogenesis.

Material and Methods: Whole embryos and pancreatic tail of different prenatal groups (days 13, 15, & 18) were stained by H&E and immunohistochemically stained for Pdx-1 and stem cell markers, CK19, CD29, and CD56. Data was statistically analyzed for the evaluation of changes in the pattern and the degree of expression of stem cell markers in the pancreas. Results: Pdx-1 a transcription factor with role in pancreatic organogenesis was expressed in the duct, acini and islets in all ages. CK19 was expressed in the duct at day 13 and 15 prenatally, but in islet at day 18. Acinus and islets were positive for CK19 at all ages. CD29 on the other hand had positive expression in the duct while acini and islets had it at day 18 only. The acinar and islet cells were positive for CD56 at day 18 only. In conclusion, PDX-1 a transcription factor is vital in early pancreatic organogenesis whereas CK19, CD26 and CD56 are purportedly involved in generation of beta-cells.
Research Title: The chemosensitizing effect of aqueous extract of sweet fennel on cisplatin treated HeLa cells

Journal: CLINICAL AND EXPERIMENTAL OBSTETRICS & GYNECOLOGY
Publisher: I R O G CANADA
Volume / Issue: 43/3
Pages: 358-364
ISSN: 0390-6663
Department: Anatomy, Ob-Gyne
Authors: Ramadan, W. S.; Sait, K. H.; Anfinan, N. M.; Sait, H.
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Abstract

Background: Cisplatin is an important chemotherapeutic agent that is widely used in treatment of several malignancies, but its side effects on normal tissues and organs limit its use. The aim of this study was to evaluate the effect of aqueous extract of sweet fennel alone and in combination with cisplatin on human cervical cancer adenocarcinoma cell line (HeLa cells) searching for an effective, inexpensive therapy with minimal side effects.

Materials and Methods: HeLa cell line was used to study the cytotoxic effect of different concentrations of the aqueous extract of sweet fennel alone and in combination with 50 μg/ml cisplatin. Quantitative measure of drug interaction was quantified by the combination index. Gas chromatography-mass spectrometry (GC-MS) and high-performance liquid chromatography (HPLC) were used to analyze the sweet fennel decoction. MTT assay was used to examine cell viability percentage. Electron microscopy was applied to study the ultrastructure of the cells.

Results: The phenyl propanoids (23%) and phenols (12%) constituted the highest percentage of the aqueous extract. Increasing the concentration of sweet fennel from 50 μg/ml to 80 μg/ml, decreased the percentage of the cell viability of HeLa cells from 86.74% to 78.28%, respectively. Further decrease to 11.31% was demonstrated when 50 μg/ml of fennel was combined with 50 μg/ml cisplatin (additive effect). In addition to the signs of apoptosis observed in HeLa cells at 50 μg/ml of fennel, disruption of both nuclear and cytoplasmic membranes and presence of autophagolysosomes were noticed at a dose of 80 μg/ml. Combination of 50 μg/ml of cisplatin with 60, 70, and 80 μg/ml of sweet fennel revealed no significant difference in comparison to cisplatin alone. The combination with 50 μg/ml of sweet fennel revealed marked vacuolization of the cytoplasm, fragmentation of the nucleus, and complete disruption of nuclear membrane.

Conclusion: Combination of cisplatin and the 50 μg/ml of the fennel could enhance cervical cancer growth inhibition. This combination could be effective in lowering the dose of single or repeated cumulative courses of cisplatin and hence decreases its hazardous side effects. In vivo studies and the evaluation of different combination doses of cisplatin and sweet fennel are recommended.
Abstract

Objectives: To report 2-years experience of using transfusion-related quality indicators as a tool in hemovigilance system implementation.

Methods: The study was carried out between 2012 and 2013. Blood transfusion service data were prospectively collected at King Abdulaziz University Hospital, Jeddah, Saudi Arabia. Donor reactions, transfusion reactions, fresh frozen plasma (FFP) in-date wastage, incidents, and errors pertaining to orders, or requests were collected quarterly and prospectively and forwarded to the Hospital Transfusion Committee (HTC) for review.

Results: Donor population consisted of 23,132 donors. One hundred and forty-eight donor reactions were reported, resulting in a rate of 0.6%. Eighty-four transfusion reactions were reported and most were allergic reactions (79.7%). Errors or incidents were reported with approximately 0.3% of the total number of submitted samples/request forms. The FFP in-date wastage was 21.3% of the total FFP wastage. The HTC regularly reviewed the hemovigilance data and reporting; and safety improvements were implemented.

Conclusion: The use of quality indicators as a tool for developing and implementing a hemovigilance system provided a better understanding of improvement areas for continuous progress in quality and safety, and is expected to enhance these features along the blood transfusion chain.
Clinical significance of frequent somatic mutations detected by high-throughput targeted sequencing in archived colorectal cancer samples

**Abstract**

Background: Colorectal cancer (CRC) is a heterogeneous disease with different molecular characteristics associated with many variables such as the sites from which the tumors originate or the presence or absence of chromosomal instability. Identification of such variables, particularly mutational hotspots, often carries a significant diagnostic and/or prognostic value that could ultimately affect the therapeutic outcome.

Methods: High-throughput mutational analysis of 99 CRC formalin-fixed and paraffin-embedded (FFPE) cases was performed using the Cancer Hotspots Panel (CHP) v2 on the Ion Torrent (TM) platform. Correlation with survival and other Clinicopathological parameters was performed using Fisher's exact test and Kaplan-Meier curve analysis.

Results: Targeted sequencing lead to the identification of frequent mutations in TP53 (65 %), APC (36 %), KRAS (35 %), PIK3CA (19 %), PTEN (13 %), EGFR (11 %), SMAD4 (11 %), and FBXW7 (7 %). Other genes harbored mutations at lower frequency. EGFR mutations were relatively frequent and significantly associated with young age of onset (p = 0.028). Additionally, EGFR or PIK3CA mutations were a marker for poor disease-specific survival in our cohort (p = 0.009 and p = 0.032, respectively). Interestingly, KRAS or PIK3CA mutations were significantly associated with poor disease-specific survival in cases with wild-type TP53 (p = 0.001 and p = 0.02, respectively).

Conclusions: Frequent EGFR mutations in this cohort as well as the differential prognostic potential of KRAS and PIK3CA in the presence or absence of detectable TP53 mutations may serve as novel prognostic tools for CRC in patients from the Kingdom of Saudi Arabia. Such findings could help in the clinical decision-making regarding therapeutic intervention for individual patients and provide better diagnosis or prognosis in this locality.
**Research Title:** A novel homozygous PTH1R variant identified through whole-exome sequencing further expands the clinical spectrum of primary failure of tooth eruption in a consanguineous Saudi family

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**Correspondence Email:** mjelani@kau.edu.sa; yalkhiary@kau.edu.sa

**Abstract**

Objectives: The present study aimed to identify the genetic cause of non-syndromic primary failure of tooth eruption in a five-generation consanguineous Saudi family using whole-exome sequencing (WES) analysis.

Design: The family pedigree and phenotype were obtained from patient medical records. WES of all four affected family members was performed using the 51Mb SureSelect V4 library kit and then sequenced using the Illumina HiSeq2000 sequencing system. Sequence alignment, variant calling, and the annotation of single nucleotide polymorphisms and indels were performed using standard bioinformatics pipelines. The genotype of candidate variants was confirmed in all available family members by Sanger sequencing.

Results: Pedigree analysis suggested that the inheritance was autosomal recessive. WES of all affected individuals identified a novel homozygous variant in exon 8 of the parathyroid hormone 1 receptor gene (PTH1R) (NM_000316: c.611T>A: p.Val204Glu).

Conclusion: To the best of our knowledge, this is the first report of primary failure of eruption caused by a homozygous mutation in PTH1R. Our findings prove the application of WES as an efficient molecular diagnostics tool for this rare phenotype and further broaden the clinical spectrum of PTH1R pathogenicity.
Research Title: High-pitch Helical Dual-source Computed Tomographic Pulmonary Angiography Comparing Image Quality in Inspiratory Breath-hold and During Free Breathing

Journal: JOURNAL OF THORACIC IMAGING
Publisher: LIPPINCOTT WILLIAMS & WILKINS
Volume / Issue: 31/1
Pages: 56-62
ISSN: 1536-0237
Department: Radiology
Authors: Amr M Ajlan, Salma Binzaqr, Dalia A Jadkarim, Lamia G Jamjoom, Jonathon Leipsic
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Abstract

Purpose: The purpose of this study was to compare qualitative and quantitative image parameters of dual-source high-pitch helical computed tomographic pulmonary angiography (CTPA) in breath-holding (BH) versus free-breathing (FB) patients.

Materials and Methods: Ninety-nine consented patients (61 female individuals; mean age +/- SD, 49 +/- 18.7 y) were randomized into BH (n=45) versus FB (n=54) high-pitch helical CTPA. Patient characteristics and CTPA radiation doses were analyzed. Two readers assessed for pulmonary embolism (PE), transient interruption of contrast, and respiratory and cardiac motion. The readers used a subjective 3-point scale to rate the pulmonary artery opacification and lung parenchymal appearance. A single reader assessed mean pulmonary artery signal intensity, noise, contrast, signal to noise ratio, and contrast to noise ratio.

Results: PE was diagnosed in 16% BH and 19% FB patients. CTPAs of both groups were of excellent or acceptable quality for PE evaluation and of similar mean radiation doses (1.3 mSv). Transient interruption of contrast was seen in 5/45 (11%) BH and 5/54 (9%) FB patients (not statistically significant, P=0.54). No statistically significant difference was noted in cardiac, diaphragmatic, and lung parenchymal motion. Lung parenchymal assessment was excellent in all cases, except for 5/54 (9%) motion-affected FB cases with acceptable quality (statistically significant, P=0.03). No CTPA was considered nondiagnostic by any of the readers. No objective image quality differences were noted between both groups (P > 0.05).

Conclusions: High-pitch helical CTPA acquired during BH or in FB yields comparable image quality for the diagnosis of PE and lung pathology, with low radiation exposure. Only a modest increase in lung parenchymal artifacts is encountered in FB high-pitch helical CTPA.
Objectives: To determine sleep habits and sleep quality in medical students during their clinical years using validated measures; and to investigate associations with academic performance and psychological stress.

Methods: In this cross-sectional study, medical students (n= 320) were randomly selected from a list of all enrolled clinical-year students in a Saudi medical school from 2011-2012. Students filled a questionnaire including demographic and lifestyle factors, Pittsburgh Sleep Quality Index, Epworth Sleepiness Scale, and Perceived Stress Scale.

Results: Students acquired on average, 5.8 hours of sleep each night, with an average bedtime at 01:53. Approximately 8% reported acquiring sleep during the day, and not during nighttime. Poor sleep quality was present in 30%, excessive daytime sleepiness (EDS) in 40%, and insomnia symptoms in 33% of students. Multivariable regression models revealed significant associations between stress, poor sleep quality, and EDS. Poorer academic performance and stress were associated with symptoms of insomnia.

Conclusion: Sleep deprivation, poor sleep quality, and EDS are common among clinical years medical students. High levels of stress and the pressure of maintaining grade point averages may be influencing their quality of sleep.
Aims: Sickle-cell anemia and -thalassemia are two of the most common autosomal recessive disorders in the developing world. The severity of the problem and the pressure it exerts on the health services in the Kingdom of Saudi Arabia forced the introduction of a national premarital screening program to lessen its impact on the society. Furthermore, a significant effort has been exerted in the elucidation of the genetic causes of such diseases to facilitate diagnosis and detection of carriers.

Methods: We have designed and validated the use of custom TaqMan(R) genotyping assays for the rapid detection of IVS-I-1 (G>A), IVS-I-5 (G>C), codon 39 (C>T), and IVS-I-110 (G>A) mutations in transfusion-dependent -thalassemia patients' cohort.

Results: We demonstrated that IVS-I-5 (rs33915217) is the most common single-nucleotide variant in our cohort, with the variant allele constituting 26% of the total alleles investigated. However, this variant was not found in 352 alleles screened from buccal swab DNA obtained from healthy volunteers.

Conclusion: The TaqMan single nucleotide polymorphism (SNP) genotyping assays are a rapid, accurate, and cost-effective method for the initial screening of -thalassemia cases, which will minimize the need for direct sequencing of the HBB gene, thus reducing detection costs and increasing throughput.
**Abstract**

Objectives: Our aim is to correlate Hounsfield units (HU) from lumbar Computed Tomography scans (CT) with Bone Mineral Density (BMD) values from Dual-energy X-ray Absorptiometry scans (DXA) for the diagnosis of bone mineral density disease.

Methods: We enrolled 114 women, conducted both CT and DXA scans on them to assess the correlations between the mean lowest HU at lumbar vertebrae and the BMD values from DXA scan. Statistical analysis was used to assess the correlations between HU and the patients' BMD and age.

Results: We noted moderate correlations between the lowest HU at L1-L4 and the BMD from DXA scan which is significant (correlation coefficient, 0.563). DXA scans showed a normal BMD in 33.3% of patients, osteopenia in 43.9%, and osteoporosis in 22.8% respectively. We also determined that a HU of 203 would exclude osteoporosis (90% sensitivity for normal BMD) and a threshold of < 91 would exclude normal bone mineral density (86% sensitivity for osteopenia, 60% sensitivity for osteoporosis). Mean HU values consistently decreased with increasing decade of life, from 182.8 +/- 42 in the fourth decade to 82.13 +/- 32 in the eighth (correlation coefficient, 0.527).

Conclusions: HU values are moderately correlated with the patients' age and BMD values from DXA scan, with 203, safely excluding osteoporosis and < 91 excluding normal BMD. Prospective studies with a larger number of patients are needed, where multiple thresholds could be applied and more distinguished values for normal bone density, osteopenia, and osteoporosis can be obtained.
Impact of Implementing Cardiac CT in Evaluating Patients Suspected of Cardioembolic Stroke

Journal: Journal of Computer Assisted Tomography
Publisher: LIPPINCOTT WILLIAMS & WILKINS
Volume / Issue: 40/3
Pages: 380-386
ISSN: 0363-8715
Department: Radiology, Internal Medicine
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Abstract

Background and Objectives: In practice, clinical and logistic hurdles may hamper performing transesophageal echocardiography in stroke patients. Cardiac computed tomography (CT) is a recently introduced noninvasive modality able to detect various embolic causes. Thus, we retrospectively assessed possible added values of applying cardiac CT in the real-world work-up of suspected cardioembolic stroke cases.

Methods: Forty-seven patients were neurology service referrals for suspected cardioembolic stroke. The CT images and clinical reports of our cardiac CT radiologists were retrospectively evaluated. Cardiac CT was assessed in terms of detecting major embolic potential findings, potentially significant stroke-unrelated findings, and coronary arterial disease (CAD). Computed tomography results were correlated with echocardiographic reports.

Results: Cardiac CT showed findings of major embolic potential in 10 patients (21%, 5 thrombi cases, 2 vasculitis cases, 1 case of metastasis invading the left superior pulmonary artery, 1 myocardial infarction case, and 1 pulmonary arteriovenous malformations case), none of which were documented in echocardiography reports. Two cases (4%) with findings of major embolic potential where identified on echocardiography but not on CT (1 left atrial appendage thrombus and 1 mitral valve vegetation). Computed tomography of 13 patients (28%) showed 16 potentially significant stroke-unrelated findings. Twenty-one patients (47%) had unexpected CAD on CT, 11 (52%) of which were obstructive.

Conclusions: Implementing cardiac CT in assessing patients suspected of cardioembolic stroke added value to echocardiographic evaluation, by detecting major embolic potential findings. In addition, cardiac CT revealed additional potentially significant stroke-unrelated findings and CAD.
Aim: To present the authors' experience with assisted reproductive technology (ART) at King Abdulaziz University Hospital in Jeddah, Saudi Arabia.

Materials and Methods: Retrospective analysis of data collected from the charts of 264 women who were undergoing their first cycle of ART between September 2013 and March 2014. All the women were treated with gonadotropin-releasing hormone (GnRH) antagonist protocol. For all patients, the documented data included age, infertility type, cause, and hormone profile. Number of follicles >10 mm, endometrial thickness, number of oocytes retrieved, number of fertilized ova, and number of embryos produced, as well as the number transferred, day of transfer, cancellation rate, and treatment administered for luteal phase support (oral and vaginal progesterone) treatment type, and outcome were recorded. The data was analyzed using the Statistical Package for the Social Sciences.

Results: The authors included women aged 21 to 39 years (mean standard deviation, 32.28 +/- 5.51). Patients suffered from primary infertility in 69.7% of the cases; approximately 30% of the women had secondary infertility. Eighty of the 264 patients (30.3%) conceived; however, only 56 women (21.2%) had a live birth. The overall cancellation rate in the patients was 12.1%. The following reasons were documented for cases of failure: no oocytes, 16 (6.1%); no sperm, eight (3.0%); and no embryo, eight (3.0%).

Conclusion: The success rate of ART at the present institution falls within the range reported in the medical literature. However, further studies should be conducted to investigate the course and outcome of ART in patients who undergo treatment in this institution.
### Abstract

The authors describe a case with androgen insensitivity syndrome (AIS) who underwent the laparoscopic Vecchietti procedure for creation of a neovagina. Postoperatively, the patient achieved anatomic success, with a vaginal length of about eight cm, and she was advised to use vaginal dilators after discharge. The patient reported improved sexual function, but presented about six months later for shortening of her vagina and difficult vaginal intercourse. Physical examination revealed an obliterated vaginal canal about two cm long. Further examination revealed lack of vaginal epithelization. The patient was instructed to continue using vaginal dilators in combination with estrogen cream; however, the patient did not achieve a vaginal length > two cm. The authors believe that the laparoscopic Vecchietti procedure may not be appropriate for women with MS due to lack of epithelization.
**Abstract**

Surgery, the usual treatment option for vesicouterine fistula (VUF), is often delayed to allow involution of the uterus. The authors report a case of successful treatment with urinary catheterization. A 39-year-old, gravida 7, para 6, woman presented at term with obstructed labor. She had one previous cesarean section followed by a vaginal birth before. She underwent emergency cesarean section. She was readmitted after one week because of pelvic collection. Aspiration revealed pus and urine. Retrograde cystogram and pelvic MRI confirmed the presence of VUF. Urinary bladder catheterization for six weeks resulted in the successful treatment of the fistula. Urinary catheterization in the early postpartum period can result in resolution of post-cesarean section VUF, without delaying surgical intervention if it becomes necessary.
**Research Title:** Loss of c-met expression in malignant endometrial tumors: an immunohistochemistry study  

**Journal:** INTERNATIONAL JOURNAL OF CLINICAL AND EXPERIMENTAL PATHOLOGY  
**Publisher:** E-CENTURY PUBLISHING CORP  
**Volume / Issue:** 9/4  
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**ISSN:** 1936-2625  
**Department:** Ob-Gyne, Pathology  
**Authors:** Mohamad Nidal Khabaz, Nadeem Shafique Butt, Nisrin Anfinan, Khalid Sait, Hesham Sait, Jaudah Ahmed Al-Maghrabi  
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### Abstract

Introduction: Many studies described c-Met involvement in cancer development and progression by its multiple biological responses, which stimulate proliferation, differentiation, survival, motility, migration, angiogenesis and invasion. This study portrays the immunostaining of c-Met in endometrial neoplasms, and assesses its value as diagnostic and prognostic marker.

Methods: This study retrospectively recruited 102 cases that include 72 and 30 cases of malignant and benign endometrial tissues respectively. These cases were retrieved from the archives of Pathology Department at King Abdulaziz University, Jeddah, Saudi Arabia. Tissue microarrays and immunostaining were used to show the phenotype of c-met.

Results: A total number of 13 (18.05%) tumor cases were positive for c-met immunostaining. Yallow to brown cytoplasmic and/or membranous expression of c-met was detected in 2/9 (22.2%) of papillary serous endometrial carcinomas, 9/53 (17%) of endometrioid adenocarcinomas, and one case of each endometrial stromal sarcoma and malignant mixed Mullerian tumor. Twenty three (76.6%) control cases showed positive immunostaining. c-Met immunostaining was common in the cytoplasm more than membranes in malignant tumors while it was cytoplasmic and membranous in benign tissues. Significant different c-Met immunostaining distribution was observed between tumor cases and control group (P-Value = 0.0000). Furthermore, inverse odds ratio shows that tumor cases are 14.92 times less likely of having positive c-Met immunostaining (odds ratio 0.067 with 95% confidence interval 0.024-0.189). This study did not find relation between c-Met expression and disease recurrence, survival or any of the other clinicopathological parameters in endometrial tumors.

Conclusion: This study in favor of c-Met expression is not a valuable factor for tumor development, recurrence, and survival in endometrial tumors. Greater c-Met staining was seen in normal and benign endometrial tissue compared to endometrial carcinomas. Loss of c-Met expression gives an indication for endometrial tumors.
Abstract

Kimura disease is a chronic inflammatory disease that mainly manifests as a lump in the cervical region. Although the underlying pathophysiology is not clear yet, the diagnosis can be established based on specific histopathological characteristics. The first case of this disease was described in China, as well as the majority of subsequent cases that were also described in the Far East countries made Kimura disease traditionally a disease of adult patients of Asian descent. This report describes the occurrence of Kimura disease in pediatric non-Asian patient with a similar clinicopathologic presentation.
**Abstract**

Saccular disorders are rare representing only 1.5% of all laryngeal anomalies. Bifid epiglottis is also an extremely rare congenital anomaly that usually occurs in a syndromic picture in association with other anomalies such as polydactyly, cleft palate and micrognathia, which are seen in Pallister-Hall Syndrome and rarely with other syndromes. We report a case of bilateral saccular cysts and bifid epiglottis in a full term neonate presenting with stridor. The patient's other congenital anomalies included microretrognathia, short neck, polydactyly of four extremities and hypospadias. The patient underwent staged endoscopic microsurgical marsupialization of both cysts and endoscopic repair of the bifid epiglottis.
Abstract

Preoperative planning is of paramount importance in primary total knee arthroplasty. A thorough preoperative analysis helps the surgeon envision the operation, anticipate any potential issues, and minimize the risk of premature implant failure. Obtaining a thorough history is critical for appropriate patient selection. The physical examination should evaluate the integrity of the soft tissues, the neurovascular status, range of motion, limb deformity, and the status of the collateral ligaments to help determine the soft-tissue balancing and constraint strategy required. Standard radiographs, with a known magnification, should be obtained for preoperative total knee arthroplasty templating. Routine standing AP, lateral, and skyline radiographs of the knee can help the surgeon plan the bone cuts and tibial slope as well as the implant size and position at the time of surgery. In certain circumstances, such as severe coronal deformities, bone deficiencies, and/or extra-articular deformities, additional measures are frequently necessary to successfully reconstruct the knee. Constrained implants, metal augments, and bone graft must be part of the surgeon's armamentarium.
King Abdulaziz University, Faculty of Medicine
Undergraduate and Graduate Students Publications

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**Abstract**

Introduction and Aims: Schimke immuno-osseous dysplasia is a multisystem disorder characterized by spondyloepiphysyeal dysplasia resulting in short stature, dysmorphism, progressive steroid-resistant nephrotic syndrome (SRNS), cerebral ischemic events and T-cell deficiency.

Methods: Here we analyzed the phenotypic spectrum of the largest SMARCAL1-associated nephropathy cohort assembled to date, 30 patients from 25 families reported to the PodoNet SRNS Registry.

Results: In 8 patients (27%) the diagnosis was made incidentally through multi-gene panel testing (mutation detection rate: 0.9% among 659 consecutively screened SRNS cases). Twenty different mutations were found, with 40% of patients being compound heterozygous. Children with identical mutations in 5 multiplex families showed highly variable phenotypes. Renal symptoms first manifested at median age 4.7 (range: 1.4-17.2) yrs. Kidney biopsy uniformly revealed focal-segmental glomerulosclerosis. All patients progressed to ESRD within 6 years from diagnosis (median age at ESRD 8.9 yrs). Short stature was present in all patients at first disease manifestation (mean height SDS -3.94±1.19) and further deteriorated to -5.44±1.95 SDS during a mean follow-up time of 4.8 years. Growth retardation had already been evident in utero in 96%, and 56% were born prematurely. Growth hormone therapy, administered in 7 children, was largely ineffective. Other extrarenal features were less penetrant: 75% of patients had hematological abnormalities, the most common being low T cell counts. Two patients developed post-transplant PTLD, one patient had Evans syndrome and one ITP. 9 patients had recurrent respiratory infections, and five developed severe infections (sepsis, meningitis). 54% of patients had mild to moderate hypothyroidism. Five patients had restrictive lung disease necessitating oxygen therapy. Cerebral ischemic events were reported in 10 (33%) patients with subsequent epilepsy in eight. Six (20%) had moderate cognitive impairment and another three presented with mild developmental delay. Mortality was 25% at age 7.5 years; 6 patients died with CKD, 1 on dialysis and 2 post-transplant.

Conclusions: Our findings substantiate SMARCAL1 testing also in non-syndromic patients with steroid-resistant nephropathy. While short stature is a constant disease feature, SMARCAL1 mutations are characterized by considerable differences in phenotypic expression and incomplete penetrance. Detailed immunological, hematological and orthopedic examination is indicated in all SMARCAL1-positive patients to detect mild phenotypic abnormalities.
### Abstract

Background: It has been reported that thyroglobulin antibody are more frequently elevated in patients with thyroid cancer compared to general population. This study aims at evaluating whether preoperative thyroglobulin antibody (TgAb) levels increase the likelihood that a thyroid nodule is malignant.

Methods: A retrospective review of 586 patients who underwent thyroidectomy was conducted. Demographic data, TgAb levels, and final histopathology were recorded. Patients were divided into two groups: TgAb positive (defined as TgAb >= 30 IU/ml) and TgAb low/negative (defined as TgAb < 30).

Results: Preoperative TgAb levels were available in 405 patients. There were 353 (87 %) patients in the TgAb low/negative group (malignancy rate: 50.42 %) and 52 (13 %) patients in the TgAb positive group (malignancy rate: 65.38 %). The sensitivity, specificity, positive predictive value and negative predictive value of TgAb >= 30 IU/ml for thyroid malignancy were 16.04 %, 90.67 %, 65.38 % and 49.58 %, respectively. The relative risk of having a malignant thyroid nodule when the TgAb titers were >= 30 IU/ml was 1.30 (CI 1.04-1.62) and the odds ratio was 1.86 (CI 1.01-3.41). Both the Pearson chi-square test (p = 0.024) and Fisher’s exact test (p = 0.017) yielded statistical significance between the two groups.

Conclusions: In this study, patients with preoperative TgAb = 30 IU/ml had a higher rate of malignancy when compared to patients with TgAb < 30 IU/ml. This suggests that an elevated TgAb level may indicate that a thyroid nodule is at an increased risk for malignancy.
Abstract

Background: Several regions of the genome have shown to be associated with COPD in genome-wide association studies of common variants.

Objective: To determine rare and potentially functional single nucleotide polymorphisms (SNPs) associated with the risk of COPD and severity of airflow limitation.

Methods: 3226 current or former smokers of European ancestry with lung function measures indicative of Global Initiative for Chronic Obstructive Lung Disease (GOLD) 2 COPD or worse were genotyped using an exome array. An analysis of risk of COPD was carried out using ever smoking controls (n=4784). Associations with % predicted FEV1 were tested in cases. We followed-up signals of interest (p<10(-5)) in independent samples from a subset of the UK Biobank population and also undertook a more powerful discovery study by meta-analysing the exome array data and UK Biobank data for variants represented on both arrays.

Results: Among the associated variants were two in regions previously unreported for COPD: a low frequency non-synonymous SNP in MOCS3 (rs7269297, pdiscovery=3.08x10(-6), preplication=0.019) and a rare SNP in IFIT3, which emerged in the meta-analysis (rs140549288, pmeta=8.56x10(-6)). In the meta-analysis of % predicted FEV1 (i)n cases, the strongest association was shown for a splice variant in a previously unreported region, SERPINA12 (rs140198372, pmeta=5.72x10(-6)). We also confirmed previously reported associations with COPD risk at MMP12, HHIP, GPR126 and CHRNA5. No associations in novel regions reached a stringent exome-wide significance threshold (p<3.7x10(-7)).

Conclusions: This study identified several associations with the risk of COPD and severity of airflow limitation, including novel regions MOCS3, IFIT3 and SERPINA12, which warrant further study.
Abstract

Introduction: Dengue is a significant arboviral infection that represents a major public health concern worldwide. The infection is endemic in most parts of South East Asia, sub-Saharan Africa, and Latin America. Among the four dengue virus (DENV) serotypes, DENV-2 has been reported to be the predominant serotype in Saudi Arabia since 1992. However, virological and epidemiological data of DENV-2 from Saudi Arabia are severely deficient and require further investigations.

Methods: Full genome sequencing of a recent DENV-2 isolate and phylogenetic analysis of all available DENV-2 sequences from Saudi Arabia.

Results: Based on full genome and envelope (E) gene sequence, we show that a recent isolate (DENV-2-Jeddah-2014) belongs to the Indian subcontinent lineage of the Cosmopolitan genotype with close similarity to recent strains from Pakistan. Interestingly, the E gene sequence of DENV-2-Jeddah-2014 isolate was slightly divergent from those previously identified in Saudi Arabia between 1992 and 2004 with three to nine amino acid (aa) substitutions. While our data show that the Cosmopolitan genotype is still circulating in Saudi Arabia, they highlight four distinct genetic groups suggesting at least four independent introductions into the Kingdom.

Conclusions: The close clustering of DENV-2 isolates reported from Saudi Arabia between 1992 and 2014 with strains from countries providing the highest numbers of pilgrims attending either Hajj or Umrah pilgrimages (Indonesia, Pakistan, India) clearly suggests a role for pilgrims or expatriates coming from DENV endemic countries in DENV-2 importation into Saudi Arabia. Accordingly, continuous monitoring of the circulation of DENVs in Saudi Arabia must be implemented to undertake effective control and management strategies in the Kingdom. Screening of the pilgrims coming to perform Hajj and Umrah might help prevent the introduction of new DENV strains, which is expected to increase the burden of the disease not only in Saudi Arabia but also in other countries.
<table>
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<th>Research Title:</th>
<th>The ICET-A Survey on Current Criteria Used by Clinicians for the Assessment of Central Adrenal Insufficiency in Thalassemia: Analysis of Results and Recommendations</th>
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**Abstract**

**Background:** In March 2015, the International Network of Clinicians for Endocrinopathies in Thalassemia and Adolescent Medicine (ICET-A) implemented a two-step survey on central adrenal insufficiency (CAI) assessment in TM patients and after analysis of the collected data, recommendations for the assessment of hypothalamic-pituitary-adrenal (HPA) axis in clinical practice were defined.

**Methods:** To ascertain the current practice for assessment of CAI in thalassemia, the Coordinator of ICET-A sent two questionnaires by email: i) The first to evaluate the current interpretation of basal serum cortisol level (first step) and ii) The second to assess the current usage of ACTH test and the variability in practice (second step). Based on the surveys the core ICET-A group prepared the recommendations for the assessment of suspected CAI in thalassemia (third step).

**Results:** A total of 19 thalassemologists/endocrinologists have participated in the first survey and 35 specialists participated in the second step questionnaire. The study demonstrated a considerable variability in almost all aspects of relevant current criteria used for the diagnosis of CAI. An ROC analysis using peak value > 20 μg/dl (> 550 nmol/L), after ACTH stimulation test, was performed with the aim of identifying the optimal basal serum cortisol cut-off. The optimal threshold that maximizes sensitivity plus specificity for morning basal cortisol against peak post-ACTH value > 20 μg/dl (> 550 nmol/L) was 10 μg/dl (275 nmol/L). Furthermore, the values associated with the highest negative predictive value (NPV) and highest, positive predictive value (PPV) were 4.20 (115 nmol/L) and 18.45 μg/dl (510 nmol/L), respectively.

Surprisingly, 20 specialists in thalassemia working in blood bank, thalassemia centres (day hospital), internal medicine, hematology and onco-hematology had poor knowledge and experience in testing for CAI and stopped filling the questionnaire after the second question. In contrast, 9 endocrinologists (8 pediatricians) and 6 hematologists working in collaboration with endocrinologists completed the questionnaire.

**Conclusions:** While waiting for more extensive adequately powered and targeted studies, physicians should adopt an acceptable policy for accurate assessment of HPA in TM patients. Regular surveillance, early diagnosis, treatment and follow-up in a multi-disciplinary specialized setting are also recommended. The ICET-A recommendations are reported in order to facilitate for interested physicians the approach to a successful assessment of adrenal function in thalassemia.
Abstract

Spinocerebellar ataxias (SCAs) are a heterogeneous group of neurodegenerative disorders characterized by progressive cerebellar ataxia of gait and limbs, dysarthria, dysphagia and other neurological signs. The genetic classification of the autosomal dominant types of SCAs is associated with more than 30 loci. Several of these SCAs (SCA1, 2, 3, 6, 7, 17) are due to cytosine adenine guanine (CAG) repeat expansions in the coding regions of the corresponding genes translated into abnormally long polyglutamine stretches (Stevanin et al. 2000). Most of the CAG repeat disorders are characterized by autosomal dominant heredity and anticipation (i.e. earlier onset age and increasing severity in successive generations). However, our earlier study did not find correlation between age of onset and the expanded CAG repeat number at various SCA loci (Gul et al. 2014). Apart from these, a novel mutation in SCA12 type was described which consisted of trinucleotide repeat expansion in the noncoding region of SCA12 gene (Holmes et al. 1999). SCA12 gene is located on chromosome at position 5q31-q33. The CAG tract lies at 5 UTR and encodes the brain-specific subunit of the serine–threonine protein phosphatase, PP2A. The normal, nonpathogenic number of CAG repeats has been established in different ethnical populations, ranges 9–18 (Fujigasaki et al. 2001) and 7–28 (Holmes et al. 1999). The pathogenic CAG repeat expansions was observed to be 66–78 in patients of German origin (Holmes et al. 1999) and of 55–69 in Indian SCA12 families (Fujigasaki et al. 2001; Srivastava et al. 2001). Clinically, the distinguishing feature is early prominent action tremor in the limbs, but can occur in the trunk, neck, lips and tongue (Cho et al. 2008; O’Hearn et al. 2012). Postural tremor (tremor at rest) and intention tremor (tremor with purposeful movements) are also observed. Signs of cerebellar dysfunction (e.g. ataxia and dysmetria) tend to be less prominent and less disabling in individuals with SCA12 than in other types of SCA.
Clusterin has anti-apoptotic, regeneration and migration stimulating effects on tumor cells. This study investigates the relation between clusterin expression and the clinicopathological parameters in endometrial carcinomas. Seventy one cases of previously diagnosed endometrial carcinoma (including 59 endometrioid adenocarcinoma, 9 serous adenocarcinoma, 1 clear cell adenocarcinoma, and 2 malignant mixed Mullerian tumor) and 30 tissue samples of non-cancerous endometrium (including 16 proliferative endometrium, 10 secretory endometrium and 4 endometrial polyps) were employed for clusterin detection using tissue microarrays and immunostaining. A total number of 23 (32.4%) cases were positive for clusterin immunostaining. Brown granular cytoplasmic expression of clusterin was detected in 33.9% of endometrioid adenocarcinomas, 22.2% papillary serous endometrial carcinomas. Three (10%) control cases showed granular cytoplasmic expression. Positive clusterin immunostaining was found more frequent in well differentiated and stage I endometrial carcinomas, showing significant statistical association (p-value = 0.036 and p-value = 0.002 respectively). Significant difference in clusterin expression was observed between tumor cases and control group (P-Value = 0.019), i.e., endometrial carcinoma cases are more than four times likely to show positive clusterin immunostaining (odds ratio 4.313 with 95% confidence interval 1.184-15.701). This study did not find relation between clusterin expression and disease recurrence, survival or any of the other clinicopathological parameters in endometrial tumors. The results of our study confirms the diagnostic values of clusterin in supporting the diagnosis of endometrioid carcinoma. When clusterin is expressed in endometrial tumors, it is associated with lower stage. The correlation of clusterin with tumor stage suggests involvement of this molecule in endometrial tumor progression.
Abstract

Genetic mutations in MED12, a subunit of Mediator complex are seen in a broad spectrum of human diseases. However, the underlying basis of how these pathogenic mutations elicit protein phenotype changes in terms of 3D structure, stability and protein binding sites remains unknown. Therefore, we aimed to investigate the structural and functional impacts of MED12 mutations, using computational methods as an alternate to traditional in vivo and in vitro approaches. The MED12 gene mutations details and their corresponding clinical associations were collected from different databases and by text-mining. Initially, diverse computational approaches were applied to categorize the different classes of mutations based on their deleterious impact to MED12. Then, protein structures for wild and mutant types built by integrative modeling were analyzed for structural divergence, solvent accessibility, stability, and functional interaction deformities. Finally, this study was able to identify that genetic mutations mapped to exon-2 region, highly conserved LCEWAV and Catenin domains induce biochemically severe amino acid changes which alters the protein phenotype as well as the stability of MED12-CYCC interactions. To better understand the deleterious nature of FS-IDs and Indels, this study asserts the utility of computational screening based on their propensity towards non-sense mediated decay. Current study findings may help to narrow down the number of MED12 mutations to be screened for mediator complex dysfunction associated genetic diseases. This study supports computational methods as a primary filter to verify the plausible impact of pathogenic mutations based on the perspective of evolution, expression and phenotype of proteins.
**Research Title:** A 5 Year Retrospective Study of 131I Therapy for Thyroid Cancer Practice in King Abdulaziz University Hospital

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<td>Authors:</td>
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**Abstract**

Since 1940s, intake of Iodine 131 is a deeprooted postoperative therapy for malignant thyroid. However, clinical practice does differ significantly between hospitals. This paper presents a retrospective study of a clinical practice for patients diagnosed with thyroid cancer at King Abdulaziz University Hospital (KAUH). The aim of this study was to benchmark KAUH practice patterns against international guidelines. A total of 100 patients with thyroid cancer were included, 70% females and 30% males with median age of 42.5 and 43.5 years respectively. Cases were patients, diagnosed with thyroid cancer and treated with radioactive iodine at KAUH in Saudi Arabia between 2005 and 2011. Some additional patient’s data were excluded from the study because of missing information or lost to follow-up. Medical records included patient’s gender, age, clinical diagnoses, iodine dose, and the recurrence. Where, thirty-three percent (33%) of the patients had papillary carcinoma, (3%) had follicular carcinoma and (1%) had Hurte cell tumors. All patients had their total/partial thyroidectomy at KAUH. Dose administered ranged from (50 to 300) mCi with the 61% receiving a dose of 100mCi. A statistical test, Chi-square test, were used to allow us to test for deviations of observed frequencies from expected frequencies. The medical record showed that 3% of the patient had died and 4% had a recurrence that was successfully treated by the time of the study. Moreover, the 5-year survival rates for patients with thyroid cancers was 93%. The thyroid cancer incidence and the I-131 practice in KAUH is consistent with international data and standards.
Research Title: Therapeutic Potential of Mesenchymal Stem Cells on Chemically-induced Arthritis in Rats: Role of Pro-inflammatory and Pain-mediating Cytokines

Journal: FASEB Journal
Publisher: Federation of American Societies for Experimental Biology
Volume / Issue: 30/1
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ISSN: 1530-6860
Department: Clinical Biochemistry, Pathology
Authors: Hazem Atta, Abdulwahab Noorwali, Taghreed Bashah, Ahmed Ganem
Correspondence Email: n/a

Abstract

Background: Osteoarthritis results from loss of joint cartilage. In Saudi Arabia, almost 2 million people are affected by osteoarthritis. The knee joint is the most commonly affected joint in cases of arthritis. Osteoarthritis of the knee is the most common cause of pain and stiffness during walking. Mesenchymal stem cells (MSCs) have been reported to be successful in repairing traumatic focal cartilage defects in human clinical trials. Their use to treat osteoarthritis needs to be studied carefully, due to the diffuse area of cartilage damage compared to focal cartilage defects. Their influence on pro and anti-inflammatory cytokines needs to be studied.

Objective: This work aimed to study the cartilage healing effect of intra-articular injection of autologous MSCs. The influence of MSCs on pro-inflammatory and pain-mediating cytokines was also examined. This may help to document and explain the reported healing capacity of MSCs. This may also help in finding a cure for the patients and save them the morbidity and the complications of drug therapy.

Methods: Intra-articular injection of monosodium iodoacetate (MIA) in the knee joint of rats followed by MSCs injection. Knee joints were surgically removed and histological sections from the joints were examined before and after therapy. Serum levels of interleukin-6 (IL-6), its soluble receptor, nerve growth factor (NGF), and substance P were measured by enzyme-linked immunosorbent assay (ELISA).

Results: Histological examination showed healing of the affected joints by a hyaline-like cartilage. Serum level of IL6 decreased significantly upon MSCs injection. However, the serum level of IL6-receptor increased by MSCs therapy. Serum level of NGF and substance P increased after MSCs therapy.

Conclusions: Mesenchymal stem cells can repair damaged articular cartilage in rat models of knee osteoarthritis. Part of their action appears to be through decreasing the production of pro-inflammatory cytokines as Interleukin-6. They play a role in healing and pain control by influencing pain-mediating cytokines as substance P and NGF. Their mechanism of action needs to be further studied in large animal models and in clinical trials.
Abstract

Introduction: Magnetic resonance imaging (MRI) is used routinely to diagnose cervical spondylotic myelopathy (CSM). However, in cases where MRI is contraindicated, CT myelogram remains the preferable imaging modality for the diagnosis of CSM. There remains no confirmed consensus on the use of specific CT myelogram parameters and their relationship with regards to CSM disease severity, clinical presentation and prognosis after surgical treatment. The purpose of this study is to determine the CT myelogram imaging parameters in patients diagnosed with CSM that correlate with severity of CSM and predict postoperative patient outcome.

Materials and Methods: An electronic database search was performed using Ovid Medline and Embase. CT myelogram studies investigating the correlation between imaging characteristics and CSM severity or postoperative outcomes were included. Two independent reviewers performed citation screening, selection, qualitative assessment and data extraction using an objective and blinded protocol. All authors involved in the study have no disclosures related to present study. No funding was needed for this study.

Results: We found no studies investigating the correlation between CT myelogram parameters and CSM severity. A total of 5 studies (402 patients) were included in this review and investigated the role of CT myelogram parameters in predicting outcome after surgical treatment. All studies were retrospective cohort studies. CT myelogram characteristics included the transverse area of the spinal cord at maximum level of compression, spinal canal narrowing, number of blocks, spinal canal diameter and flattening ratio. There is low evidence suggesting that patients with a transverse area of the spinal cord >30 mm² at the level of maximum compression have better postoperative recovery and outcome.

Conclusion: Patients with greater transverse area of spinal cord at the level of maximum compression on CT myelogram are more likely to have better neurological outcome after surgery. There is insufficient evidence to suggest that any of the other CT myelogram parameters investigated are predictors of postoperative outcomes in patients with CSM.
Objective: Since 2008, we have changed our presurgical diagnostic evaluation for medically refractory focal epilepsy to include high-resolution epilepsy protocol on 3T MRI, and combined magnetoencephalography and FDG-PET in selected patients with normal or subtle changes on MRI or discordant diagnostic tests. The aim of this study was to evaluate the effectiveness of the change in imaging practice on epilepsy surgery outcome in a tertiary pediatric epilepsy surgery center.

Methods: The change in practice occurred in early 2008 and patients were classified based on old or new practice. The patient characteristics, surgical variables, and seizure-free surgical outcome were compared, and the trend in seizure-free outcome over time was assessed.

Results: There was a trend for increased abnormal MRI (92[percnt] versus 86[percnt] respectively, p=0.062), and increased utilization of FDG-PET (34[percnt] versus 3[percnt] respectively, p<0.001) with new relative to old practice. There were no significant differences in invasive monitoring, location and type of surgery and histology between the two periods (all p>0.05). During the old practice, there was no significant change in yearly trend of seizure-free outcome (OR=0.960 (95[percnt] CI: 0.875, 1.053), p=0.386). The change in practice in 2008 was associated with a significant improvement in seizure-free outcome (OR=1.535 (95[percnt] CI: 1.100, 2.142), p=0.012). During the new practice, there was a significant positive trend in yearly seizure-free outcome (OR=1.219 (95[percnt] CI: 1.053, 1.411), p=0.008), after adjusting for age at seizure onset, invasive monitoring, location of surgery, type of surgery, histology, MRI, magnetoencephalography and FDG-PET.

Significance: We have found an improvement in seizure-free surgical outcome following the change in imaging practice. This study highlights the importance of optimizing and improving presurgical diagnostic imaging evaluation to improve surgical outcome.
**Research Title:** Invasive aspergillus sinusitis with orbitocranial extension

**Journal:** Asian Journal of Neurosurgery

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## Abstract

**Context:** Invasive sinonasal aspergillosis is a silently progressive disease that, left untreated, may invade the adjacent intracranial and intra-orbital compartments incurring serious morbidity. **Aim:** To evaluate our results of a collaborative surgical management plans for patients with invasive sinonasal aspergillosis with orbitocranial extension.

**Setting and Design:** Retrospective study. **Materials and Methods:** Between the years 2000 and 2012, 12 patients with Aspergillus sinusitis with orbitocranial extension were treated at our institution. Preoperative CT and MRI scans were done in all cases and cerebral angiography in two patients with subarachnoid hemorrhage (SAH). Surgical combined transcranial and endonasal approaches to the skull base were considered in all patients. Adjuvant antifungals were administered postoperatively with regular clinical and radiologic follow up.

**Results:** All cases had a long history of headache and nasal obstruction (n = 12). Five presented with unilateral proptosis, one with meningitis, one with epilepsy, two with SAH, and one patient presented with trigeminal neuralgia. Craniotomy alone was chosen for the patients with isolated sphenoiditis (n = 2) while a combined cranial and endonasal approach was elected for the other patients (n = 10). Adjuvant antifungal therapy was used for 3-12 months. Patients were followed up clinically and radiologically for an average 36-month period (range = 12-50 months) with disease eradication achieved in eight patients (67%). Two died as consequence to SAH. Follow up also showed that three patients (25%) had sinusosal recurrence requiring evacuation through an endonasal approach.

**Conclusions:** Surgical intervention, with adjuvant antifungal therapy, aiming for safe total removal of the fungal burden, whenever feasible, has a major role in the management of invasive sinonasal aspergillosis with orbitocranial extension with minimal morbidity and good outcomes.
Research Title: Placenta previa. A 13 years experience at a tertiary care center in Western Saudi Arabia

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Volume / Issue: 37/7
Pages: 762-766
ISSN: 1658-3175
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Abstract

Objectives: To review cases of placenta previa in the last 13 years in a tertiary teaching hospital to identify risk factors for maternal morbidity.

Methods: A retrospective analysis of all cases of placenta previa managed at King Abdulaziz University Hospital (KAUH), Jeddah, Kingdom of Saudi Arabia from January 2001 to December 2013.

Results: The total number of deliveries was 55,862 deliveries, and 11,412 (20.3%) delivered by cesarean section (C/S). The charts of 230 cases diagnosed with placenta previa was reviewed, and different variables were collected and analyzed. Diagnoses were achieved in 94% of them using ultrasound. The prevalence rate of placenta previa was 4.1 per 1000 births. Cesarean section was carried out as an emergency procedure in 130 (56.5%) women and as elective in 100 (43.5%) women. Of them, 26 patients were admitted to the intensive care unit (ICU) (11.3%), all of which received blood transfusion >6 units and 22 patients had a hysterectomy for uncontrollable bleeding.

Conclusion: Placenta previa is one of the leading causes of maternal morbidity and mortality. Every hospital must have a protocol, or algorithm for the management of placenta previa. Risk factors for maternal morbidity included complete previa, history of previous C/S, emergency C/S at a gestational age of less than 36 weeks, and estimated blood loss more than 2000 ml.
Study Design: Survey

Objective: The aim of this study was to objectify the burden of AIS to better advocate for scoliosis care in the future.

Summary of Background Data: Adolescent idiopathic scoliosis (AIS) is a common spinal deformity that can affect individuals on many levels. Patients with big curves usually seek medical advice for surgical correction of their deformity.

Methods: Participants completed an online questionnaire to help measure the health burden of AIS. Three utility outcome measures were then calculated. These included visual analogue scale (VAS), time trade off (TTO) and standard gamble (SG). Student ttest and linear regression were used for statistical analysis.

Results: One hundred and ten participants were included in the analysis. The mean VAS, TTO, and SG scores for AIS were 0.77±0.16, 0.90±0.11, and 0.91±0.13, respectively. Factors such as age, gender, income, and level of education were not independent predictors of utility scores for AIS.

Conclusion: Our participants demonstrated a significant perceived burden of AIS. If faced with AIS, participants were willing to sacrifice 3.6 years of their lives and undergo a procedure with 9% mortality rate to gain perfect health. Such findings can guide future allocation of resources for better scoliosis care and management.
Abstract

Objectives: To gain preliminary insight by exploring ulnar variance changes in a Saudi-based sample.

Methods: This 6-month (December 2013 to June 2014) cross-sectional study was conducted on a randomly selected healthy adult volunteers with a sample size of 104, at King Abdulaziz University Hospital, Jeddah, Saudi Arabia. Posteroanterior (PA), anteroposterior (AP), and PA grip views are taken. The variables of interest were the PA, AP, and PA fist measurements of both right and left wrists. An independent t-test was used to compare means between groups.

Results: A total of 104 volunteers were recruited. Among 17 participants who had a negative ulnar variance on right PA views, a significantly high proportion (n=9; 56.2%) maintained a negative value on fist views; 7 participants (43.8%) had a neutral ulnar variance while none (0%) had a positive value (p less than 0.001). Similarly, a significant proportion of participants who had neutral, or positive values on right PA views maintained the same values on right fist views (p less than 0.001). On radiographs of the right wrist, the ulnar variance decreased with a change in wrist position, with an absolute difference in magnitude of 2.13 (p less than 0.001) between PA and AP views. Similarly, the ulnar variance on the left side decreased significantly between PA and AP views (absolute difference in magnitude, 1.68; p less than 0.001).

Conclusions: Ulnar variance changes in our sample are similar to what is reported in the literature.
Aim: The increasing prevalence of multi-drug resistant (MDR) Escherichia coli is one of the intractable, economic veterinary and public health obstacle of the 21st century. As a component of the gut microbiota (GM), it is aimed in this study to establish a rat model to examine the role of E. coli in contributing to the increasing antimicrobial resistance of GM.

Methods and Results: Ten rats were divided into two equal groups (RG-1 and RG-2), and their GM was characterized before and after an amoxicillin treatment. The first treatment was applied on all rats, administering to each an equal count of Multiple Drug Resistant E. coli (MDR E. coli). The second treatment was restricted to rats of the RG-2 group, treating them with amoxicillin, effective 48 hrs following the MDR E. coli administration, to examine the persistence of MDR E. coli and the post-treatment profile of the GM resistome. Stool samples, collected at different times, were aerobically cultured at 37 degrees C, and the bacterial cultures were tested against ten antibiotics from different classes. The bacterial isolates were analysed by matrix-assisted laser desorption ionisation time-of-flight mass spectrophotometry (MALDI-TOF MS) and some by 16S RNA sequencing. In four phyla, 12 genera and 16 species were identified by culturing 8020 fecal colonies. The rat GM was dominantly inhabited by the genus Enterococcus, encoding resistance to amoxicillin, D-cycloserin, gentamicin, carbenicillin and kanamycin. The GM of rats in the two groups had significantly greater antimicrobial resistant colony count (p<0.01) after administration of exogenous MDR E. coli compared to that before treatment. The amoxicillin treatment in the second group was efficient in reduction of the bacterial density, associated with enhanced resistance diversity. The Bacteriodetes emerged as a new resistant phylum after the amoxicillin treatment.

Conclusions: In conclusion, the administration of MDR E. coli caused a change in the resistome of the GM, and the additional treatment with amoxicillin increased the drug resistant-colony forming units, and led to the isolation of new antimicrobial resistant species.

Significance and Impact of Study: This study proves the significance of a rat model in studying the role of ingestion of MDR microorganism, in absence and presence of antimicrobial treatment, on the drug resistome of the GM. The impact of this pioneer study on future control of the problem of drug resistance in GM, due to ingestion of MDR microorganisms by animals and humans, in absence and presence of antimicrobial treatment, is in accord with recent influx of documentations in this research scope.
Abstract

Objective: To assess the awareness of physicians at King Abdulaziz University Hospital (KAUH), a tertiary care centre in Jeddah, Saudi Arabia, about the scope of practice of otolaryngologist (OTL) - head and neck surgeons. Furthermore, to identify diseases of the head and neck in which physicians may underestimate the role of OTLs.

Study Design: Cross-sectional analysis.

Background: The scope of practice of ear, nose and throat surgeons has impressively widened to include many subspecialities such as head and neck surgery (HNS). Encountering diseases that used to be or could be handled by other surgical specialities may cause confusion among physicians. This confusion may extend to mislead some physicians while referring.

Methods: A total of 336 questionnaires were distributed to physicians at KAUH. The questionnaire targeted consultants, specialists and residents of different departments. The survey asked the responders which specialty they believed was the expert in managing certain clinical conditions related to OTLs. The respondents were allowed to choose one or more speciality for each question.

Results: One hundred and seventeen questionnaires of the total 336 were analysed with a response rate of 34.8%. The analysis showed that 94.9% of the respondents believed that OTLs were experienced in dealing with pharyngeal lesions. Regarding hoarseness, 96% of the physicians thought that it was a symptom managed by OTLs. About 94% of the respondents chose OTLs as experts in managing patients with a foreign body ingestion. Almost 89% (88.9%) thought that OTLs were the physicians who perform tracheostomies. However, regarding cold or flu and oral lesions, OTLs only scored 68.4% and 64.1%, respectively.

Conclusion: The study revealed the awareness of physicians at KAUH in regards to the extent of services provided by OTL-HNS as not fully satisfactory. It is our job as OTLs to raise awareness of our speciality among colleagues of other departments.
The prevalence of allergic rhinitis and atopic markers in obstructive sleep apnea (OSA) is a complex issue that remains a topic of research. This study was aimed at determining the frequency of AR and atopic markers among individuals with OSA. We conducted a cross-sectional study recruiting participants with sleep-related complaints who were referred to a sleep center from February 2013 to June 2014. The diagnosis of OSA was made based on the Berlin questionnaire (BQ) and confirmed by polysomnography (PSG). The diagnosis of AR was made through a focused history and clinical examination, with confirmation by measuring atopic markers.

We found that OSA was diagnosed in 97 out of 157 adults attending the sleep clinic (61.8%). The prevalence of AR among OSA individuals was 52.6%, which was not significantly different from the prevalence in the non-OSA individuals (p = 0.5). When we examined specific atopic markers, we found that 37.1% of individuals with OSA had elevated total immunoglobulin E (IgE; >100 K/μL), 11.3% had elevated eosinophil count, and 41.2% had positive Phadiatop tests. Similarly, individuals without OSA showed similar percentages. In our cohort, there was no significant difference in frequency of AR and atopy among participants with OSA compared to those without OSA.
Abstract

Objective To identify the prevalence and risk factors for secondary hyperparathyroidism in children with advanced stages of chronic kidney disease (CKD).

Methods A retrospective cross-sectional observational study of clinical and laboratory data of pediatric patients with CKD stage 3, 4 was conducted from 2005 through 2013 at a single center in the Kingdom of Saudi Arabia.

Results One hundred nineteen children (60.5 % boys) with mean age of 10.1 +/- 5.1 y were included in the study. The mean eGFR (estimated Glomerular Filtration Rate) was 18.3 +/- 15.4 ml/min/1.73m(2) and the mean intact parathyroid hormone (iPTH) level was 62.2 +/- 89.4 pmol/L. Patients with a high iPTH had lower eGFR than those who were euparathyroid (16 +/- 13.4 vs. 29.7 +/- 19 ml/min/1.73m(2), respectively; p = 0.006), had lower calcium levels (2.2 +/- 0.3 vs. 2.4 +/- 0.3 mmol/L; p = 0.03) and a lower bicarbonate level (21.2 +/- 4.2 vs. 23.3 +/- 3.2 mmol/L; p = 0.04). Three children with hyperparathyroidism (4.9 %) had fractures, 16 (26.2 %) had bone deformities compared to 5 in the euoparathyroid group (p = 0.012). Parathyroid hormone negatively correlated with the patient's eGFR (r = -0.55), serum calcium (r = -0.43), and positively correlated with serum phosphate (r = 0.38).

Conclusions The single most important predictor of hyperparathyroidism in children in the present sample was eGFR.
Hallux valgus is the most common forefoot problem in adults. Although it can cause considerable disability and affect the quality of life of those affected, many patients seek medical attention because of cosmetic concerns. Our aim was to objectively measure the perceived health burden of living with bilateral hallux valgus. Previously validated utility outcome measures, including the visual analog scale, time trade-off, and standard gamble tests, were used to quantify the health burden for single-eye blindness, double-eye blindness, and bilateral hallux valgus in 103 healthy subjects using an online survey. The Student t test and linear regression analysis were used for statistical analysis. The mean visual analog scale, time trade-off, and standard gamble scores for bilateral hallux valgus were 0.86 +/- 1.6, 0.95 +/- 0.5, and 0.95 +/- 0.14, respectively. These were significantly greater than the utility scores for single-eye and double-eye blindness (p < .05). Age, gender, race, income, and education were not statistically significant independent predictors of the utility scores for hallux valgus. In conclusion, we have objectively demonstrated the effect of living with bilateral hallux valgus deformities. Our sample population reported being willing to undergo a procedure with a 5% mortality rate and sacrifice 1.8 years of life to attain perfect health and avoid the bilateral hallux valgus health state. Our findings will guide us in counseling our patients and understanding how they perceive their foot deformity. (C) 2016 by the American College of Foot and Ankle Surgeons
**Abstract**

Objectives: To reassess the need for routine coagulation profile testing in patients undergoing image-guided breast biopsies.

Methods: This is a retrospective cross-sectional study. Data was collected from the logbook of patients that underwent image-guided biopsies in the breast unit at the Department of Radiology, King Abdulaziz University Hospital, Jeddah, Saudi Arabia. Patients’ electronic records between November 2013 and October 2014 were included in the study. Exclusion criteria were those on anticoagulants, or platelet aggregation inhibitors, and patients with known primary, or secondary bleeding diathesis. The study was analyzed using the IBM Statistical Packages for Social Sciences Version 22 (IBM Corp, Armonk, NY, USA).

Results: A total of 136 patients were included in our study. Neither partial thromboplastin time (PTT), or thrombocytopenia was related to bleeding with p-values of 0.536 PTT and 0.997 thrombocytopenia. Needle gauge was found to be significantly related to bleeding episodes with a p=0.020.

Conclusion: We advise against the routine use of coagulation profiles to predict bleeding risk. A thorough bleeding assessment is more advantageous. Laboratory tests should be tailored according to the patient’s history and examination findings.
Abstract

OBJECTIVE: The aim of the study was to evaluate the pediatric emergency department (PED) in a main teaching hospital.

METHOD: Retrospective review of all children presented to PED at King Abdulaziz University Hospital from September to November 2014 was performed. We classified priority into the following 5 stages: 1, need resuscitation; 2, emergent; 3, urgent; 4, less urgent; and 5, nonurgent.

RESULTS: A total of 2567 children (58.9% boys) attended PED for 3 months. Toddler age group was the highest. Respiratory complaints were the commonest (36%), followed by gastrointestinal complaints (20%). The majority were classified as priority 3 (52.3%) and priority 4 (30.7%). The admission rate was 12.3% and the mean (range) length of stay (LOS) was 5.85 (0.2-25) hours. Saudi nationals were less likely to wait for 5 hours or longer, less likely to be admitted, but more likely to leave PED without being evaluated. There was a negative correlation between higher priorities and time from triage to PED. There was a positive correlation between the higher priorities and LOS.

CONCLUSIONS: Most children who were seen in PED were priority 3 and therefore needed to be seen. However, a considerable percentage of priority 4 and 5 could have been seen in ambulatory clinics. Most lower priorities were Saudi nationals who were most likely to leave without being seen. Prolonged LOS, overcrowding, and high percentage of admission are the main challenges.
### Abstract

PURPOSE: To study ocular morphology and visual function in relation to general growth in moderate-to-late preterm (MLP) children.

METHODS: Visual acuity (VA), refraction, optic disc parameters, biometric values and anthropometric measures were obtained from 50 eight-year-old MLP and 43 full-term children. Macular parameters were examined by optical coherence tomography. Serum insulin-like growth factor I (IGF-I) levels were analysed at birth and at assessment and delta IGF-I was calculated.

RESULTS: Total macular volume was significantly less in MLP than in controls (both eyes $p < 0.01$). Macular volume correlated with head circumference (HCF) at assessment [right eye (RE) $p = 0.002$, $r = 0.67$; left eyes (LE) $p = 0.01$, $r = 0.54$] and refraction (both eyes $p < 0.05$, $r = 0.4$) in the MLP children. Furthermore, central retinal thickness correlated significantly with delta IGF-I (RE $p = 0.03$, $r = -0.51$, LE $p = 0.006$, $r = -0.59$) and refraction (both eyes $p < 0.01$, $r = 0.5$) and optic disc areas correlated with weight and height at assessment (all $p < 0.05$, $r = 0.4$). Total axial length correlated with HCF at assessment (both eyes $p < 0.01$, $r = 0.5$) and VA logMAR (both eyes $p < 0.02$, $r = -0.4$).

CONCLUSIONS: Macular volume was significantly less in MLP children than in controls examined at 8 years of age. General growth of children and IGF-I levels seem to be involved in development of ocular growth and morphology.
# Abstract

**BACKGROUND CONTEXT:** Early-onset scoliosis often occurs by the age of 5 years and is attributed to many structural abnormalities. Syndromic early-onset scoliosis is considered one of the most aggressive types of early-onset scoliosis. Treatment starts with serial casting and bracing, but eventually most of these patients undergo growth-sparing procedures, such as a single growing rod, dual growing rods, or a vertical expandable titanium prosthetic rib.

**PURPOSE:** This case report aimed to describe an unusual complication of erosion of a growing rod through the lamina that caused spinal cord compression in an 8-year-old girl with early-onset scoliosis.

**STUDY DESIGN:** This is a case report.

**METHODS:** A retrospective chart review was used to describe the clinical course and radiographic findings of this case after rod erosion into the spinal canal.

**RESULTS:** The patient underwent successful revision surgery removing the rod without neurologic complications.

**CONCLUSIONS:** Patients with syndromic early-onset scoliosis are more prone to progressive curves and severe rotational deformity. We believe that the severe kyphotic deformity in addition to the dysplastic nature of the deformity in this population may predispose them to this unusual complication.
Objective: Do-not-resuscitate (DNR) orders in Saudi Arabia were first regulated by a fatwa on a national level in 1988, one that excludes the patient and their families from decision making. Although the core of this policy is taken up by all hospitals in Saudi Arabia, there is no homogeneity in implementation. Here, we appraise what interns and residents know of these policies and their attitudes toward DNR.

Methods: Interns and residents in four major hospitals in Jeddah, King Abdulaziz University Hospital, National Guard Hospital, King Fahad General Hospital, and King Fahad Armed Forces Hospital, were given a questionnaire in English with four blocks of questions.

Results: A total of 140 questionnaires were included in our study. From these questionnaires, we conclude a lack of familiarity with DNR's policies and the fatwa and also a lack of understanding when it comes to treating DNR-labeled patients. The majority opinion was to include the patient in the decision-making process who is excluded according to the fatwa. Participants considered patients' dignity, religious concerns, and legal concerns to be important in considering resuscitation.

Conclusion: We conclude a need to emphasize the issue of DNR and treatment of DNR patients in medical ethics classes in Saudi Arabia and put more effort to enact national DNR laws that include the patient in the decision-making process.
Emerging data have implicated a critical role for CD4 in the pathogenesis of systemic lupus erythematosus (SLE). This study was designed to delineate the contribution of CD4+ T cells in the pathogenesis of SLE disease. Forty-four patients (3 male; 41 female) and 20 healthy volunteers (4 male; 16 female) were included in the study. CD4+ lymphocytes analysis was done using three-color flow cytometry with antibodies against human-CD95, a prototype cell death receptor, and the chemokine receptor-7 (CCR7) after gating for lymphocytes based on the forward and side scatter. Serum levels of IL-6, IL-12, IL-17, TNF-α and IL-10 cytokines were assayed using ELISA. Disease activity was assessed using the SLE disease activity index (SLEDAI). Based on the expression of CCR7 and CD95, CD4+ lymphocytes were subdivided into three particular subsets; CD4+CD95+CCR7+ cells, CD4+CD95−CCR7+ cells and CD4+CD95+CCR7− cells. Percentage of CD4+CD95+CCR7+ cell subset was significantly higher in patients with SLE with active disease (SLEDAI > 6) and inactive (SLEDAI < 6) as compared with controls (P = 0.005), and it showed a significant positive correlation with ANA titer (P = 0.01), and a negative correlation with WBCs count (P = 0.001). CD4+CD95+CCR7− cell subset was significantly higher in active SLE patients in comparison to patients with inactive disease and controls (P = 0.05, P = 0.005 respectively), and it correlates positively with SLEDAI, IL-6 and IL-17 levels (P = 0.001, 0.05, 0.01 respectively), and negatively with blood WBCs counts (P = 0.001). The third CD4+CD95−CCR7−cell subset was found significantly lower in SLE patients compared with controls, and it was found negatively correlated with IL-10, IL-6, and IL-17. The results show that CD4+CD95+subset lacking expression of CCR7 is associated with cell mediated inflammatory response as manifested by its correlation with signs of inflammation, inflammatory cytokines and disease activity index. Whereas, CD4+CD95+CCR7+ correlate more with antibody immune responses as manifested by association with serum ANA. These data suggest disparate roles of these cell subsets in the pathophysiology of SLE. A better understanding of the characteristics of CD4 cell subsets may shed light on the pathogenesis of autoimmune diseases, particularly SLE.
Abstract

BACKGROUND: Human immunodeficiency virus (HIV)-associated cerebral aneurysmal vasculopathy is a rare complication of HIV affecting pediatric and adult patients and has been the subject of many case reports and case series.

METHODS: We performed a systematic literature search of PubMed, EMBASE, Scopus, Web of Science, Science Direct, and Google Scholar up to April 10, 2015. Our inclusion criteria encompassed all reported original case series and reports of HIV-associated cerebral aneurysms diagnosed radiologically. We analyzed the clinical characteristics and management of the reported cases.

RESULTS: We identified 61 patients reported in the literature (45 pediatric and 16 adult patients). The median age was 9.8 years for pediatric patients and 36.5 years for adult patients. Weakness was the most common presenting symptom in adult and pediatric patients. The most common affected artery was the middle cerebral artery. Approximately 87.2% of pediatric patients and 42.9% of adult patients were on antiretroviral therapy (ART) at presentation. The mortality rate was 60% and 35.7% among pediatric and adult patients, respectively. The optimal management is not well established. Variable response to ART was reported with possible survival benefits when ART was initiated early.

CONCLUSIONS: HIV-associated cerebral aneurysmal arteriopathy is associated with high mortality. The optimal management is not well established, but early initiation of ART may improve the survival rate.
INTRODUCTION: Many studies described napsin A as a specific diagnostic marker that aids in differentiating lung adenocarcinomas from other respiratory tumors. This study describes the expression phenotype of napsin A in endometrial neoplasms, it investigates the relationship between this expression profile and the clinicopathologic parameters, and assess its utilization as an independent predictive marker.

METHODS: A total of 76 cases of previously diagnosed endometrial carcinoma (including 53 endometrioid adenocarcinomas, 6 endometrioid adenocarcinomas with squamous differentiation, 9 serous adenocarcinomas, 6 clear cell adenocarcinomas, and 2 malignant mixed mullerian tumors) and 30 tissue samples of noncancerous endometrium (including 16 proliferative endometriums, 10 secretory endometriums and 4 endometrial polyps) were retrieved from the archives of Pathology Department at King Abdulaziz University, Jeddah, Saudi Arabia. For napsin A detection, tissue microarrays and immunostaining were used.

RESULTS: A total number of 12 (15.78%) cases were positive for napsin A immunostaining. Brown granular cytoplasmic expression of napsin A was detected in 9.4% of endometrioid adenocarcinomas, 16.7% of endometrioid adenocarcinomas with squamous differentiation, 22.2% of papillary serous endometrial carcinomas, and 66.7% of clear cell carcinomas. Three (10%) control cases showed similar granular cytoplasmic expression. Positive napsin A immunostaining was more frequent in clear cell carcinoma, and there is a significant association between positive napsin A immunostaining and clear cell carcinoma (P-value=0.007). Significant associations have been found also between napsin A expression and older ages (above 60 y) and higher stage (IVB), the P-values of which were 0.035 and 0.043, respectively, but not with the tumor recurrence or survival rate.

CONCLUSIONS: Although napsin A is infrequently expressed in endometrial carcinomas, positive results of napsin A immunostaining in endometrial neoplasms might support the diagnosis of clear cell carcinoma when the pathologic differential diagnosis includes other histologic subtypes.
Objective: The aim was to assess sexual performance by screening Saudi women before and after the age of 40 years.

Materials and Methods: A cross-sectional study (March-May 2013), conducted at King Abdulaziz University Hospital (KAUH), with two groups of women under 40 years of age and aged 40 or more years, were randomly selected from OPD. Ethical committee approved the study. After verbal consent, one-paper self-administered questionnaire was distributed, and filled in anonymously and privately. Questionnaire included demographic data, the six-item version of female sexual function index (FSFI) to assess desire, lubricants, orgasm, satisfaction, and pain. If score was 19 or less, it meant that women needed further evaluation (full assessment using FSFI-19).

Results: Out of 194, 49.5% (96) were over 40 years of age and 50.5% (98) were under 40 years of age. Answering the six questions regarding sexual dysfunction indicated that women > 40 years had sexual dysfunction more than women < 40 (statistically significant). A scored of less than 19 was found to be statistically significant in women > 40 years. Post-menopausal women, diabetics, women with urogynecological symptoms and/or psychological disorder required further evaluation.

Discussion: Using the six-item version of FSFI and calculating a score less than 19 for screening, women aged more than 40 years, reduction in estrogen, diabetes, urogynecological symptoms, and psychological disorder were all found to he important factors affecting female sexual dysfunction.
Research Title: Targeted sequencing approach for the identification of the genetic causes of hereditary hearing impairment

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Abstract

Objectives: Hearing loss is one of the most common afflictions in the world affecting about one in every 1000 newborns (Petersen and Willems 2006). Genetic factors are estimated to be the underlining cause of more than half of the hearing loss cases. The majority of hereditary hearing loss cases is not associated with syndromes (nonsyndromic hearing loss; NSHL) which can be transmitted in an autosomal recessive, autosomal dominant or X-linked modes of inheritance (Petersen and Willems 2006). At least half of the hereditary NSHL cases are caused by mutations in the GJB2/CONNEXIN26 gene (Hereditary Hearing Loss Home Page, http://webh01.ua.ac.be/ hhh/). However, the contribution of GJB2 mutation to NSHL in the Kingdom of Saudi Arabia is minimal (Al-Qahtani et al. 2009) where the rate of children affected with sensineuronal hearing loss was estimated to be approximately 26 children out of 1000 (Bafaqeeh et al. 1994). NSHL can be caused by mutations affecting any one of over 80 deafness loci identified so far making NSHL a very heterogenous trait and complicates diagnosis and genetic counseling (Hilgert et al. 2009).

Methods: The recent advancements in targeted sequencing technologies have made it feasible to sequence multiple genes at a reasonably low cost. Therefore we have designed a targeted sequencing panel using the Ampliseq technology to amplify and sequence 84 genes known to cause NSHL. Genes were selected and custom primers were designed and manufactured through the Ampliseq portal (http://ampliseq.com).

Results: The design resulted in a coverage of 97.42% generating 2697 amplicons with a size range of 125–275 bp in two pools and generating 500.44 kb of DNA sequence.

Conclusion: This panel, which we termed OtoScan will be a useful front line genetic screening tool that will speed up the identification of many genetic causes of hereditary deafness in the Kingdom of Saudi Arabia.
Abstract

Objectives: Nonsyndromic orofacial cleft (NSOFC) etiology is multifactorial and heterogeneous. This study aimed to identify environmental risk factors related to NSOFC in the Western Region of Saudi Arabia.

Methods: A case-control study carried out in seven hospitals in two main cities (Jeddah and Maddina) over 2 years on parents of 112 infants with NSOFC (infants were also examined) and 138 infant controls, matched for age (<18 months), gender, and location, completed a questionnaire on 3-month pregestation and first trimester events.

Results: There was significantly increased NSOFC risk with twin pregnancies (P=.01, odds ratio [OR] = 9.5, 95% confidence interval [CI]: 1.15 to 78.4), maternal antibiotic use (P=.021, OR = 2.71, 95% CI: 1.11 to 6.62), antiemetic medication (P=.005, OR = 2.85, 95% CI: 1.3 to 6), severe morning sickness (P=.006, OR = 3.6, 95% CI: 1.34 to 9.65), illness (P=.009, OR = 2.19, 95% CI: 1.17 to 4.08), common cold/flu (P=.003, OR = 3.32, 95% CI: 1.48 to 7.58), Jorak smoking (P=.004, OR = 14.07, 95% CI: 1.55 to 128.1), and passive smoking (P=.05, OR = 2.05, 95% CI: 1.05 to 4.01). Reduced NSOFC risk was found with calcium supplementation (P=.02, OR = 0.32, 95% CI: 0.11 to 0.88), incense use (P=.03, OR = 0.58, 95% CI: 0.34 to 0.98), and maternal drinking water, with Zamzam water (which contains a high concentration of minerals) showing a significant protective effect compared with tap water (P=.01, 95% CI: 0.06 to 0.6) and bottled water (P=.02, 95% CI: 0.03 to 0.57).

Conclusion: Twin births, maternal antibiotic use, antiemetic medication, severe morning sickness, common cold/flu, Jorak smoking, and passive smoking were associated with infants born with NSOFC. Calcium supplementation, incense use, and Zamzam water reduced the risk of NSOFC, raising the possibility of community preventive programs.
## Abstract

Background: Computer-assisted surgery (CAS) has gained popularity in orthopedics for both total knee arthroplasty (TKA) and total hip arthroplasty (THA) in the past decades.

Methods: The American College of Surgeons National Surgical Quality Improvement Program database was used to identify patients who underwent a primary, unilateral THA and TKA from 2011 to 2013. Multivariate analysis was conducted to compare the postoperative complications in patients whose surgery involved the use of CAS with those by conventional techniques.

Results: We identified 103,855 patients who had THA and TKA in the database between 2011 and 2013. There were higher overall adverse events (odds ratio [OR], 1.40; CI, 1.22-1.59), minor events (OR, 1.38; CI, 1.21-1.58), and requirements for blood transfusion (OR, 1.44; CI, 1.25-1.67) in the conventional group when compared with CAS for TKA. However, rate of reoperation was higher in the CAS group for TKA (OR, 1.60; CI, 1.15-2.25). The results also showed higher overall adverse events (OR, 2.61; CI, 2.09-3.26), minor events (OR, 2.82; CI, 2.24-3.42), and requirements for blood transfusion (OR, 3.41; CI, 2.62-4.44) in the conventional group when compared to CAS for THA. Nevertheless, superficial wound infections (OR, 0.46; CI, 0.26-0.81) were shown to be higher in the CAS group undergoing THA.

Conclusion: The use of CAS in THA and TKA reduced the number of minor adverse events in the first 30 days postoperatively. However, CAS was associated with an increased number of reoperations and superficial infections. The clinical benefits and disadvantages of CAS should be considered when determining the potential benefit/cost ratio of this technology.
Abstract

Background: Hepatic artery pseudoaneurysm as a complication of laparoscopic cholecystectomy is considered a rare, potentially life threatening condition.

Case presentation: We report a case of late onset hemobilia presenting 8 months following elective laparoscopic cholecystectomy with complex biliary and vascular injury. The patient was treated surgically with primary repair of the aneurysm and hepaticojujenostomy.

Conclusion: A high index of suspicion should be raised when encountering a patient with massive upper GI bleeding and a previous history of hepatobiliary manipulation or surgery regardless of postoperative period.
**Research Title:** Whole-exome sequencing reveals a recurrent mutation in the cathepsin C gene that causes Papillon-Lefevre syndrome in a Saudi family

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<th><strong>Journal:</strong></th>
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<td>Yaser Mohammad Alkhiary, Musharraf Jelani, Mona Mohammad Almramhi, Hussein Sheikh Ali Mohamoud, Rayan Al-Rehaili, Hams Saeed Al-Zahrani, Rehab Serafi, Huanming Yang, Jumana Yousuf Al-Aama</td>
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**Abstract**

Papillon-Lefevre syndrome (PALS) is a rare, autosomal recessive disorder characterized by periodontitis and hyperkeratosis over the palms and soles. Mutations in the cathepsin C gene (CTSC) have been recognized as the cause of PALS since the late 1990s. More than 75 mutations in CTSC have been identified, and phenotypic variability between different mutations has been described. Next generation sequencing is widely used for efficient molecular diagnostics in various clinical practices. Here we investigated a large consanguineous Saudi family with four affected and four unaffected individuals. All of the affected individuals suffered from hyperkeratosis over the palms and soles and had anomalies of both primary and secondary dentition. For molecular diagnostics, we combined whole-exome sequencing and genome-wide homozygosity mapping procedures, and identified a recurrent homozygous missense mutation (c.899G > A; p.Gly300Asp) in exon 7 of CTSC. Validation of all eight family members by Sanger sequencing confirmed cosegregation of the pathogenic variant (c.899G > A) with the disease phenotype. This is the first report of whole-exome sequencing performed for molecular diagnosis of PALS in Saudi Arabia. Our findings provide further insights into the genotype phenotype correlation of CTSC pathogenicity in PALS.
Abstract

Background: Acute kidney injury (AKI) has been associated with high morbidity and mortality rates among critically ill children. Cystatin C is a protease inhibitor, and studies have shown that it is a promising marker for the early diagnosis of AKI. Our goal in this study was to assess whether serum cystatin C could serve as an accurate marker for the diagnosis of AKI.

Methods: This prospective study was undertaken in the pediatric intensive care unit at King Abdulaziz University Hospital. Serum creatinine and serum cystatin C levels were both measured in patients on admission (0 h) and at 6, 12, and 24 h after admission. AKI was diagnosed according to the modified pRIFLE criteria. Receiver operating characteristic (ROC) curve analysis was performed to assess the utility of serum cystatin C for diagnosing AKI.

Results: A total of 62 patients were enrolled in this study, and 32 were diagnosed with AKI according to the modified pRIFLE criteria (51.4 %). The area under the ROC curve for serum cystatin indicated that it was a good marker for the diagnosis of AKI at 0, 6, 12 and 24 h, with sensitivities of 78, 94, 94 and 83 %, respectively. However, the specificities of serum cystatin C at 0, 6, 12, and 24 h were 57, 57, 60 and 50 %, respectively. The optimal cutoff value was 0.645 mg/L. The area under the ROC for serum creatinine showed sensitivities of 50, 65.4, 69.2 and 57.7 % and specificities of 67.7, 70, 60 and 70 % at 0, 6, 12 and 24 h, respectively. The optimal cutoff value for serum creatinine was 30 μmol/l. Comparisons of ROC curves revealed that serum cystatin C was superior to serum creatinine for the diagnosis of AKI at 12 h (p = 0.03), but no differences were detected at 0, 6 or 24 h.

Conclusion: Serum cystatin is a sensitive, but not a specific, marker for the diagnosis of AKI in critically ill children.
# Abstract

**Objectives:** The objective of this study is to determine the incidence of uterine tachysystole and its association with spontaneous labor at term.

**Methods:** A retrospective cohort study of 8008 women in spontaneous labor (without prostaglandins or oxytocin). Fetal heart tracings and uterine activity were recorded every 15 min. Primary outcome: occurrence of tachysystole (> 5 uterine contractions /10 min over 30 min periods). Secondary outcomes: non-reassuring fetal heart tracings (NRFHT), NICU admissions, and cesarean deliveries.

**Results:** About 890 patients (11.1 %) had at least one episode of tachysystole. Non-whites have higher incidence of uterine tachysystole; adjusted odds ratio (aOR) was 1.66 for Hispanics (95% CI 1.28-2.05), 1.58 for African Americans (95% CI 1.05-2.38), and 1.51 for Asians (95% CI=1.13-2.0). The use of epidural analgesia was higher in the tachysystole group (62.2% versus 40.9%, aOR 1.89, CI 1.58-2.26; p< 0.001). Tachysystole was more frequent among nulliparous women and in women carrying higher weight fetuses. Oligohydramnios (aOR 1.62, CI 0.70-3.72; p<0.004), and NRFHT were more common in the tachysystole group (4.2% versus 2.5%, p=0.002). Newborns in the tachysystole group were two times more likely to be admitted to NICU (30 /890 [3.4%] versus 122 /7118 [1.7%], OR=2, p=0.001). There was no difference in the frequency of meconium-stained amniotic fluid or Apgar scores <7 at 5 min.

**Conclusion:** Uterine tachysystole occurs in more than 10% of spontaneous labors and is associated with NRFHR, increased rate of caesarean deliveries and NICU admissions. It is not associated with low Apgar scores or meconium-stained amniotic fluid.
Research Title: Impact of Acute Kidney Injury on Long-term Mortality and Progression to Chronic Kidney Disease among Critically Ill Children

Journal: PEDIATRIC NEPHROLOGY
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Volume / Issue: 31/10
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ISSN: 1432-198X
Department: Pediatrics
Authors: J Kari, N Al-otaibi, M Zeinelabdin, M Shalaby, N Khathlan, GD Mashat, K Alhasan, AS Albanna

Abstract

Objectives: Long-term outcome of acute kidney injury (AKI) in pediatric critical care unit (PICU) has not been well established. The aim of this study was to determine the 24 months outcome of AKI following admission to PICU.

Methods: We followed 80 children admitted to PICU with a diagnosis of AKI, based on pediatric modified RIFLE criteria, for two years. The impact of AKI on the two-year mortality was estimated using the Cox proportional hazards regression model. Factors affecting long-term progression to chronic kidney disease (CKD), including hypertension and proteinuria, were also evaluated.

Results: The mortality at two years follow-up was 48% with the highest mortality occurred during the first four months post PICU admission (40%). By the end of two years; 22.2% had reduction in the GFR, 33.3% had proteinuria and 73.3% were hypertensive. Proteinuria of 30 mg/dl or more at baseline was associated with worse renal function during follow-up. Based on RIFLE criteria; failure stage at the time of admission increased the two-year mortality rate by more than three times, as compared to risk stage. Renal injury, on the other hand, did not increase mortality rate.

Conclusions: AKI was associated with high mortality particularly in the first four months following admission to PICU. Significant percentage of the survivors had evidence of CKD after two years of follow-up.
Abstract

Study Design: Retrospective cohort study of the prospective collected American College of Surgeons National Surgical Quality Improvement Program database.

Objective: The aim of the study was to identify predictive factors for the need of discharging patients to a facility other than home after lumbar spine fusion surgery.

Summary of Background Data. Lumbar spine fusion surgery is a common surgical procedure used to treat a variety of lumbar spine conditions. A great number of patients fail to go home after surgery and require admission to a rehabilitation center. Predictive factors for discharging patients to a facility other than home after lumbar fusion surgery do not exist in the literature.

Methods: A total of 15,092 patients undergoing lumbar spine fusion were dichotomized based on discharge destination to patients who were discharged home (N = 12,339) and others who were discharged to a facility other than home (N = 2753). Outcomes included patient demographics, comorbidities, and clinical characteristics. A multivariate logistic regression was used to identify whether outcomes studied were predictive factors for discharging patients to a facility other than home after lumbar fusion surgery.

Results: Majority of patients were discharged home after lumbar fusion surgery (81.76%), with only some discharged to a facility other than home (18.24%). Multivariate analysis identified age, female sex, comorbidities (diabetes, chronic obstructive pulmonary disease, congestive heart failure, hypertension, and obesity), minor and major complications, hospital length of stay, operative time at least 259 minutes, and multilevel surgery as significant predictive factors of discharging patients to a facility other than home after lumbar fusion surgery.

Conclusion: The identified predictive factors can help the health system in developing an algorithm for early recognition of patients requiring postoperative admission to a facility other than home and possibly decreasing their hospital length of stay. This can significantly decrease the hospital costs for such patients.
Abstract

Male stress urinary incontinence (SUI) can significantly diminish quality of life and lead to embarrassment and social withdrawal. Surgical therapies, such as male urethral slings and artificial urinary sphincters (AUS), are considered effective and safe treatments for male SUI. Our objective is to evaluate 30-day complications in patients undergoing male slings and AUS placement from a national multicenter database.

Data from the American College of Surgeons National Surgical Quality of Improvement Program for 2008-2013 were used to identify patients who underwent male slings and AUS implantation. Trained coders abstracted complication data from the patient record independent of the surgical team. We compared 30-day postoperative complications for male slings and AUS. We examined the relationship between patient factors and complication rates for each procedure type.

Overall, 1205 incontinence surgeries in men were identified: 597 male sling placements and 608 AUS implantations. Male sling placement had a lower 30-day postoperative complication rate compared to AUS (2.8 vs. 5.1 %, p = 0.046). Compared to AUS, male sling was associated with fewer urinary tract infections (0.3 vs. 2.0 %, p = 0.020) and return trips to the operating room (1.0 vs. 3.0 %, p < 0.001). Patients with higher BMI were more likely to have a complication, while age, race and Charlson comorbidity index were not associated with higher or lower complication rates.

Complications rates for both male sling and AUS are low. Male sling is associated with a lower rate of complications than AUS. These findings allow for better patient perioperative counseling regarding 30-day perioperative complications.
Abstract

Objectives: To determine the prevalence of hypertension, obesity, hematuria, and proteinuria among healthy adolescents and to determine the associated risk factors.

Methods: This is a cross-sectional study of 8 intermediate schools in Jeddah, Saudi Arabia between March 2015 and June 2015. Samples were selected randomly and equal proportions from each school for both genders were ensured. Both blood pressure and body mass index were measured and a brief questionnaire was filled out for the specified studied group. Urine dipstick analysis was carried out for 294 children. A second questionnaire was completed for hypertensive and obese subjects in addition to those with hematuria and proteinuria.

Results: A total of 401 children (200 males) with a mean (SD) age of 13.87 (1.27) were included. Hypertension was found in 17.2% with a male to female ratio of 1.4:1. Pre-hypertension was found in 4.2% of our sample with a male to female ratio of 2.1:1. Obesity was found in 19.2% with a male to female ratio of 1.5:1. Obesity was found to be the most significant risk factor for hypertension with a related risk: 2.87, 95% and confidence interval: 1.9-4.3. For urine abnormalities, 10.2% of samples were positive for proteinuria, 17% for hematuria, and 3.1% for both.

Conclusion: It was found that there is a positive correlation between the incidence of obesity and hypertension in adolescents. Hematuria and proteinuria were also found to be high. Screening and prevention programs are therefore recommended.
Urethral catheters and medical malpractice: a legal database review from 1965 to 2015

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Urology

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Abstract

Background: Urethral catheters (UCs) are commonly used in medicine and are associated with complications such as urinary tract infections (UTIs) and trauma. Given UC complications and their ubiquitous usage in healthcare, there is a potential for liability risk. We aim to explore litigation involving UC-related complications.

Methods: The LexisNexis legal database was queried for all state and federal cases from January 1965 through October 2015 using the terms "urethral catheter" or "Foley catheter" in combination with "medical malpractice", "negligence", "medical error", and "trauma". Each case was reviewed for reported medical characteristics and legal aspects, including the outcome of the case.

Results: Our search yielded 29 cases. Urologists were the most common providers cited as defendants (21%), all of whom were successful in their defense. The most common malpractice claim was for traumatic insertion (48%). Pain was the most common type of damage claimed by plaintiffs (28%), followed by UTI (24%). Nineteen (66%) cases favored defendants, while 10 (34%) cases favored the plaintiffs, of which 2 (7%) were settled out of the court. In settled cases, the mean settlement received by plaintiffs was $55,750 (range, $25,000-$86,500). The mean award to plaintiffs for cases determined by the court was $112,991 (range, $4,000-$325,000).

Conclusions: Despite widespread usage of UC over a 50-year period, lawsuits centered on UC misuse are rare at the state and federal court levels. Of litigated cases, urologists are commonly involved yet have successful defenses.
Abstract

Background: Vitamin D deficiency in pregnant mothers is a widely recognized public health problem.

Methods: A cross-sectional study of pregnant women who gave birth at King Abdulaziz University Hospital, Jeddah, Saudi Arabia, from January 1, 2015, to June 30, 2015, to determine the prevalence and potential risk factors of Vitamin D deficiency and to correlate maternal and cord blood Vitamin D levels.

Results: A total of 201 mother-infant pairs were enrolled. There was a high prevalence of Vitamin D deficiency both in mothers (90.5%) and their infants (86%). There was no statistically significant difference in age, parity, body mass index, skin color, education, and employment status between mothers with deficient Vitamin D levels and those with Vitamin D levels 50 nmol/L. There was a statistically, significant positive correlation between maternal and cord blood Vitamin D levels (r = 0.83, P< 0.001).

Conclusion: We demonstrated a high prevalence of Vitamin D deficiency in pregnant mothers, which was strongly correlated with cord blood Vitamin D levels. Clinical trials on the effect of supplementing Vitamin D to pregnant mothers and its effect on maternal and neonatal outcomes should be the focus of future research.
Abstract

Background: Alkhumra hemorrhagic fever virus (AHFV) is a flavivirus that was discovered in 1995 in Saudi Arabia. Clinical manifestations of AHFV infection include hemorrhagic fever, hepatitis, and encephalitis with a reported mortality rate as high as 25%. There are no published data on the growth characteristics of AHFV in mammalian cell lines. The objective of this study was to examine the ability of AHFV to grow and propagate in four of the commonly used mammalian cell culture lines and to determine the virus growth curve characteristics in each.

Materials and Methods: Human epidermoid carcinoma (HEp-2), LLC-MK2, Madin-Darby canine kidney (MDCK), and Vero cell lines were inoculated with AHFV. The virus production by each cell line was determined by growth curve studies. Mean titers were calculated and expressed as median tissue culture infective dose per mL (TCID50/mL).

Results: AHFV grew and propagated to variable titers in the employed cell lines. The highest mean titers were observed in the LLC-MK2, followed by the MDCK, Vero, and HEp-2, in descending order.

Conclusions: The growth curve studies showed that AHFV can propagate in the four types of cell lines to variable titers. LLC-MK2 cells are superior to MDCK, Vero, and HEp-2 for propagation of AHFV.
Bucket-handle meniscal tear in a 9-year-old girl: a case report and review of the literature

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Orthopedics
Anas Nooh, Feras Waly, Fahad H Abduljabbar, Chantal Janelle
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Abstract

Bucket-handle meniscal tears used to be rare in children younger than 10 years of age. However, nowadays, we encounter more cases because of increased sport and recreational activities. In this paper, we report on a 9-year-old girl who presented with an isolated medial meniscal bucket-handle tear of the right knee and review the literature for similar cases. Bucket-handle meniscal tears are rare in young children. However, it should be ruled out in patients with knee pain and mechanical symptoms following knee injury.
**Research Title:** Derivation and differentiation of bone marrow mesenchymal stem cells from osteoarthritis patients

**Journal:** Tissue Engineering and Regenerative Medicine

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**Abstract**

Osteoarthritis (OA) of the knee is a degenerative joint disease caused by the progressive reduction of the articular cartilage surface that leads to reduced joint function. Cartilage degeneration occurs through gradual loss in extracellular matrix components including type II collagen and proteoglycan. Due to limited inherent self repair capacity of the cartilage, the use of cell-based therapies for articular cartilage regeneration is considered promising. Bone marrow mesenchymal stem cells (BM-MSCs) are multipotent cells and are highly capable of multilineage differentiation which render them valuable for regenerative medicine. In this study, BM-MSCs were isolated from OA patients and were characterized for MSC specific CD surface marker antigens using flowcytometry and their differentiation potential into adipocytes, osteocytes and chondrocytes were evaluated using histological and gene expression studies. BM-MSCs isolated from OA patients showed short spindle shaped morphology in culture and expressed positive MSC related CD markers. They also demonstrated positive staining with oil red O, alizarin red and alcian blue following differentiation into adipocytes, osteocytes and chondrocytes, respectively. In addition, chondrogenic related genes such as collagen type II alpha1, cartilage oligomeric matrix protein, fibromodulin, and SOX9 as well as osteocytic related genes such as alkaline phosphatase, core-binding factor alpha 1, osteopontin and RUNX2 runt-related transcription factor 2 were upregulated following chondrogenic and osteogenic differentiation respectively. We have successfully isolated and characterized BM-MSCs from OA patients. Although BM-MSCs has been widely studied and their potential in regenerative medicine is reported, the present study is the first report in our series of experiments on the BMSCs isolated from OA patients at King Abdulazizz University Hospital, Jeddah, Saudi Arabia.
King Abdulaziz University, Faculty of Medicine
Undergraduate and Graduate Students Publications

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<th>Biological activity of Cymbopogon schoenanthus essential oil</th>
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<td>Journal:</td>
<td>Saudi Journal of Biological Sciences</td>
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Abstract

Introduction: A number of plant species, including Cymbopogon schoenanthus, are traditionally used for the treatment of various diseases. C. schoenanthus is currently, traded in the Saudi markets, and thought to have medicinal value. This study aimed at investigating the biological activities of C. schoenanthus against both Gram-positive and Gram-negative bacteria and to identify its chemical ingredients.

Materials and methods: The inhibitory effects of water extracts of C. schoenanthus essential oils were evaluated against ten isolates of both Gram-positive and Gram-negative bacteria using the agar well diffusion and dilution methods. The minimum inhibitory concentration (MIC) was assayed using the Broth microdilution test on five of the ten isolates. The death rates were determined by the time kill assay, done according to the Clinical Laboratory Standards Institute (CLSI) guidelines. The chemical composition of the essential oils of the plant was performed using GC/MS.

Results: The C. schoenanthus essential oil was effective against Escherichia coli, Staphylococcus aureus, methicillin-sensitive (MSSA) S. aureus (MRSA) and Klebsiella pneumoniae. The essential oil was not effective against Staphylococcus saprophyticus at the highest concentration applied of >150 μg/ml. The MIC values were as follows: 9.37 μg/ml for E. coli 4.69 μg/ml for S. aureus (MRSA), 2.34 mg/ml for MSSA and 2.34 μg/ml for K. pneumoniae. The time-kill assay indicated that there was a sharp time dependent decline in K. pneumoniae counts in the presence of the oil. This is in contrast to a gradual decline in the case of S. aureus under the same conditions. The eight major components of the essential oil were: piperitone (14.6%), cyclohexanemethanol (11.6%), β-elemene (11.6%), α-eudesmol (11.5%), elemol (10.8%), β-eudesmol (8.5%), 2-naphthalenemethanol (7.1%) and γ-eudesmol (4.2%).

Conclusion: The results of the present study provide a scientific validation for the traditional use of C. schoenanthus as an antibacterial agent. Future work is needed to investigate and explore its application in the environmental and medical fields. In addition, to evaluating the efficacy of the individual ingredients separately to better understand the underlying mechanism.
Abstract

Introduction: The faculty of Medicine at King Abdulaziz University (KAU) introduced the Objective Structured Clinical Examination (OSCE) as a tool of assessing medical students in the last decade. In our study, we aimed to assess the perception and acceptance of OSCE among students and to interpret rating of OSCE in relation to other assessment methods.

Methodology: A cross-sectional survey using electronic validated questionnaire, was distributed through different methods which included Short Message Service, social media website, and posters. The questionnaire contained various domains about students’ perception of OSCE validity and reliability, and rating of OSCE in relation to other assessment methods.

Results: Among 246 students who responded to the survey, 52% of them denied that OSCE provided opportunity to learn real life scenarios. Interestingly, more than 80% of students showed concern about inter-evaluator and inter-patient variability as bias factors that could affect their scores. Passing or failing the OSCE was not a true measure of clinical skills as 77% of students admitted.

Conclusion: Although OSCE exam is supposed to be standardized and fair to students, our survey raised concerns regarding the conduction of OSCE especially regarding inter-evaluator and inter-patient variability.
Potential benefits of Nigella sativa oil supplementation on asthma inflammation: a randomised, double-blind, placebo-controlled, exploratory phase-II clinical trial

Abstract

Long-term medications in patients with asthma are needed to control the underlying inflammation and prevent symptoms. However, Asthma control is considered to be suboptimal regardless of the availability of conventional treatments. Traditionally, Nigella sativa L. (NS), known as black cumin seed, is thought to be effective in treating asthma or its key symptoms. Our aim is to investigate the benefits of NS supplementation on clinical and inflammatory parameters of bronchial asthma in patients on standard therapy. A chemically characterised NS oil product (Marnys®) marketed as a food supplement was used in a randomised, double-blind, placebo-controlled, phase II trial (RDBPCT) with asthma patients. The primary outcome was the Asthma Control Test (ACT). The secondary outcomes were lung function (predicted FEV1%), blood eosinophils, serum total Immunoglobulin E (IgE), and multiple inflammatory mediators. Statistical independent t-test and Mann-Whitney U tests were used. The trial was registered with clinicaltrials.gov, identifier NCT02407262. Between Jun 1 and Dec 30, 2015, 80 patients were enrolled, with 40 patients each randomly assigned to treatment and placebo groups. After 4 weeks, 10 patients had withdrawn from each group. NS showed a statistically significant improvement in ACT and blood eosinophils count. NS showed non-significant elevation of predicted FEV1%. Changes in INF-gamma, IL-10, and IL-12p70 were noteworthy between both groups. NS appeared to improve asthma symptoms, and some asthma-related biomarkers. Future studies should follow patients for a longer period and validate outcomes using different approaches.
Abstract

Introduction: As a procedure, simultaneous bilateral total knee arthroplasty (SB-TKA) has not received its acceptance into routine clinical practice yet; perhaps, due to concerns regarding higher rates of perioperative complications associated with it as compared to the conventional unilateral procedure. The objective of the current study is to assess the safety of SB-TKA in relation to the American Society of Anesthesiologists (ASA) score and to assess the incidence of postoperative complications.

Materials and Methods: In a prospective study, 25 patients underwent SB-TKA between January 2011 and April 2014. The inclusion criteria comprised patients with bilateral end-stage primary osteoarthritis of knees interfering with daily activities. A well-defined pre-determined protocol for pre- and postoperative care was adhered.

Results: The study included 8 male and 17 female patients. Mean age of the patients was 66.4 ± 8.3 years. Five cases were classified as ASA-1 (20%), 11 cases as ASA-2 (44%) and 9 cases as ASA-3 (36%). No death, deep venous thrombosis, pulmonary embolism or neurological injury was reported in any of our patients postoperatively. One patient developed chest congestion on day 2 and was treated conservatively. One patient suffered from non-ST-segment elevation myocardial ischaemia on day 3 and was treated uneventfully. Two patients had a minor complication in the form of wound infection. No statistical relation was found between ASA risking score and postoperative complications.

Conclusion: SB-TKA is a safe procedure if done after careful selection of patients in addition to a proper pre- and postoperative management protocol.
Abstract

Background: While chronic subclinical inflammation is now considered to be a predisposing risk factor of cardiovascular diseases, the extent by which adipokines induce metabolic abnormalities in humans is not fully resolved. The purpose of this study was to examine the relationship between insulin resistance and serum inflammatory markers in obese subjects.

Methods: One hundred and five subjects without any clinically evident CVD were classified into 3 coronary risk levels according to Framingham risk score. Demographic and anthropometric variables were estimated. Serum levels of lipid profile, blood glucose, insulin, omentin-1 and high sensitivity-C reactive protein (hs-CRP) were measured in fasting blood samples. Insulin resistance indices were also calculated.

Results: 29% and 62% of the study population were overweight and obese respectively by body mass index (BMI) measures. Almost half of the study population was considered diabetic. There was a tendency for a fall in serum omentin-1 concentrations with increasing coronary risk with a significant increase in hs-CRP levels in the same direction (p < 0.05). Age and fasting blood glucose were found to be independently associated with serum omentin-1 levels. BMI and fasting blood glucose were independent determinants of serum hs-CRP levels.

Conclusions: Omentin-1 might be associated with the development of diabetes mellitus indirectly via insulin activity and obesity. These findings may have important implications for the pathophysiology and therapy of diabetes mellitus by further longitudinal studies.
### Abstract

Background: Tacrolimus is an immunosuppressive agent used for the prevention of rejection in kidney transplant patients, has narrow therapeutic range, and variable pharmacokinetics.

Objectives: To identify the optimum Tacrolimus blood trough level for Saudi kidney transplant patients (SKTP).

Method: The research population consisted of 100 SKTP at the Armed Forces Hospital in the Southern Region (AFHSR) treated with Tacrolimus and followed-up for a period of 24 months (2012 till 2014).

Results: A significant relationship between Tacrolimus trough level and incidence of kidney rejection was remarkably found only after 180 days post-transplantation. During this period, Tacrolimus mean trough level (ng/ml) was 7.4 ± 0.2 in SKTP with no rejection, 5.3 ± 0.7 for those with acute rejection, and 3.8 ± 0.4 for those with chronic rejection. Furthermore, the coefficient of variation (CV%) which reflects fluctuation in Tacrolimus trough level, was obviously high in SKTP with acute rejection in all post-kidney-transplant periods.

Conclusion: After 6 month post-kidney transplantation in SKTP, Tacrolimus trough level (<5 ng/ml can lead to graft loss, great fluctuation in its level is a major risk factor in incidence of rejection. Further research at genetic level is needed to guide optimal dosing in the early period post transplantation.

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<th>Research Title:</th>
<th>Therapeutic Drug Monitoring of Tacrolimus in Saudi Kidney Transplant Patients</th>
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<td>Journal:</td>
<td>J Nephrol Ther</td>
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<td>Publisher:</td>
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<td>Department:</td>
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<td>Authors:</td>
<td>MS Al-Nasser, AS Ali, MAA Sattar, EH Abdulfattah, LM Khan</td>
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<tr>
<td>Correspondence Email:</td>
<td><a href="mailto:ph_marzog@hotmail.com">ph_marzog@hotmail.com</a></td>
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Abstract

Background: Objective of the study was to determine the incidence of shoulder dystocia (SD) in King Abdulaziz University Hospital (KAUH), with a focus on Brachial Plexus Palsy (BPP) and the accompanying risk factors.

Methods: We conducted a retrospective study of all vaginal deliveries between 2005 and 2014. Out of 29,199 vaginal deliveries, 236 cases where diagnosed with SD at KAUH in Jeddah, KSA. The following maternal and perinatal variables were reviewed by the patients' medical records: (booking status, maternal age, gestational age, maternal Body Mass Index (BMI), presence of diabetes, previous history of SD, instrumental delivery, Birth weight, Erb's and Klumpke's palsies).

Results: A total of 236 cases had SD with an incidence of (0.8%). Only 55 cases among all had BPP. The Erb's palsy was found in 54 cases (30.7%) while Klumpke's palsy was found only in one case (0.6%). There were 121 (68.8%) cases with no BPP and a remaining of 60 unknown BPP outcomes. From the total number of cases with SD, mothers with overweight and obesity were found in 93% of the cases.

Conclusions: Most of clinically diagnosed SD cases did not give the consequence of BPP. However, this complication in addition to other complications of SD mandates extra caution in cases with risk factors.
# Abstract

Alkhumra hemorrhagic fever virus (AHFV) is a newly described zoonotic flavivirus that was first isolated during 1994-1995 from the Alkhumra district south of Jeddah, Saudi Arabia. Subsequently, the virus was also isolated from Makkah city (2001-2003) and Najran (2008-2009), Saudi Arabia. The virus causes acute febrile illness with hepatitis, hemorrhagic manifestations, and encephalitis. A case fatality rate of 25% was reported among hospitalized patients. Although several biological and molecular characteristics of the virus have been published, no data are available on electron microscopic features of the virus. In this article, we describe the morphological features and metrics of the AHFV particles under electron microscopy, and localization of the virus particles in brain cells of newborn Wistar rats and in Rhesus monkey (Macaca mulatta) kidney epithelial cells (LLC-MK2). Virus particles in both the LLC-MK2 cells and the rat brain cells showed dark hexagonal core (capsid) and a translucent envelope. The mean diameter of the enveloped virus particle was $40.59 \pm 1.29$ nm in the rat brain cells ($n = 154$) and $40.97 \pm 1.40$ nm in the LLC-MK2 cells ($n = 105$; $p > 0.05$). The virus particles, both in vitro and in vivo, were enclosed into cytoplasmic vesicles. In conclusion, the shape, size, and diameter of the AHFV particle lie within the framework of the genus Flavivirus, family Flaviviridae.
Research Title: Effects of Honey on Oral Mucositis among Pediatric Cancer Patients undergoing Chemo/radiotherapy Treatment at King Abdulaziz University Hospital in Jeddah, Kingdom of Saudi Arabia

Journal: Evidence-Based Complementary and Alternative Medicine
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Pages: ISSN: 1741-4288

Department: Hematology, ORL, Yousef Abdulatif Jameel Research Chair for Prophetic Medicine

Authors: Soad K Al Jaouni, Mohammad S Al Muhayawi, Abeer Hussein, Iman Elfiki, Rajaa Al-Raddadi, Saad M Al Muhayawi, Saad Almasaudi, Mohammad Amjad Kamal, Steve Harakeh

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Abstract

One of the most common complications of cancer chemotherapy is oral mucositis and is experienced by around 40% of the patients undergoing chemotherapy. In general, the incidence rate of mucositis is two or three times higher in patients with blood malignancies associated with bone marrow suppression like lymphoma and leukemia. Younger cancer patients undergoing chemotherapy are more at risk of developing mucositis and may reach 90% in children under 12 years of age. The objective of this study is to evaluate the therapeutic effects of honey with the focus on grade III and IV oral mucositis, reduction of bacterial and fungal infections, duration of episodes of oral mucositis (as evaluated by the duration of hospitalization stay per episode) and on body weight in pediatric leukemic patients undergoing chemo/radiotherapy. This is an open labeled randomized controlled study conducted at King Abdulaziz University Hospital at KAU in Jeddah, Kingdom of Saudi Arabia, over a period of one year on 40 pediatric cancer patients undergoing chemo/radiotherapy. Patients were divided into different groups: the treatment group, receiving chemo/radiotherapy plus oral intake of Saudi commercial honey daily. In addition to the routine oral hygiene and the control group, receiving chemo/radiotherapy and routine oral hygiene without honey. All the 40 patients included in this study experienced a sum total of 390 episodes of fever & neutropenia associated with oral mucositis. A significant reduction of oral mucositis, associated Candida and aerobic pathogenic bacterial infections, were noted in patients in the honey treatment group. In addition to a significant decrease in the duration of hospitalization for all those in the treatment group combined with a significant increase of body weight, delayed onset and decreased severity of pain related to oral mucositis (Grade III and IV). The treatment group manifested greater improvement in all of these outcome variables. Complications of oral mucositis can be tremendously reduced by the topical application of local Saudi honey and honey should be used as an integrative approach in prophylaxis and treatment of chemo/radiotherapy-induced oral mucositis in pediatric cancer patients. Further research is needed to elucidate and better understand the underlying mechanism.
Leptin expression in stromal cells of endometrial carcinomas is associated with advanced stage and disease recurrence

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1936-2625
Ob-Gyne, Pathology
Mohamad Nidal Khabaz, Nadeem Shafique Butt, Basim Al-Maghrabi, Nisrin Anfinan, Khalid Sait, Jaudah Al-Maghrabi
n/a

Abstract

This study investigates the relation between leptin expression and the clinicopathological parameters in endometrial carcinomas. Seventy-one cases of previously diagnosed endometrial carcinoma (including 59 endometrioid adenocarcinomas, 9 serous carcinomas, 1 clear cell adenocarcinoma, and 2 malignant mixed Mullerian tumors) and 30 tissue samples of non-cancerous endometrium (including 16 proliferative endometrium, 10 secretory endometrium and 4 endometrial polyps) were employed for leptin detection using tissue microarrays and immunostaining. A total number of 48 (67.6%) cases were positive for leptin immunostaining. Brown granular cytoplasmic expression of leptin was detected in almost 68% of endometrioid adenocarcinomas, 66.7% serous carcinomas. Twenty-one (70%) control cases showed granular cytoplasmic expression. Positive leptin immunostaining was found more frequent in transformed epithelial cells and stromal cells of endometrioid adenocarcinomas and serous carcinomas respectively, showing significant statistical association (P-value = 0.005). Tumor stage is also significantly associated with cell type leptin immunoreactivity (P-value = 0.007), a considerable fraction of stage II is associated with leptin immunostaining of transformed epithelium whereas leptin immunoreactivity in endometrial stromal cells is more frequent in stage III. Disease recurrence rate is significantly higher in patients whom endometrial stromal cells are positive for leptin immunostaining (P-value = 0.000). Poor survival status (death) is also significantly associated with a group of patients whom endometrial stromal cells showed positive leptin immunoreactivity (P-value = 0.000). Our results confirm the diagnostic and prognostic values of leptin in supporting the diagnosis and prognosis of endometrial carcinomas. These preliminary findings recommend that leptin may be a valuable marker for predicting histotype, stage, recurrence and poor prognosis in endometrial carcinoma.
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<th>Research Title:</th>
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<td>Authors:</td>
<td>Mazen A Badawi, Maha A Badawi, Siraj O Wali, Rajaa Z Alsaggaf</td>
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**Abstract**

Methemoglobinemia is an uncommon cause of cyanosis that may present at any age. Although acquired methemoglobinemia secondary to exposure to oxidative stressors is the most common cause of methemoglobinemia in adults, hereditary methemoglobinemia has to be considered in patients presenting with cyanosis during infancy and childhood. We report the case of a patient who was investigated for cyanosis that was only noted at the age of 15 years. Despite the negative family history, he was diagnosed with hereditary autosomal recessive methemoglobinemia with no other factors that can be identified to cause such an elevation of methemoglobin level. This case illustrates that hereditary methemoglobinemia has to be considered in such patients even if they were completely asymptomatic for many years of their lives.
Research Title: Manuka Honey exerts anti-oxidant and anti-inflammatory activities that promote healing of acetic acid-induced gastric ulcer in rats

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Department: Anatomy, Hematology, Yousef Abdullatif Jameel Research Chair for Prophetic Medicine
Authors: Saad B Almasaudi, Aymn T Abbas, Nagla A El-Shitany, Umama A Abdeldayem, Soad S Ali, Rasha M Saleh, Soad K Al Jaouni, Mohammad Amjad Kamal, Steve Harakeh

Abstract

Gastric ulcers are a major problem worldwide with no effective treatment. The objective of this study was to evaluate the use of manuka honey in the treatment of acetic acid-induced chronic gastric ulcers in rats. Different groups of rats were treated with three different concentrations of honey. Stomachs were checked macroscopically for ulcerative lesions in the glandular mucosa and microscopically for histopathological alterations. Treatment with manuka honey significantly reduced the ulcer index and maintained the glycoprotein content. It also reduced the mucosal myeloperoxidase activity, lipid peroxidation (MDA), and the inflammatory cytokines (TNF-α, IL-1β, and IL-6) as compared to untreated control group. In addition, honey-treated groups showed significant increase in enzymatic (GPx and SOD) and nonenzymatic (GSH) antioxidants besides levels of the anti-inflammatory cytokine IL-10. Flow cytometry studies showed that treatment of animals with manuka honey has normalized cell cycle distribution and significantly lowered apoptosis in gastric mucosa. In conclusion, the results indicated that manuka honey is effective in the treatment of chronic ulcer and preservation of mucosal glycoproteins. Its effects are due to its antioxidant and anti-inflammatory properties that resulted in a significant reduction of the gastric mucosal MDA, TNF-α, IL-1β, and IL-6 and caused an elevation in IL-10 levels.
Background: To assess the effectiveness of wet cupping (Hijama) as a treatment of female factor infertility. The primary outcome measured was pregnancy rates after Hijama. The secondary outcome measured was the effect on the reproductive hormonal profile before and after Hijama.

Methods: A pilot clinical study was conducted for the use of Hijama as treatment for female infertility at King Abdulaziz University Hospital from September 2013 to May 2015. Inclusion criteria included: patients with female factor infertility between 20-50 years of age. Exclusion criteria were women who were menopausal, male factor infertility and pregnancy. Informed consent was obtained from all patients. Upon inclusion in the study, an interview with the participant was done. Blood tests were done at the initial visit which included a complete blood count and hormonal profile (FSH, LH, Estradiol, Progesterone, TSH) if not done already. Patients had repeated Hijama each month if pregnancy did not occur.

Results: Out of 59 women, 31 (52.5%) had primary infertility and 28 (47.5%) had secondary infertility. The duration of infertility ranged from 1 to 22 years. In 40 women (67.8%), the partner had a normal semen analysis and 19 (32.2%) had oligospermia. 12 women had an abnormal hystosalpingogram (20.3%) with two women with complete bilateral tubal blockage. 36 women (61%) had a normal hormonal profile (FSH, LH, TSH, Prolactin). 12 patients (20.3%) became pregnant after hijama; 7 patients had only one or two sessions of Hijama and one patient had 7 sessions. Factors that were found to affect pregnancy rate included: patient with no dysmenorrhea (p 0.034), secondary infertility diagnosis (p 0.005) and history of OCP use (P 0.04). There were significant changes of the hormonal profile before and after Hijama.

Conclusions: Hijama might be beneficial in infertile women to achieve a pregnancy. Further studies are needed to confirm the findings from this study.
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<td>Authors:</td>
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</table>

**Abstract**

Background/ Purpose: Evidential bases were not performed en masse to validate assessment results in the undergraduate Surgery clerkship in King Abdulaziz University (KAU). This study aimed at producing a comprehensive package of evidence to prove validity of students’ clinical performance assessment results (as defined by Messick’s framework).

Method: Guided by Messick’s conceptual framework, the problem was analyzed. Hands-on faculty development on creating an exam blueprint was done: 1. Learning objectives (LOs) revised; 2. Alignment secured; 3. Weight of (LOs) determined; 4. Number of items/topic/domain calculated; and 5. Appropriate assessment methods selected. Quantitative evidences as reliability and correlation coefficients of various validity components were calculated. The underlying values that scaffold validity evidences were explored via a Focus Group Discussion and the results analyzed by content analysis.

Results: 1. The weight of different domains in the test equally reflected their weight in the curriculum (content validity); 2. Positive unintended consequences resulted from the new assessment approach (consequential validity); 3. There was a statistically significant correlation among various assessment methods that provided evidence for concurrent and predictive validity; 4. Success rates and grades distribution alone could not provide evidence to advocate an argument on validity of results.

Conclusion: A newly introduced assessment plan with new tools had to be validated by pursuing a comprehensive, unified approach to create evidence from multiple sources of data in order to support the argument of advocating the assessment results.
Abstract

Diclofenac Sodium (DS) as one of Non-steroidal Anti-inflammatory Drugs (NSAIDS) is a commonly used and may be used in high or toxic doses by mistake or postoperatively. Consequently, the present study was designed to evaluate the possible protective role of Moringa Oleifera (MO) on the experimentally induced microscopical changes of duodenal mucosa of adult rats following administration of different high doses of DS. Forty five rats were divided into the following groups (15 each): Group I was served as a control group, Group II was subgrouped to IIa, b and c, that were administered oral 50, 100 and 150 mg/kg of DS respectively for 2 days after fasting for 20 hours. Group III was subgrouped to IIIa, b and c. These rats were maintained on oral MO (500mg/kg) daily for one week, and then they were administered the same doses as in the previous group. A variety of histological changes was observed in group II. The changes were ranged from loss of the brush border to cellular lysis, destruction of villi, monocellular infiltrations and basal glandular ulcerations. The PAS stained sections showed focal negative expression of the brush border together. Although the goblet cells appeared significantly decreased in number, they had increased acidic mucin secretion. In conclusion, the current study suggested that MO may have a limited and partial protective effect on the duodenal mucosa in cases of high dose administration.
Abstract

Background: Recurrent pregnancy loss (RPL) or recurrent spontaneous abortion is an obstetric complication that affects couples at reproductive age. Previous reports documented a clear relationship between parents with chromosomal abnormalities and both recurrent miscarriages and infertility. However, limited data is available from the Arabian Peninsula which is known by higher rates of consanguineous marriages. The main goal of this study was to determine the prevalence of chromosomal abnormalities and thrombophilic polymorphisms, and to correlate them with RPL and consanguinity in Saudi Arabia.

Methods: Cytogenetic analysis of 171 consent patients with RPL was performed by the standard method of 72-h lymphocyte culture and GTG banding. Allelic polymorphisms of three thrombophilic genes (Factor V Leiden, Prothrombin A20210G, MTHFR C677T) were performed using PCR-RFLP (restriction fragment length polymorphism) and gel electrophoresis.

Results: Data analysis revealed that 7.6% of patients were carrier of numerical or structural chromosomal abnormalities. A high rate of translocations (46%) was associated to increased incidence of RPL. A significant correlation between consanguineous RPL patients and chromosomal abnormalities (P < 0.05) was found. Both Factor V Leiden and Prothrombin A20210G allelic polymorphisms were significantly associated with a higher prevalence of RPL.

Conclusions: This study demonstrated a strong association between RPL and the prevalence of chromosomal abnormalities and inherited thrombophilia. Given the high rate of consanguineous marriages in the Saudi population, these results underline the importance of systematic cytogenetic investigation and genetic counseling preferably at the premarital stage or at least during early pregnancy phase through preimplantation genetic diagnosis (PGD).
Objective: To evaluate parental perceptions of their child’s acute or chronic kidney disease, and to identify significant determinants of parental understanding among a sample of caregivers.

Method: This is a cross-sectional study, which was conducted over 4 month period from 1 February, 2014 to 30 May, 2014. The study involved structured face-to-face interviews for questionnaire completion with a convenience sample of 121 adult caregivers of children with acute or chronic kidney disease (aged 18–54 years) to explore their perceptions on their child’s condition. Subjects were recruited from the Pediatric Nephrology clinic at King Abdul-Aziz University Hospital in Jeddah, Saudi Arabia.

Results: Perceived diagnosis awareness (77%), understanding of complex information such as the use of clean intermittent transurethral catheter (67%), and effects of medication (51%). There was an association between perceived knowledge and understanding of the condition with caregiver level of education (P value=<0.0001). Understanding of disease etiology is associated with education level (P value <0.05). Perceived knowledge and understanding of kidney disease was significantly positively associated with time-taken to explain the disease (P value <0.0001). Overall satisfaction levels with explanations were positively associated with caregiver age (P value<0.05). Caregivers favoured use of educational materials, particularly video (95%).

Conclusion: This study reveals existing patient-doctor communication can be improved through the establishment of standardized guidelines and practice on what, when, and how to elaborate on the condition with caregivers; and the efficacy of these practices to be measured and regularly reviewed.
Research Title: DO5-AMINOSALICYLIC ACID AND VITAMIN-E PROTECT AGAINST ACRYLAMIDE INDUCED HEPATOTOXICITY?

Journal: JOURNAL OF INTERNATIONAL ACADEMIC RESEARCH FOR MULTIDISCIPLINARY
Publisher: Volume / Issue: 4/10
Pages: 1-13
ISSN: 2320-5083
Department: Anatomy
Authors: DR. NISREEN ABDULLAHRAJEH, MS. SAMIAH HAJED AL-HARTHI
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Abstract

The objective of this study was to compare the protective actions of 5-aminosalicylic acid (5-ASA) and Vitamin-E on acrylamide (ACR) induced hepatotoxicity in rats. King Fahad Medical Research Centre (KFMRC), Jeddah, Kingdom of Saudi Arabia (KSA). A total of 49 adult wistar rats (250 ± 20 gm), 60 days old were divided into seven groups (control, ACR alone, ACR + 5-ASA, ACR + Vitamin-E, ACR + 5-ASA + Vitamin-E, Vitamin-E alone, 5-ASA alone). Histopathology for the liver and lactate dehydrogenase (LDH) assay were carried out. Histopathology of ACR treated rats’ liver tissue showed sinusoidal dilatation with vascular congestion, liver cell degeneration and necrosis. 5-ASA showed moderate improvement in the form of normal hepatocytes and portahepatis of ACR treated rats. Vitamin-E alone did not show any protection against ACR induced hepatotoxicity in rats. We found that among the two antioxidants used in rats i.e., 5-ASA and Vitamin-E, only 5-ASA conferred protection against ACR induced hepatotoxicity in rats. Therefore, we recommend restriction of exposure to ACR through food products or occupationally. Further investigations are required to study and understand the molecular basis of the protective action of 5-ASA against ACR induced hepatotoxicity.