Publications of

Faculty of Medicine
King Abdulaziz University

(2014)

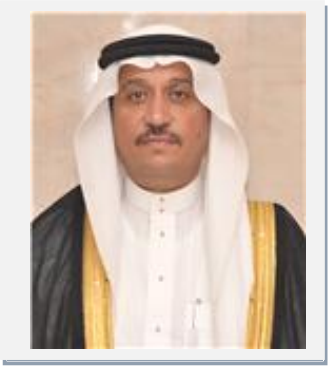
Prepared by
Vice-Deanship for Postgraduate Studies and Research

IN THE NAME OF ALLAH,

THE MERCIFUL,

THE MERCY-GIVING

Words from the Dean of Faculty of Medicine



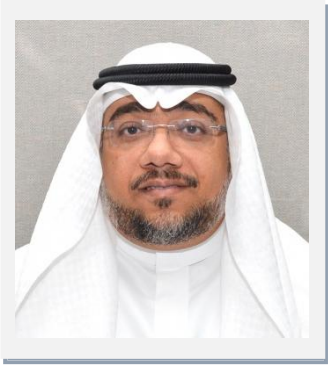
Attaining and maintaining excellence in research is one of the objectives of the Faculty of Medicine because research yields better health care. Our Faculty researchers work with various medical fields together with colleagues within the University and various countries. It is necessary to foster these partnerships to help shape the world of medicine - from medical genetics to personalized medicine, non-invasive surgery and evidence-based preventive care.

As the Dean of the faculty of Medicine, I am encouraging academic staffs and medical students, from basic sciences to clinical sciences to conduct scientific research to further enhance the safety and quality standards of healthcare not only in the Kingdom but also throughout the world.

I am extending my sincere thanks to all those who have contributed in the process of making this work in the Vice Deanship for Postgraduate Studies and Research.

Prof. Mahmoud Shaheen Al-Ahwal
Dean, Faculty of Medicine
King Abdulaziz University, Jeddah, KSA

Words from the Vice Dean for Postgraduate Studies and Research



The Vice Deanship for Postgraduate Studies and Research would like to express its sincere appreciation to all faculty members and medical students for their enormous contributions to attain excellence in the field of medical research.

The Vice Deanship would also like to introduce to you this booklet which is a compilation of various medical research conducted by various departments under the Faculty of Medicine and University Hospital in King Abdulaziz University, Jeddah, Kingdom of Saudi Arabia. For the year 2014, the Vice Deanship has gathered a total of 327 medical researches. Our sources include personal submission of research form, PubMed, Web of Science, and Google Scholar. The Vice Deanship makes no claim for this booklet to be comprehensive.

In addition, the Vice Deanship would like to acknowledge the support and devotion of the entire staff in making this report.

Prof. Jaudah Al-Maghrabi
Vice Dean for Postgraduate Studies and Research
Faculty of Medicine
King Abdulaziz University Jeddah

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2014

Annual Research Report/Statistics

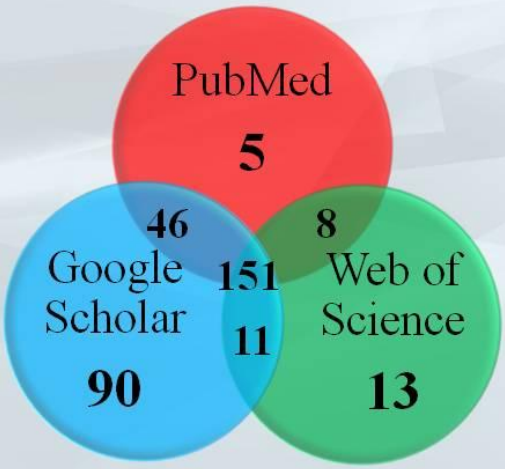
Introduction

- For the year 2014, the Vice-Dean for Postgraduate Studies and Research office has recorded 327 researches.
- Both from the Faculty of Medicine and University Hospital
- Professors, Assistant Professors, Demonstrators and even medical students have contributed to the research.

Introduction

- Faculty of Medicine
  - Various departments
  - Center of Excellence(s)
  - Scientific Chairs
- University Hospital

Report



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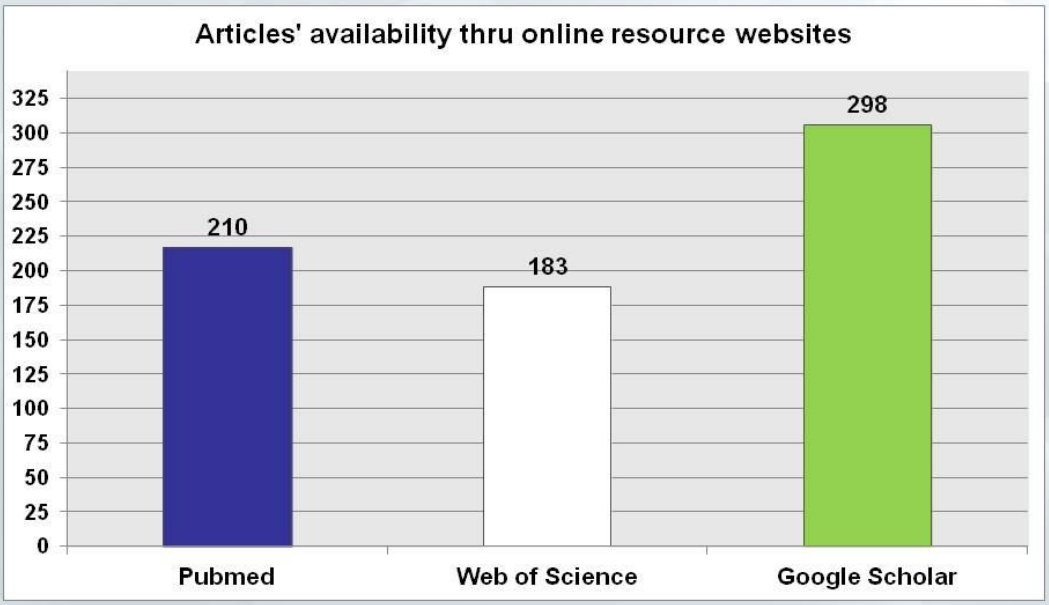
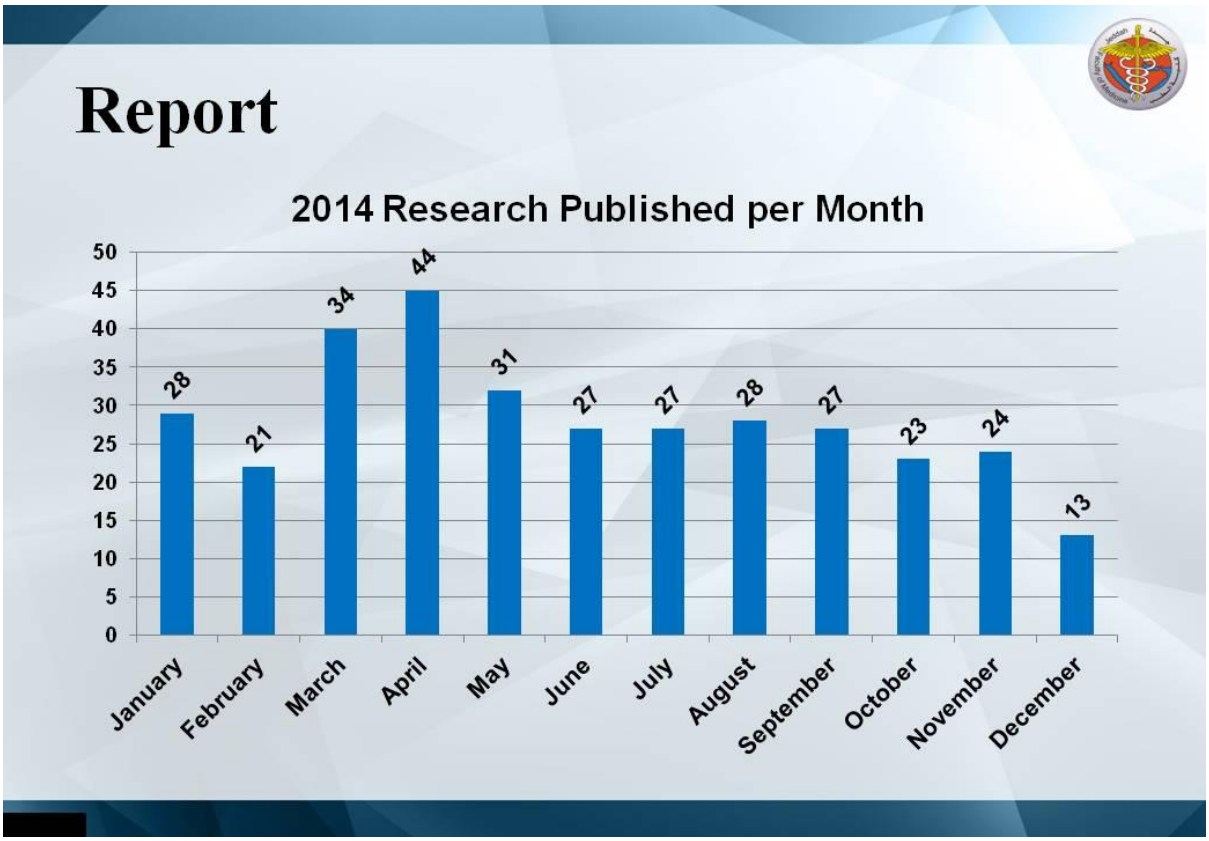
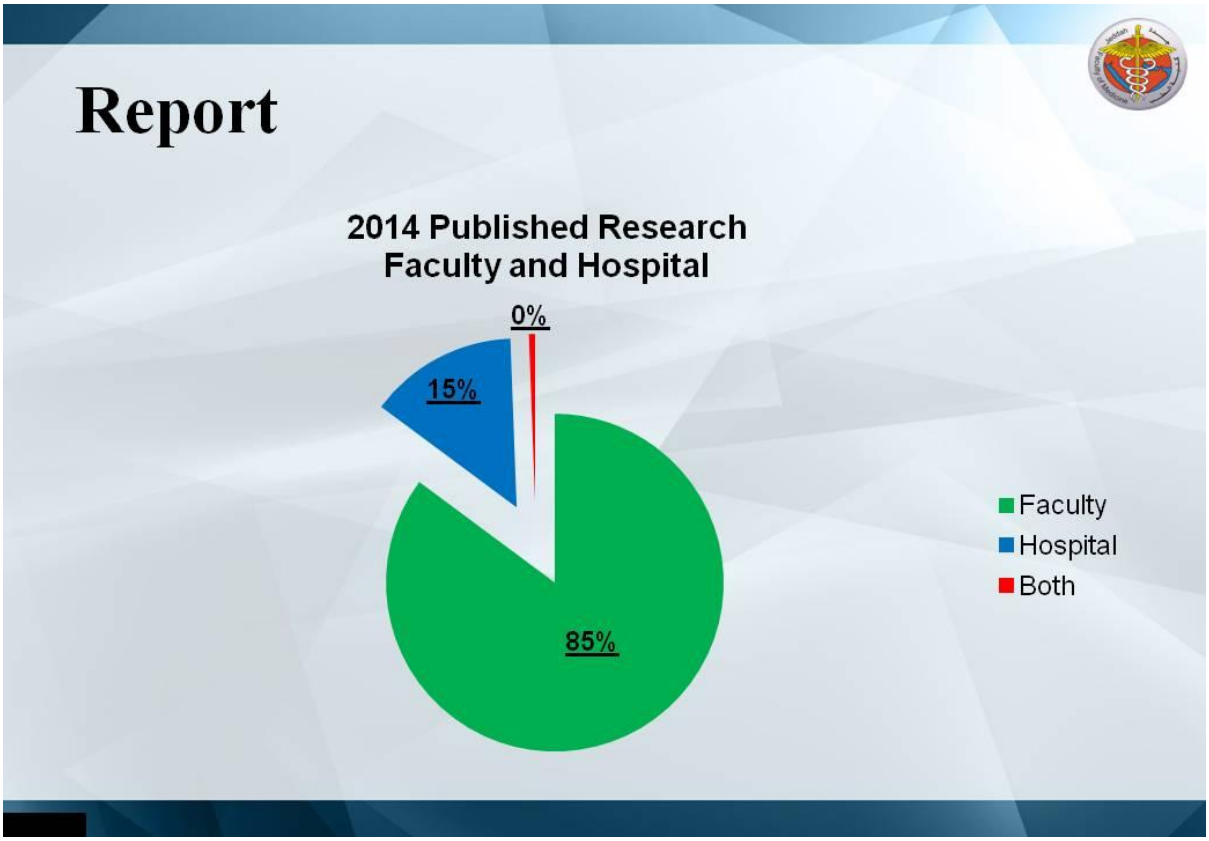


Report



Report



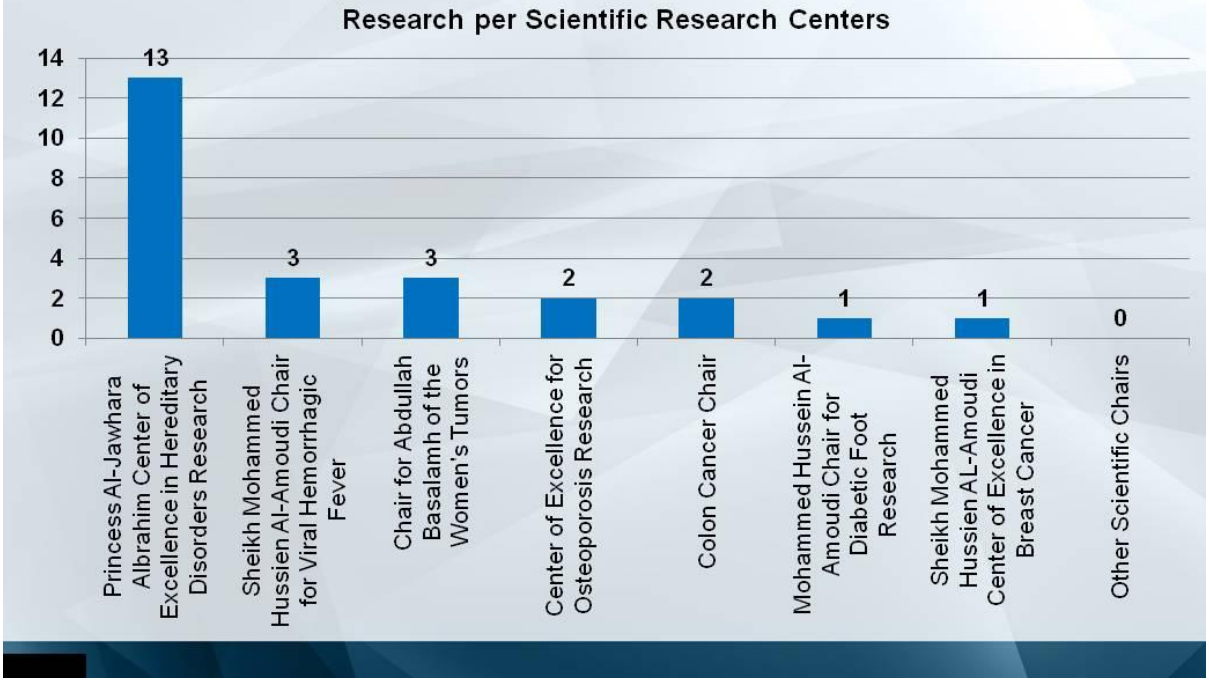
Report

- A total of **327** researches were conducted by both Faculty of Medicine and University Hospital

Faculty of Medicine	=	**278** researches
University Hospital	=	**48** researches
Both Faculty & Hospital	=	**1** research

Report

Report



Report

- Department of Medicine ranked 1st . Total of 116 researches.

- The Department of Medicine has various units that also gave contributions to research.

- Listed units are:
  - Medicine (Faculty/Hospital) - 106
  - Psychiatry - 8
  - Cardiology Unit - 2

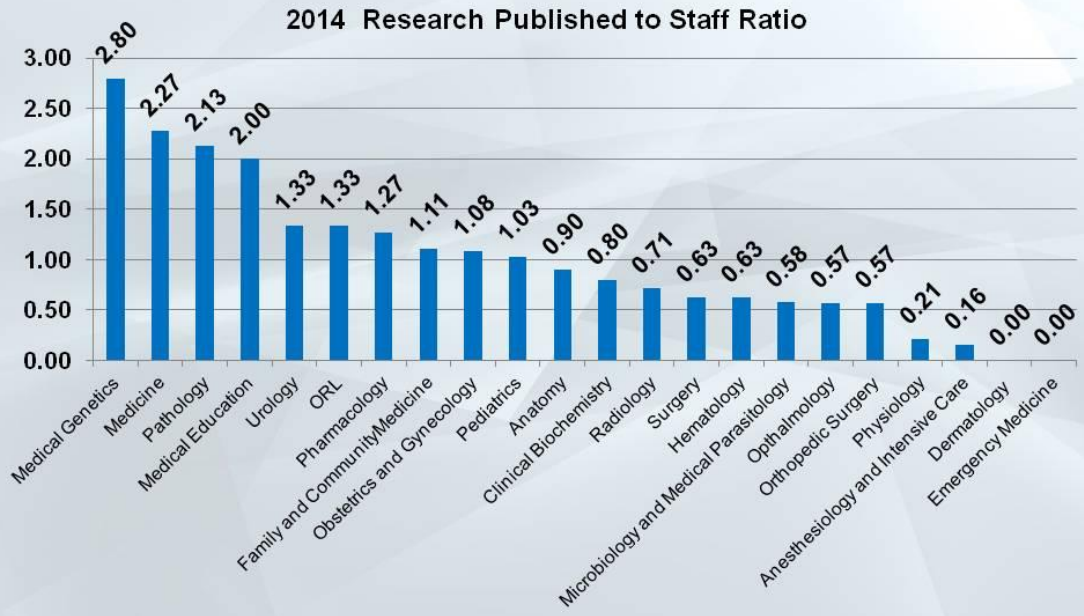
Report

- Department of Pediatrics ranked 2nd and has a total of **32** Researches
- The Department of Pediatrics has various unit(s) that also gave contributions to research.
- Listed units are:
  - Pediatrics (Faculty/Hospital) - 25
  - Pediatrics - Pediatric Nephrology - 5
  - Pediatric Gastroenterology Unit - 2

Report

- Department of Pathology ranked 3rd and has a total of **32** Researches

Report



Report

- The staff includes:
  - Professors
  - Associate Professors
  - Assistant Professors

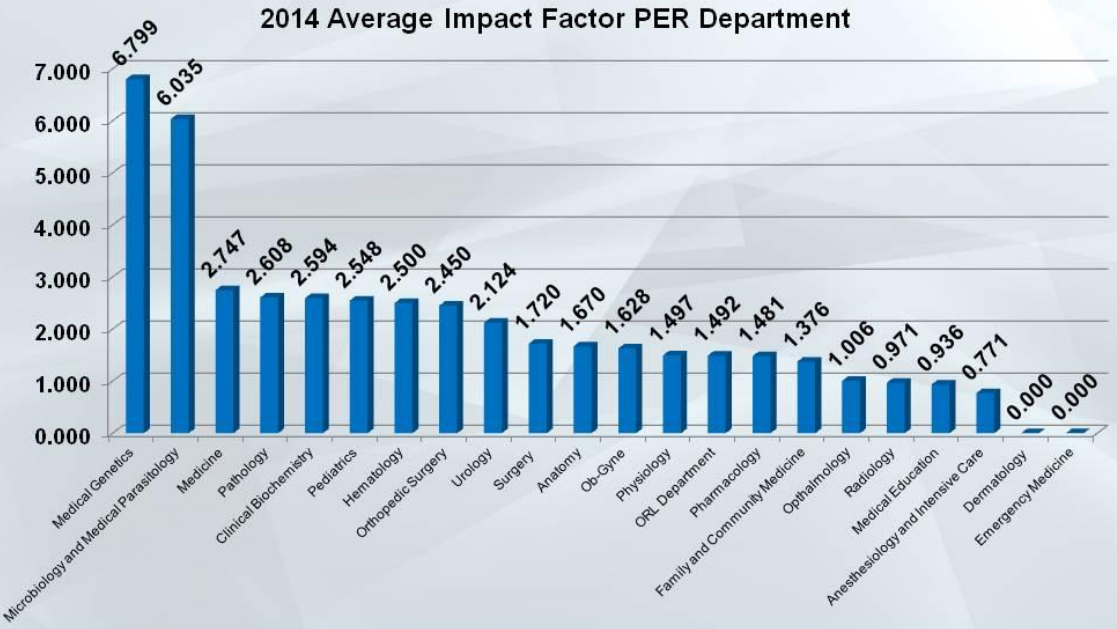
- Formula:

$$\frac{\text{Total no. of research}}{\text{Total no. of staff}}$$

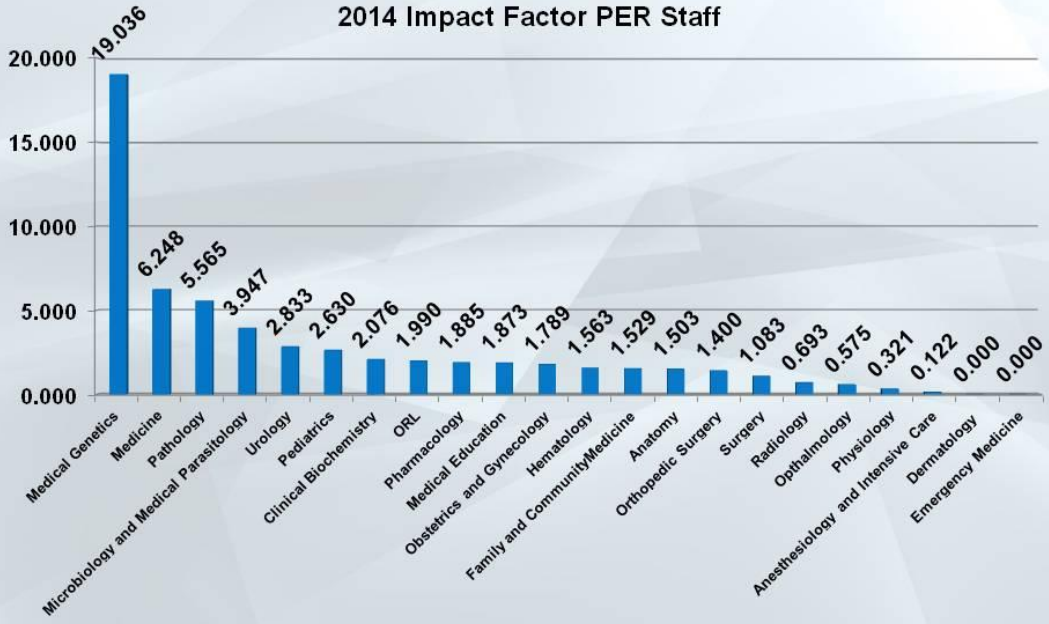
Report

Department	# of research	# of staff	Ratio
Medical Genetics	14	5	2.80
Medicine	116	51	2.27
Pathology	32	15	2.13
Medical Education	8	4	2.00
Urology	8	6	1.33
ORL	12	9	1.33
Pharmacology	14	11	1.27
Family and CommunityMedicine	20	18	1.11
Obstetrics and Gynecology	26	24	1.08
Pediatrics	32	31	1.03
Anatomy	18	20	0.90
Clinical Biochemistry	12	15	0.80
Radiology	10	14	0.71
Surgery	22	35	0.63
Hematology	5	8	0.63
Microbiology and Medical Parasitology	15	26	0.58
Opthalmology	4	7	0.57
Orthopedic Surgery	4	7	0.57
Physiology	3	14	0.21
Anesthesiology and Intensive Care	3	19	0.16
Dermatology	0	4	0.00
Emergency Medicine	0	1	0.00

Report



Report



Report

Top 5 Research published in High-Ranking Impact Factor Journal

1

Research Title:	Evidence for Camel-to-Human Transmission of MERS Coronavirus
Source:	New England Journal Of Medicine Massachusetts Medical Soc Volume 370, Issue 26, page 2499-2505
ISSN:	0028-4793
Date and Year of Publication:	2014-JUN
Impact Factor:	54.42
Affiliated Department(s):	Medicine
Author(s):	Esam I Azhar, Sherif A El-Kafrawy, Suha A Farraj, Ahmed M Hassan, Muneera S Al-Saeed, Anwar M Hashem, Tariq A Madani

Report

Top 5 Research published in High-Ranking Impact Factor Journal

2

Research Title:	A common Greenlandic TBC1D4 variant confers muscle insulin resistance and type 2 diabetes
Source:	NATURE NATURE PUBLISHING GROUP Volume 512, Article 7513, page 190-190
ISSN:	1476-4687
Date and Year of Publication:	2014-AUG
Impact Factor:	**42.351**
Affiliated Department(s):	Medical Genetics
Author(s):	Ida Moltke, Niels Grarup, Marit E Jorgensen, Peter Bjerregaard, Jonas T Treebak, Matteo Fumagalli, Thorfinn S Korneliussen, Marianne A Andersen, Thomas S Nielsen, Nikolaj T Krarup, Anette P Gjesing, Juleen R Zierath, Allan Linneberg, Xueli Wu, Guangqing Sun, Xin Jin, **Jumana Al-Aama**, Jun Wang, Knut Borch-Johnsen, Oluf Pedersen, Rasmus Nielsen, Anders Albrechtsen, Torben Hansen

Report

Top 10 Research published in High-Ranking Impact Factor Journal

3

Research Title:	An integrated catalog of reference genes in the human gut microbiome.
Source:	Nature Biotechnology Macmillan Publishers Volume 32, Issue 8, page 834-841
ISSN:	1087-0156
Date and Year of Publication:	2014-AUG
Impact Factor:	**39.08**
Affiliated Department(s):	Medical Genetics
Author(s):	Junhua Li, Huijue Jia, Xianghang Cai, Huanzi Zhong, Qiang Feng, Shinichi Sunagawa, Manimozhiyan Arumugam, Jens Roat Kultima, Edi Prifti, Trine Nielsen, Agnieszka Sierakowska Juncker, Chaysavanh Manichanh, Bing Chen, Wenwei Zhang, Florence Levenez, Juan Wang, Xun Xu, Liang Xiao, Suisha Liang, Dongya Zhang, Zhaoxi Zhang, Weineng Chen, Hailong Zhao, **Jumana Yousuf Al-Aama**, Sherif Edris, Huanming Yang, Jian Wang, Torben Hansen, Henrik Bjørn Nielsen, Søren Brunak, Karsten Kristiansen, Francisco Guarner, Oluf Pedersen, Joel Doré, S Dusko Ehrlich, MetaHIT Consortium, Peer Bork, Jun Wang

Report

Top 10 Research published in High-Ranking Impact Factor Journal

4

Research Title:	Case definition and management of patients with MERS coronavirus in Saudi Arabia
Source:	Lancet Infectious Diseases Elsevier Science Inc Volume 14, Issue 10, page 911-913
ISSN:	1474-4457
Date and Year of Publication:	2014-OCT
Impact Factor:	**19.446**
Affiliated Department(s):	Medicine
Author(s):	**Tariq A. Madani**

Report

Top 10 Research published in High-Ranking Impact Factor Journal

5

Research Title:	Evaluation of Interval Times From Onset to Reperfusion in Patients Undergoing Endovascular Therapy in the Interventional Management of Stroke III Trial
Source:	Circulation Lippincott Williams & Wilkins Volume 130, Issue 3, page 265
ISSN:	1524-4539
Date and Year of Publication:	2014-JUL
Impact Factor:	**14.948**
Affiliated Department(s):	Medicine
Author(s):	Mayank Goyal, **Mohammed A Almekhlafi**, Liqiong Fan, Bijoy K Menon, Andrew M Demchuk, Sharon D Yeatts, Michael D Hill, Thomas Tomsick, Pooja Khatri, Osama O Zaidat, Edward C Jauch, Muneer Eesa, Tudor G Jovin, Joseph P Broderick

Department of Anatomy

Department of Anatomy

Head of Department

أ.د. حامد بن عبد الرؤوف بن محمد علي محمد صالح

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هند الجويد سالم باقديم

Research Title:	A histological and immunohistochemical study of beta cells in streptozotocin diabetic rats treated with caffeine.
Source:	Folia Histochemica et Cytobiologica Via Medica Volume 52, Issue 1, page: 42-50
ISSN:	1897-5631
Date and Year of Publication:	2014-JAN
Impact Factor:	1
Affiliated Department(s):	Anatomy
Author(s):	Siham K. Abunasef, Hanan A. Amin, Ghada A. Abdel-Hamid
Correspondent's Email:	ghada169@hotmail.com

ABSTRACT

In this study, the histological, immunohistochemical, morphometric, and biochemical changes to pancreatic beta-cells in STZ-induced diabetes were evaluated in rats treated with different doses of caffeine. Fifty adult male Wistar albino rats were divided into five groups: the nondiabetic control group, the diabetic untreated group, and three diabetic groups treated with different doses of caffeine (10, 50, and 100 mg/kg/day). Blood glucose and serum insulin levels were measured. The pancreata were collected and processed into paraffin sections. They were stained using hematoxylin and eosin (H&E) and Masson trichrome stains. The insulin expression in beta-cells was assessed using immunohistochemistry. Morphometrically, the percentage area of anti-insulin antibody reaction, the percentage of beta-cells per total islet cell number, and the average area of the islets were determined. STZ-induced degenerative changes in beta-cells led to decreases in the number of functioning beta-cells and insulin immunoreactivity and to increases in the number of collagen fibers in the islets. In STZ-treated rats, caffeine significantly decreased blood glucose concentration while increasing blood insulin levels at the highest applied dose. It also induced a significant increase in the number of immunoreactive beta-cells. In conclusion, caffeine may have a protective role in the biochemical and microscopic changes in pancreatic beta-cells in diabetes induced in rats through STZ administration.

Research Title:	Aged garlic extract protects against oxidative stress and renal changes in cisplatin-treated adult male rats
Source:	Cancer Cell International BioMed Central Ltd Volume 14, Issue 1, page 1-12
ISSN:	1475-2867
Date and Year of Publication:	2014-SEPT
Impact Factor:	0
Affiliated Department(s):	Anatomy
Author(s):	Ashraf Y Nasr, Hamid AM Saleh
Correspondent's Email:	ashrafnaeem2013@gmail.com

ABSTRACT

Background: Cisplatin (CP) is one of the effective anticancer drugs, but it causes many side effects. Aged garlic extract (AGE) is a natural herbal product used in management of many diseases. OBJECTIVE: This study aimed to investigate effect of AGE on CP-induced nephrotoxicity in rats.

Material And Methods: Four equal groups of adult male rats: control, AGE -treated (250 mg/kg, once oral dose/ 21days), CP-treated (7.5 mg/kg once i.p. on day 16th.), combined AGE and CP-treated were used. Body and kidneys weights of each rat were calculated. Serum levels of kidney biomarkers were assessed. Malondialdehyde (MDA) and reduce glutathione (GSH) levels, superoxide dismutase (SOD) and catalase (CAT) activities of renal tissues were measured as well. Renal samples from each rat were prepared for light and electron microscopic examinations.

Results: Hemorrhage, glomerular atrophy, inflammatory cell infiltration, tubular necrosis and degeneration were observed in CP-treated rats. Also, a significant ($P<0.001$) reduction in SOD & CAT activities, GSH levels accompanied with a significant increase in serum levels of kidney biomarkers and MDA were determined in CP-treated rats compared to control group. However, most of CP-induced histomorphological, ultrastructural and biochemical changes were improved in animals pretreated with AGE.

Conclusion: Such renoprotective effect of AGE may be attributed to its antioxidant activity.

Research Title:	Amelioration of hypercholesterolemia-induced hepatic changes with red grape juice: A histopathological study.
Source:	Histology and Histopathology Histology and Histopathology Volume 1, Issue 1, page 1-1
ISSN:	1699-5848
Date and Year of Publication:	2014-SEPT
Impact Factor:	2.236
Affiliated Department(s):	Anatomy
Author(s):	Ahlam Abdulaziz Al-Ahmadi, Soad Shaker Ali, Nasra Naeim Ayuob, Abeer Khaled Al Ansary
Correspondent's Email:	nayuob@kau.edu.sa

ABSTRACT

Objectives: Hypercholesterolemia was confirmed as a risk factor for hepatic fibrosis, as well atherosclerosis and coronary heart disease. This biochemical and histoplathological study was conducted to investigate the possible protective effect of red grape against hepatic injury induced by a high-cholesterol diet (HCD).
Material and methods: Thirty male Wister rats were randomly divided into three groups (n=10): the control received saline, the induction group was fed HCD, and the treated group was fed a HCD and 0.4 ml of 100% red grape juice (RGJ) for 13 weeks. After the animals were sacrificed, liver tissue samples were taken to be processed for light and electron microscopy examination.
Results: The administration of the RGJ and HCD significantly decreased the animals' blood glucose, insulin, cholesterol, triglycerides, Low Density Lipoprotein levels and increased their High Density Lipoprotein level compared to the rats fed the HCD alone. It also decreased the periportal (macro- and microvesicular) steatosis, fibrosis, lymphocytic infiltration and blood sinusoidal congestion that were observed in HCD-fed rats alone. The RGJ reduced the number of activated myofibrobasts. This was confirmed by a reduction in the expression of alpha smooth muscle actin and desmin. The RGJ increased, although not significantly, the expression of endothelial Nitric Oxide Synthetase.
Conclusion: The administration of RGJ succeeded in alleviating the biochemical and, to some extent, the histopathological changes induced by the high cholesterol diet. Consumption of fresh RGJ or its pharmaceutical preparations is advised especially for those who are used to eat a high fat diet.

Research Title:	Comparative study on the effect of antioxidants [alpha]-lipoic acid and N-acetyl cysteine on the structure of the renal tubules of diabetic rabbits
Source:	Egyptian Journal of Histology LWW Volume 37, Issue 1, page 56-66
ISSN:	1110-0559
Date and Year of Publication:	2014-MAR
Impact Factor:	0
Affiliated Department(s):	Anatomy
Author(s):	Nasra N Ayuob, Hanem S Abdel-Tawab, Soad S Ali, Mohammad A Saeed Al-Hegami, Mohamed B Al-Salahy, Hossam Eldin M Omar
Correspondent's Email:	

ABSTRACT

Background and objectives: Hyperglycemia-induced oxidative stress plays a central role in the pathogenesis of diabetic complications. The therapeutic potential of antioxidants in the prevention and treatment of these complications is an emerging research area. The roles of α-lipoic acid (ALA) and N-acetyl cysteine (NAC) in the protection against oxidative stress in alloxan-induced diabetic rabbits were assessed both biochemically and histologically in this study.

Materials and methods: Thirty-two mature male rabbits were used in this study. They were divided into two groups: the control group (n=8) and the experimental (n=24) group; the experimental group was injected intraperitoneally with alloxan (180mg/ml/kg body weight). After 3 weeks, this group (diabetic rabbits) was subdivided into three subgroups of eight rabbits each. The first one was left as the untreated diabetic subgroup; rabbits in the second and third subgroups were treated daily for 7 days with ALA and NAC (100 mg/ml/kg body weight), respectively. At the end of the experiment, blood and kidney sections were processed for biochemical and histological studies.

Results: The renal tubules showed degenerative and apoptotic changes, which were associated with increased DNA fragmentation and lipid peroxidation in the kidney tissues, as well as reduction in the capacity of the antioxidant defense system. However, treatment of diabetic rabbits with either ALA or NAC ameliorated diabetes-induced oxidative stress.

Conclusion: ALA and NAC could be useful in the prevention and treatment of oxidative stress associated with hyperglycemia. This action seems to result mainly from direct scavenging of reactive oxygen species and restoring of the GSH (glutathione) redox state.

Research Title:	Effect of Red Grape Juice on Renal Glomeruli in Hypercholestremic Rats
Source:	Life Science Journal Marsland Press Volume 11, Issue 6, page 234-245
ISSN:	1097-8135
Date and Year of Publication:	2014-JUN
Impact Factor:	2.296
Affiliated Department(s):	Anatomy
Author(s):	Ghada A Abdel-Hamid
Correspondent's Email:	ghada169@hotmail.com

ABSTRACT

Hypercholesterolemia accompanies renal disorders and is contributed to the progression of renal diseases. The aim of the present study is to investigate the possible ameliorating effects of red grape juice on renal glomeruli of adult rat fed high cholesterol diet. Sixty male albino rats were divided into three groups (n=20 each). Group I served as control (n=20) and received vehicle (saline) alone, Group II served as the high cholesterol diet (HCD) group fed with a high-cholesterol diet for 8 weeks, and Group III rats were fed HCD along with red grape juice (RGJ) for 8 weeks. Kidney was dissected out, weighted and processed for paraffin blocks. General histological and special stains were performed. Glomerular cross-sectional surface area, the capillary diameter within the glomeruli, the mean glomerular tuft area and Bowman's capsule area of each kidney were measured. Immunohistochemistry assessments for ASMA, desmin, PCNA, eNos and CD68 ; their mean intensity and area percentage of positive glomeruli were measured. HCD resulted in elevated blood glucose, insulin and all serum lipids. It induced mesangial expansion, congestion of glomerular capillaries, thickening of Bowman's capsule and foamy cells in the glomerular tuft and renal fibrosis. HCD induced mesangial-cell activation, podocyte injury, which was associated with eNOs deficiency and increased number of CD68 positive cells in glomeruli and interstitium. RGJ effectively restored most of HCD-induced deleterious effects, suggesting that adding it to diet can play a protective role against renal cortical damage and disturbed serum lipids associated with dietary hypercholesterolemia.

Research Title:	Effects of Prolonged Oral Intake of Monosodium Glutamate (MSG) on Body Weight and Its Correlation to Stomach Histopathological Changes in Male Rats
Source:	Thai Journal of Veterinary Medicine Chulalongkorn University Volume 44, Issue 2, page 201-208
ISSN:	0125-6491
Date and Year of Publication:	2014-JUN
Impact Factor:	0.123
Affiliated Department(s):	Anatomy
Author(s):	Gamal S Abd El-Aziz Magdy, O El-Fark, Sherif M Hassan Mohamed H Badawoud
Correspondent's Email:	anatomist1996@yahoo.com

ABSTRACT

Monosodium glutamate (MSG) is a food additive found in many commercial food products. The safe use of MSG has generated much controversy regarding weight gain and health effects. In the present study, the effects of MSG administration for different periods of time on weight gain and on the structure of gastric mucosa in rats were investigated. Thirty-two adult male rats were used and randomly divided into two treated and two control groups (n=8, each). The rats in the treated groups received a daily oral dose of 395 mg/kg bw of MSG for 3 and 6 weeks, respectively, while the control rats received distilled water for similar periods. The body weight and food consumption were measured. At the time of sacrifice, the stomach was dissected and fixed for routine histological procedures. Results revealed a steady increase in body weight and food consumption untill the 4th week in the treated groups. This was followed by a reduction in body weight, although food consumption continued to increase. The gastric mucosa of the rats treated for 3 weeks showed a number of pathological alterations which were more pronounced in the group treated for 6 weeks. These results indicate that prolonged administration of MSG causes an initial increase in weight gain followed by terminal suppression, independent of food consumption. This may be explained by the induced gastric mucosal damage. In conclusion, it appears that prolonged intake of MSG induces gastric damage which, consequently, leads to decreased body weight.

Research Title:	Effect of Sodium Selenite and Vitamin E on the Renal Cortex in Rats: An Ultrastructure Study
Source:	Tissue and Cell Elsevier Volume 46, Issue 3, page 170-177
ISSN:	0040-8166
Date and Year of Publication:	2014-JUN
Impact Factor:	1.049
Affiliated Department(s):	Anatomy
Author(s):	Adel M. Hussein, Hamid A. Saleh, Mustafa H.N
Correspondent's Email:	hesham977@hotmail.com

ABSTRACT

This study examined the use of vitamin E to alleviate toxic effects of sodium selenite. Adult male albino rats (n = 50) was divided into five groups. Group 1 was control, Groups 2 and 4 were treated with sodium selenite (2 mg/kg) for 2 and 4 weeks, respectively, Groups 3 and 5 were treated with sodium selenite (2 mg/kg) and vitamin E (100 mg/kg) for 2 and 4 weeks, respectively. Renal tissues were studied using anti-BCL2 and examined ultrastructurally. Positive Bax immunoreactivity was detected after 2 and more positive after 4 weeks and nearly all groups improved with co-administration of vitamin E. Ultrastructural study revealed lesions in Bowman's capsule and proximal convoluted tubules. The submicroscopic study revealed damage and necrosis of cortical structures after 2 and 4 weeks, respectively. After 4 weeks, cellular changes were seen, such as vacuolation and moderate degeneration of cells, widening of the urinary space scattered through the cortex with loss of cellular details, formation of apical buds, degeneration, and cellular rupture. Present findings disclosed an ameliorative effect of adding vitamin E to sodium selenite-induced changes in cortical tissues. Clinically, it is advised to add vitamin E to avoid selenium overdose hazards.

Research Title:	Elevated levels of cerebrospinal fluid alpha-synuclein oligomers in healthy asymptomatic LRRK2 mutation carriers
Source:	Frontiers in Aging Neuroscience Frontiers Research Foundation Volume 6, Article 248
ISSN:	1663-4365
Date and Year of Publication:	2014-SEPT
Impact Factor:	5.2
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ABSTRACT

Mutations in the leucine-rich repeat kinase 2 gene are the most common cause of autosomal dominant Parkinson's disease (PD). To assess the cerebrospinal fluid (CSF) levels of alpha-synuclein oligomers in symptomatic and asymptomatic leucine-rich repeat kinase 2 mutation carriers, we used enzyme-linked immunosorbent assays (ELISA) to investigate total and oligomeric forms of alpha-synuclein in CSF samples. The CSF samples were collected from 33 Norwegian individuals with leucine-rich repeat kinase 2 mutations: 13 patients were clinically diagnosed with PD and 20 patients were healthy, asymptomatic leucine-rich repeat kinase 2 mutation carriers. We also included 35 patients with sporadic PD (sPD) and 42 age-matched healthy controls. Levels of CSF alpha-synuclein oligomers were significantly elevated in healthy asymptomatic individuals carrying leucine-rich repeat kinase 2 mutations ($n = 20$; $P < 0.0079$) and in sPD group ($n = 35$; $P < 0.003$) relative to healthy controls. Increased alpha-synuclein oligomers in asymptomatic leucine-rich repeat kinase 2 mutation carriers showed a sensitivity of 63.0% and a specificity of 74.0%, with an area under the curve of 0.66, and a sensitivity of 65.0% and a specificity of 83.0%, with an area under the curve of 0.74 for sPD cases. An inverse correlation between CSF levels of alpha- synuclein oligomers and disease severity and duration was observed. Our study suggests that quantification of alpha-synuclein oligomers in CSF has potential value as a tool for PD diagnosis and presymptomatic screening of high-risk individuals.

Research Title:	Estrogen deficiency reduces the expression of estrogen receptor-beta in Wistar rats' periodontal tissues
Source:	Saudi Medical Journal Saudi Medical Journal Volume 35, Issue 3, page 242-247
ISSN:	0379-5284
Date and Year of Publication:	2014-MAR
Impact Factor:	0.554
Affiliated Department(s):	Anatomy, Physiology
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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.

Research Title:	Incidence and Types of Herbal Remedies as a Cause of Bowel Perforation
Source:	Life Science Journal Marsland Press Volume 11, Issue 2, page 37-40
ISSN:	1097-8135
Date and Year of Publication:	2014-FEB
Impact Factor:	2.296
Affiliated Department(s):	Surgery, Anatomy
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ABSTRACT

Objective: To study the incidence and types of herbal remedies as a cause of bowel perforation.
Method: This is a retrospective review of all patients who were diagnosed with bowel perforation at King Abdulaziz University Hospital between January 2005 and November 2013. The patients' medical records were reviewed for demographic data, causes of the bowel perforation, types of foreign bodies if any, clinical picture and management. The data were entered and analyzed using the statistical package for social sciences (SPSS Inc, Chicago, IL, USA), version 20.00.
Results: Total of 36 cases of bowel perforation, 20 were males (55.6%) and 16 were females (44.4%). The mean age was 45.17±15.95 years old (range 13-85). The most common cause of bowel perforation was foreign body ingestion as it was found in 13 patients (36.1%); it was followed by intestinal obstruction in 6 patients (16.8%), diverticular disease in 5 patients (14.0%), iatrogenic in 4 patients (11.1%), Crohn's disease in 3 patients, blunt injury in also 3 patients (8.3%), and the least common cause was malignancy in 2 patients (5.6%). The most common foreign body was herbal remedies in 8 patients (22.3%); Ginger in 4 patients (11.1%); Anise in 2 patients (5.6%);Ginseng in 1 patients (2.8%) and Liquoric in1 patient (2.8%).There was no association between age nor gender and bowel perforation secondary to herbal remedies ingestion (p-value = 0.1).Other foreign bodies were fish bones in 3 patients (8.4%), chicken bone in 1 patient and plastic piece in 1 patient (2.8%).
Conclusion: Herbal remedies ingestion formed 22.3% of our bowel perforation cases. Ginger was the most common herb. At national level, patient's education about complications of herbal remedies ingestion and risks of bowel perforation is needed to increase the community awareness regarding this problem and take the proper precautions before taking such remedies in order to avoid bowel perforation

Research Title:	Is the chronic use of Ferula harmonis to enhance mice erectile function effective and safe? A histopathological study
Source:	Systems Biology in Reproductive Medicine Informa Healthcare Volume 60, Issue 5, page 282-292
ISSN:	1939-6368
Date and Year of Publication:	2014-OCT
Impact Factor:	1.7
Affiliated Department(s):	Anatomy
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ABSTRACT

Many studies are aimed towards a solution for erectile dysfunction which is a worldwide health problem. Medicinal and natural herbal medications have been prescribed but their long-term effects are not well known. This study aimed to investigate the impact of the chronic administration of F. hermonis root extract on the structure of the male mice reproductive organs and their fertility and to study the possible protective role of vitamin C. Sixty male albino mice were divided into 3 groups: the control, the experimental group that received F. hermonis root extract orally (6 mg/kg) for six weeks, and the treated group that received F. hermonis plus vitamin C for six weeks. Serum testosterone level and mice fertility were assessed. At the end of the experiment mice were sacrificed; testis, epididymis, and seminal vesicle were dissected and processed for routine histopathological and immunohistochemical examination. The chronic administration of F. hermonis extract significantly decreased the level of testosterone and partially impaired fertility. Histopathological degenerative changes and a significant reduction in estrogen receptor (ER)13 expression were observed in testes, epididymis, and seminal vesicle. Vitamin C administration did not completely protect the testis from these harmful effects. Although F. hermonis roots are recommended to improve erectile and fertility problems, it should be used for short periods and with extreme caution. Further clinical studies to assess safety and efficacy are needed.

Research Title:	Levels of cerebrospinal fluid α-synuclein oligomers are increased in Parkinson's disease with dementia and dementia with Lewy bodies compared to Alzheimer's disease
Source:	Alzheimer's Research & Therapy Biomed Central Ltd Volume 6, Issue 3, page 25
ISSN:	1758-9193
Date and Year of Publication:	2014-MAY
Impact Factor:	3.5
Affiliated Department(s):	Anatomy, Medicine
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ABSTRACT

Introduction: The objective was to study whether α-synuclein oligomers are altered in the cerebrospinal fluid (CSF) of patients with dementia, including Parkinson disease with dementia (PDD), dementia with Lewy bodies (DLB), and Alzheimer disease (AD), compared with age-matched controls.

Methods: In total, 247 CSF samples were assessed in this study, including 71 patients with DLB, 30 patients with PDD, 48 patients with AD, and 98 healthy age-matched controls. Both total and oligomeric α-synuclein levels were evaluated by using well-established immunoassays.

Results: The levels of α-synuclein oligomers in the CSF were increased in patients with PDD compared with thecontrols ($P < 0.05$), but not in patients with DLB compared with controls. Interestingly, the levels of α-synuclein oligomers in the CSF were also significantly higher in patients with PDD ($P < 0.01$) and DLB ($P < 0.05$) compared with patients with AD. The levels of CSF α-synuclein oligomers and the ratio of oligomeric/total-α-synuclein could distinguish DLB or PDD patients from AD patients, with areas under the curves (AUCs) of 0.64 and 0.75, respectively. In addition, total-α-synuclein alone could distinguish DLB or PDD patients from AD patients, with an AUC of 0.80.

Conclusions: The levels of α-synuclein oligomers were increased in the CSF from α-synucleinopathy patients with dementia compared with AD cases.

Research Title:	Myocardial bridge and coronary arteries: morphological study and clinical significance
Source:	Folia Morphologica Volume 73, Issue 2, page 169-182
ISSN:	0015-5659
Date and Year of Publication:	2014-MAY
Impact Factor:	0.524
Affiliated Department(s):	Anatomy
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ABSTRACT

Myocardial bridge (MB) is the myocardial bundles covering a segment of a coronary artery or one of its branches. This work aimed to study the morphological properties of MB and their effects on the structure of the dominant coronary artery. Sixty adult human hearts (40 male and 20 female) were obtained from the Anatomy Department, Faculty of Medicine, King Abdulaziz University. Dissection o fthe coronary arteries and their main branches was done. Number, site, length and thickness of MB were determined in correlation with coronary dominancy. External diameter of proximal and distal segments of bridged branches and histology of the different segments of the anterior interventricular artery were examined as well. Thirty-six MB were observed in 27 (45%) hearts (18 male and 9 female). MB were mostly observed on the middle segment of the anterior interventricular artery (52.8%) and to a lesser extent on its diagonal branch (13.8%), posterior interventricular artery (13.8%), median and left marginal branches (5.6%), and right coronary artery stem (2.8%). In 30% out of 56.7% of right, in 8.3% out of 26.7% of balanced and in 6.7% out of 16.7% of left dominant hearts revealed MB. The mean length of MB was 24.9 ± 1.98 mm and that of their thickness was 2.28 ± 0.13 mm. Morphological differences in external diameter and histological structure of the different parts of bridged branch were observed. Knowledge of morphological aspects and effects of MB provide better therapeutic and surgical interventions for clinicians dealing with patients having MB.

Research Title:	Protective Effects of 5-Aminosalicylic Acid on Acrylamide Toxicity in the Testis and Blood Leukocytes of the Rat
Source:	Kuwait Medical Journal Kuwait Medical Association Volume 46, Issue 1, page 32-43
ISSN:	0023-5776
Date and Year of Publication:	2014-MAR
Impact Factor:	0.098
Affiliated Department(s):	Anatomy
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ABSTRACT

Objectives: Acrylamide (AA) has many applications in the chemical industry. It has been shown to be a reproductive toxicant in animals and is associated with risk of cancer. The objective of this study was to investigate the protective effect of 5-aminosalicylic acid (5-ASA) against AA induced testicular and geno-toxicity.
Design: Experimental study Setting: King Fand Medical Research Center, King Abdulaziz University, Jeddah, Saudi Arabia Intervention: Animals were orally gavaged with AA at a dose of 45 mg/kg/day for five consecutive days and 5-ASA was injected concomitantly at two different doses, 25 and 50 mg/kg/day.
Main Outcome Measures: Effect on epididymal sperm count, on histological changes in the testis, on COMET assay in blood leukocytes, on serum testosterone level and on CYP2E1 expression in liver and testis (S9) fractions
Results: COMET assay undertaken on blood leukocytes showed geno-toxicity in the form of COMET cells with increased tail movement, while ELISA of serum testosterone showed severe reduction in testosterone level, which was reversed by concomitant 5-ASA treatment. ELISA of CYP2E1 showed a two-fold higher concentration in control liver S9 when compared to control testis S9. 5-ASA (50 mg/kg) induced the level of liver CYP2E1, potentially increasing AA metabolism and clearance. Light microscopy examination showed multinudeated giant cells and tubular atrophy in the testis after AA treatment.
Conclusion: At the used dose, AA caused toxic effects in male rat that can be reduced by concomitant treatment with 5-ASA, which might be considered as an antidote to AA toxicity in victims of AA poisoning.

Research Title:	Red Sea Suberea mollis Sponge Extract Protects against CCl4-Induced Acute Liver Injury in Rats via an Antioxidant Mechanism
Source:	Evidence-Based Complementary and Alternative Medicine Hindawi Publishing Corporation Volume 2014. Article ID 745606, page 1-9
ISSN:	1741-4288
Date and Year of Publication:	2014-AUG
Impact Factor:	2.175
Affiliated Department(s):	Anatomy
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ABSTRACT

Recent studies have demonstrated that marine sponges and their active constituents exhibited several potential medical applications. This study aimed to evaluate the possible hepatoprotective role as well as the antioxidant effect of the Red Sea Suberea mollis sponge extract (SMSE) on carbon tetrachloride- (CCl_4-) induced acute liver injury in rats. In vitro antioxidant activity of SMSE was evaluated by 2,2-diphenyl-1-picryl-hydrazyl-hydrate (DPPH) assay. Rats were orally administered three different concentrations (100, 200, and 400 mg/kg) of SMSE and silymarin (100 mg/kg) along with CCl_4 (1 mL/kg, i.p., every 72 hr) for 14 days. Plasma aspartate aminotransferase (AST), alanine aminotransferase (ALT), alkaline phosphatase (ALP), and total bilirubin were measured. Hepatic malondialdehyde (MDA), reduced glutathione (GSH), nitric oxide (NO), superoxide dismutase (SOD), glutathione peroxidase (GPx), and catalase (CAT) were also measured. Liver specimens were histopathologically examined. SMSE showed strong scavenging activity against free radicals in DPPH assay. SMSE significantly reduced liver enzyme activities. Moreover, SMSE significantly reduced hepatic MDA formation. In addition, SMSE restored GSH, NO, SOD, GPx, and CAT. The histopathological results confirmed these findings. The results of this study suggested a potent protective effect of the SMSE against CCl_4-induced hepatic injury. This may be due to its antioxidant and radical scavenging activity.

Research Title:	Structure activity relationship of phenolic acid inhibitors of alpha-synuclein fibril formation and toxicity
Source:	Frontiers in Aging Neuroscience Frontiers Research Foundation Volume 6, Article 197
ISSN:	1663-4365
Date and Year of Publication:	2014-AUG
Impact Factor:	5.2
Affiliated Department(s):	Anatomy, Medicine
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ABSTRACT

The aggregation of alpha-synuclein (alpha-syn) is considered the key pathogenic event in many neurological disorders such as Parkinson's disease (PD), dementia with Lewy bodies and multiple system atrophy, giving rise to a whole category of neurodegenerative diseases known as synucleinopathies. Although the molecular basis of alpha-syn toxicity has not been precisely elucidated, a great deal of effort has been put into identifying compounds that could inhibit or even reverse the aggregation process. Previous reports indicated that many phenolic compounds are potent inhibitors of a-syn aggregation. The aim of the present study was to assess the anti-aggregating effect of gallic acid (GA) (3,4,5-trihydroxybenzoic acid), a benzoic acid derivative that belongs to a group of phenolic compounds known as phenolic acids. By employing an array of biophysical and biochemical techniques and a cell-viability assay, GA was shown not only to inhibit alpha-syn fibrillation and toxicity but also to disaggregate preformed alpha-syn amyloid fibrils. Interestingly, GA was found to bind to soluble, non-toxic oligomers with no beta-sheet content, and to stabilize their structure. The binding of GA to the oligomers may represent a potential mechanism of action. Additionally, by using structure activity relationship data obtained from fourteen structurally similar benzoic acid derivatives, it was determined that the inhibition of alpha-syn fibrillation by GA is related to the number of hydroxyl moieties and their position on the phenyl ring. GA may represent the starting point for designing new molecules that could be used for the treatment of PD and related disorders.

Research Title:	The innovative safe fixative for histology, histopathology, and immunohistochemistry techniques: "Pilot study using shellac alcoholic solution fixative".
Source:	Microscopy Research and Technique Wiley Periodicals, Inc. Volume 77, Issue 5, page 385-393
ISSN:	1097-0029
Date and Year of Publication:	2014-MAY
Impact Factor:	1.17
Affiliated Department(s):	Anatomy, Pathology
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ABSTRACT

The concerns over health and workplace hazards of formalin fixative, joined to its cross-linking of molecular groups that results in suboptimal immunohistochemistry, led us to search for an innovative safe fixative. Shellac is a natural material which is used as a preservative in foods and pharmaceutical industries. This study was undertaken to evaluate the fixation adequacy and staining quality of histopathological specimens fixed in the "shellac alcoholic solution" (SAS), and also to determine the validity of immunohistochemical staining of SAS-fixed material in comparison to those fixed in formalin. Fresh samples from 26 cases from various human tissues were collected at the frozen section room of King Abdulaziz University Hospital, and fixed in SAS fixative or in neutral buffered formaldehyde (NBF) for 12, 18, 24, and 48 h, and processed for paraffin sectioning. Deparaffinized sections were stained with hematoxylin and eosin (H&E) and immunostained for different antigens. The tissues fixed in SAS for >18 h showed best staining quality of H&E comparable to NBF-fixed tissues. Comparison of the immunohistochemical staining of different tissues yielded nearly equivalent readings with good positive nuclear staining quality in both fixatives. These findings support the fixation and preservation adequacy of SAS. Furthermore, it was concluded that the good staining quality obtained with SAS-fixed tissues, which was more or less comparable with the quality obtained with the formalin fixed tissues, supports the validity of this new solution as a good innovative fixative.

Research Title:	The Preventive and Therapeutic Role of Curcumin in Liver Cirrhosis
Source:	Life Science Journal Marsland Press Volume 11, Issue 10, page 328-338
ISSN:	1097-8135
Date and Year of Publication:	2014-OCT
Impact Factor:	2.296
Affiliated Department(s):	Anatomy
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ABSTRACT

Hepatic fibrosis or cirrhosis is emerging as a treatable complication of chronic liver disease, following significant progress in understanding its underlying mechanisms. Efforts have focused on the hepatic stellate cells (HSC), as these cells can undergo, "activation" into proliferation and fibrogenic myofibroblast-like cells during liver injury. Antifibrotic therapies could become important in treating the millions of patients with chronic fibrosing liver disease. Curcumin the major polyphenolic compound in tumeric has been shown to attenuate hepatic damage. So, the present study was designed to assess the efficacy of curcumin intake in preventing thioacetamide-induced hepatic cirrhosis and portal hypertension (manifested as splenomegaly). Four groups of rats were used throughout this study. Group I (Control group): rats received the solvent at identical amount and duration. Liver cirrhosis was induced in Groups II, III, and IV by thioacetamide (TAA; 200mg/kg, ip) twice weekly for 12 weeks. Group II (Cirrhosis group): untreated group. Group III (Prevention group): rats received curcumin (300 mg/kg/day, by gavage for 12 weeks) concomitantly with TAA. Group IV (Treatment group): rats were given curcumin for 6 weeks after TAA discontinuation. Specimens from the livers were processed for paraffin sections and stained with Hx&E and Masson Trichrome stain. Alpha smooth muscle actin expressed immunohistochemically by HSC were considered a marker of their activation to myofibroblast. Image analyzer was used to analyze the results morphometrically. Also, statistical analysis of the results was determined by ANOVA test. Histological findings proved that the curcumin protected the liver structure in TAA-induced liver cirrhosis rats. The curcumin treatment almost normalized these effects in the histoarchitecture of liver. Indeed, there was remarkable reduction in fibrosis extent and a decrease of stellate infiltration in rats concomitantly treated with curcumin compared to non treated group. Curcumin had no effect on pre-established liver cirrhosis. In conclusion, this study showed that curcumin has protective effects from hepatic cirrhosis in rats that were proven by histopathological analysis. As curcumin is safe for consumption by humans, it may have a beneficial role in chemical-induced hepatic damage although this finding needs further study to know the active constituents appearing to protect rat liver against cirrhosis.

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Research Title:	Anesthesia for tracheostomy for huge maxillofacial tumor.
Source:	Saudi Journal of Anaesthesia Medknow Volume 8, Issue 1, Page 124-127
ISSN:	0975-3125
Date and Year of Publication:	2014-JAN
Impact Factor:	0
Affiliated Department(s):	Anesthesia
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ABSTRACT

Providing sedation for patients with compromised upper airway is challenging. A 19-year-old female patient with huge maxillofacial tumor invading the whole pharynx scheduled for elective tracheostomy under local anesthesia due to compromised airway. The patient had gastrostomy tube for feeding. Venous cannulation was totally refused by the patient after repeated trials for exhausted sclerosed veins. Pre-operative mixture of dexmedetomidine with ketamine was administered through the gastrostomy tube with eutectic mixture of local anesthetics cream application over the planned tracheostomy site. The patient was sedated with eye opening to command. Local infiltration followed by tracheostomy was performed without patient complaints or recall of operative events.

Research Title:	How Long Can Patients Sit Up for Before Lying Down after Combined Spinal-Epidural Anesthesia For Cesarean Delivery? A Randomized Trial
Source:	Journal of Anesthesia and Clinical Research OMICS Group Volume 5, Issue 12, page 1-4
ISSN:	2155-6148
Date and Year of Publication:	2014-DEC
Impact Factor:	0
Affiliated Department(s):	Anesthesia, Ob-Gyne
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ABSTRACT

Objective: Sitting patients up for 5 min after spinal anesthesia decreases hypotension and ephedrine requirement. This study aimed at determining how long patients can sit up for after combined spinal-epidural (CSE) anesthesia without requiring epidural supplementation.
Methods: Ninety women booked for elective cesarean section under CSE anesthesia were randomized to sit up for 5 min (group 1), 7 min (group 2), or 9 min (group 3) after spinal anesthetic administration before lying down supine with a tilt. Sensory anesthesia level, systolic blood pressure, heart rate, ephedrine requirement, rescue epidural use, and time to achieving a modified Bromage score of two were documented by a blinded observer.
Results: The maximum height of sensory anesthesia was [T3 (1) vs. T4 (1) vs. T5 (1) for groups 1-3, respectively, P<0.001]. Group 1 required more ephedrine (16.7% vs. 3.3% vs. 0%, P=0.024). Changes over time in systolic blood pressure (P=0.117) and heart rate (P =0.793), and time to achieving a modified Bromage score of two [112 (17) vs. 110 (16) vs. 100 (28) min, P=0.437] were similar amongest groups. Rescue epidural anesthesia was required in eight (26.7%) patients in group 3 compared to none in the other groups (P<0.001).
Conclusion: Sitting the patient up for up to 7 min after CSE anesthesia for cesarean section reduced intraoperative ephedrine requirement without affecting the success of the spinal anesthetic. In contrast, sitting up for 9 min resulted in the need for rescue epidural anesthesia without additional benefit

Research Title:	Is It the Time for the Medical Teacher to use Podcast Lecture? Saudi Medical Students' Perceptions
Source:	Wulfenia Journal Wulfenia Journal Volume 21, Issue 3, page 369-385
ISSN:	1561-882X
Date and Year of Publication:	2014-MAR
Impact Factor:	0.267
Affiliated Department(s):	Anesthesia, Medical Education
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ABSTRACT

Methods: This cross-sectional study aimed to determine students' perception and attitude toward lectures delivered both live and via podcasts as methods of learning at the Faculty of Medicine of King Abdulaziz University, Jeddah, Saudi Arabia. It used a self –administered questionnaire that was distributed to all clinical years' students in 2012.
Results: A minority (2%) of the participating students listened to the podcast lecture more than six times. Although the students' preference for the live lecture was higher than the podcasted one (about 46% versus 20%), the latter was ranked significantly higher in relation to notes taking and repetitive hearing. About 85%, 65%, and 50% of the participating students denoted unattractive lecturer, boring lecture, and traffic delay, respectively, as the comment causes of absenteeism from live lectures. A high but insignificant percent of the students believed that the podcast lecture was overall more beneficial than the live lecture.
Conclusion: By taking these results into consideration, we can postulate that the introduction of podcast lectures into the medical curriculum on a wider scale can improve students' learning, help them manage their time effectively, and allow more time for interactive clinical sessions.

Research Title:	Obstetric and gynecologic patients' attitudes and perceptions toward medical students in saudi arabia.
Source:	Oman Medical Journal Oman Medical Journal Volume 29, Issue 2, page 106-109
ISSN:	2070-5204
Date and Year of Publication:	2014-MAR
Impact Factor:	0
Affiliated Department(s):	Anesthesia, Ob-Gyne
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ABSTRACT

Objective: To identify patients' attitudes, preferences and comfort levels regarding the presence and involvement of medical students during consultations and examinations. **Methods:** A cross-sectional descriptive study was conducted from September 2011 to December 2011 at King Abdulaziz University Hospital in Jeddah, Saudi Arabia. Participants were randomly selected from the outpatient and inpatient clinics at the Department of Obstetrics and Gynecology and the Emergency Department, provided they were admitted for obstetric or gynecology-related conditions. Data were collected using a structured questionnaire, and data analysis was performed using the Statistical Package for Social Sciences.

Results: Of the 327 patients who were recruited, 272 (83%) were elective patients who were seen at the outpatient and inpatient clinics of the Department of Obstetrics and Gynecology (group I). The other 55 (16.8%) were seen at the Emergency Department or the Labor and Delivery Ward (group II). One hundred seventy-nine participants (160 [58.8%] in group I and 19 [34.5%] in group II) reported positive attitudes about the presence of female medical students during consultations. Fewer participants (115 [42.3%] were in group I and 17 [30.9%] in group II) reported positive attitudes regarding the presence of male medical students during consultations (p=0.095). The gender of the medical student was the primary factor that influenced patients' decision to accept or decline medical student involvement. No significant associations were observed between patients' attitudes and perceptions toward medical students and the patients' age, educational level, nationality or the gender of the consultant.

Conclusion: Obstetrics and Gynecology patients are typically accepting of female medical student involvement during examinations. Student gender is the primary factor that influences patient attitudes regarding student involvement during physical examinations.

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Research Title:	Efficacy of a novel water-soluble curcumin derivative versus sildenafil citrate in mediating erectile function
Source:	International Journal of Impotence Research Nature Publishing Group Volume 2014, page 1-7
ISSN:	0955-9930
Date and Year of Publication:	2014-AUG
Impact Factor:	1.369
Affiliated Department(s):	Clinical Biochemistry
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ABSTRACT

The present study was conducted to assess the efficacy of a novel curcumin derivative (NCD) versus sildenafil citrate in erectile signaling. The study was conducted on 10 control male rats and 50 diabetic male rats divided into the following groups: diabetic, curcumin, NCD, sildenafil and NCD combined with sildenafil. Cavernous tissue (CC) gene expression levels of heme oxygenase (HO)-1, Nrf2, NF-κβ and p38, enzyme activities of HO and nitric oxide synthase (NOS), cyclic guanosine monophosphate (cGMP) and intracavernosal pressure (ICP) were assessed. Results showed that 12 weeks after induction of diabetes, erectile dysfunction was confirmed by the significant decrease in ICP, a significant decrease in cGMP, NOS, HO enzyme activities, a significant decrease in HO-1 gene and a significant elevation of NF-κβ, p38 genes. Administration of all therapeutic interventions led to a significant elevation in ICP, cGMP levels, a significant increase in HO-1 and NOS enzymes, a significant increase in HO-1 and Nrf2 gene expression, and a significant decrease in NF-κβ, p38 gene expression. NCD or its combination with sildenafil showed significant efficacy and more prolonged duration of action. In conclusion, NCD could enhance erectile function with more efficacy and more prolonged duration of action.

Research Title:	Enhancement of In Vitro Skin Transport and In Vivo Hypoglycemic Efficacy of Glimepiride Transdermal Patches
Source:	Tropical Journal of Pharmaceutical Research Pharmacotherapy Group Volume 13, Issue 8, page 1207-1213
ISSN:	1596-5996
Date and Year of Publication:	2014-AUG
Impact Factor:	0.495
Affiliated Department(s):	Clinical Biochemistry
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ABSTRACT

Purpose: To utilize hydroxybutyl-beta-cyclodextrin (HB-beta-CD) and polyvinyl pyrrolidone (PVP) for the enhancement of the transdermal delivery of glimepiride (GMD).
Methods: Matrix-type transdermal patches containing GMD, drug coprecipitate or its inclusion complex were prepared using different gelling agents, viz, hydroxypropyl methylcellulose (HPMC), hydroxypropyl cellulose (HPC), carbopol and chitosan. In vitro skin permeation evaluation of the formulations was conducted using automated diffusion system. Selected patch formulations were assessed for hypoglycemic activity as well as well as for GMD plasma concentration in rats.
Results: GMD- hydroxybutyl-beta-cyclodextrin (HB-beta-CD) binary systems (1:2 molar ratio) enhanced GMD aqueous solubility by > 10-fold. Diffusion test showed improved release of GMD-HB-beta-CD inclusion complex compared with GMD alone. Maximum cumulative amounts of GMD- HB-beta-CD that permeated through rat skin was 26.97 and 14.28 mu g/cm(2) for patches prepared with chitosan and HPMC, respectively. Thus, GMD-chitosan patches showed significantly higher ($P<0.05$) drug permeation than GMD-HPMC after 6 h. Both chitosan and HPMC patches of GMD-HB-beta-CD demonstrated substantial reduction ($P < 0.05$) in blood glucose level (192.67 +/- 21.18 and 201 +/- 15.11 mg/ dl, respectively), compared with the baseline value of 240 mg/dl.
Conclusion: Application of chitosan and HPMC transdermal patches of GMD-HB-beta-CD can serve as a potential alternative to peroral GMD with improved bioavailability and patient compliance.

Research Title:	Evaluating staff skills and needs for conducting distance learning healthcare courses
Source:	icehtm.net
ISSN:	
Date and Year of Publication:	2014-JUN
Impact Factor:	0
Affiliated Department(s):	Clinical Biochemistry, Medical Education, Microbiology and Parasitology, Medicine
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ABSTRACT

Introduction: The widespread utilization of technology in business and social environments offers a pedagogical shift. The era of technology has brought great expansion in the development and introduction of online courses and technology tools to teaching and learning strategies. The development of distance learning courses and programs should be based on sound pedagogical principals. Academic staff members and other healthcare professionals, who are responsible for teaching and physician training, should be aware of the principal of course design, development, implementation, and therefore, they need to follow one of the instructional design approaches such as the ADDIE Approach.
Aim: The aim of this study is to evaluate instructors' skills and needs for conducting distance learning healthcare courses, including the level of assistance they need to implement and use online and software tools in online courses. In addition, this study evaluates the level of helpfulness of different types of training and support.
Methods: This study applied the online faculty survey used by the Center for Teaching Excellence, University of South Carolina to assess the faculty's instructional technology needs for training and support. The survey asked faculty staff about a broad number of classroom and online technologies, with a helpful response scale that reveals not only what the faculty is already using, but also what the instructors want to use and what they need help with.
Results: The results of this study illustrated the significant need of faculty staff members for the training and development of their skills in almost all tools used for conducting online courses. Regarding the use of software, although the majority of participating staff members in this study use almost all software tools required for conducting online healthcare courses, they expressed a need for help in developing new ideas to use the software effectively
Conclusion: The results of this study showed that it is essential to organize comprehensive faculty development training courses to help staff members conduct their online courses or convert their face-to-face courses to blended courses effectively. These courses should include an introductory course and provide training on instructional design, the use of technology tools, and assessment techniques in online courses.

Research Title:	Health Impact of Fasting in Saudi Arabia during Ramadan: Association with Disturbed Circadian Rhythm and Metabolic and Sleeping Patterns.
Source:	PLOS One PLOS One Volume 9, Issue 5, page: 1-7
ISSN:	1932-6203
Date and Year of Publication:	2014-MAY
Impact Factor:	3.534
Affiliated Department(s):	Clinical Biochemistry, Medical Genetics
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ABSTRACT

Background: Muslims go through strict Ramadan fasting from dawn till sunset for one month yearly. These practices are associated with disturbed feeding and sleep patterns. We recently demonstrated that, during Ramadan, circadian cortisol rhythm of Saudis is abolished, exposing these subjects to continuously increased cortisol levels.
Hypothesis: Secretory patterns of other hormones and metabolic parameters associated with cortisol, and insulin resistance, might be affected during Ramadan.
Protocol: Ramadan practitioners (18 males, 5 females; mean age 6SEM = 23.1661.2 years) were evaluated before and two weeks into Ramadan. Blood was collected for measurements of endocrine and metabolic parameters at 9 am (61 hour) and again twelve hours later.
Results: In Ramadan, glucose concentration was kept within normal range, with a significant increase in the morning. Mean morning concentration of leptin was significantly higher than pre-Ramadan values (p = 0.001), in contrast to that of adiponectin, which was significantly lower (p,0.001). These changes were associated with increased insulin resistance in morning and evening. Concentrations of hsCRP were lower during Ramadan than those during regular living conditions, however, normal circadian fluctuation was abolished (p = 0.49). Even though means of liver enzymes, total bilirubin, total protein and albumin were all decreased during Ramadan, statistically lower means were only noted for GGT, total protein, and albumin (p = 0.018, 0.002 and 0.001 respectively).
Discussion: Saudi Ramadan practitioners have altered adipokine patterns, typical of insulin resistance. The noted decreases of hsCRP, liver enzymes, total protein, and albumin, are most likely a result of fasting, while loss of circadian rhythmicity of hsCRP is probably due to loss of circadian cortisol rhythm.
Conclusions: Modern Ramadan practices in Saudi Arabia, which are associated with evening hypercortisolism, are also characterized by altered adipokines patterns, and an abolished hsCRP circadian rhythm, all likely to increase cardiometabolic risk.

Research Title:	High Expression of Matrix Metalloproteinases (MMPs); MMP-2 and MMP-9 Predicts Poor Outcome in Colorectal Carcinoma
Source:	Modern Pathology Nature Publishing Group Volume 27, Issue 1, page 162-163
ISSN:	1530-0285
Date and Year of Publication:	2014-FEB
Impact Factor:	6.364
Affiliated Department(s):	Clinical Biochemistry, Medicine, Pathology
Author(s):	J Al-Maghrabi, N Salem, A Buhmeida, A Abuzenada, I Kamal, M Al-Qahtani, M Al-Ahwal
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ABSTRACT/POSTER

The current staging system along the conventional prognostic factors is the gold standard for prognosis of colorectal cancer (CRC). In spite of that, it is unable to distinguish those patients who might carry high risk of recurrence and poor outcome, which highlights the need for new molecular factors that could stratify patients into different risk categories. This study is aimed to assess the expression of selected group of matrix metalloproteinases (MMPs); MMP-2, MM-7 and MMP-9 in a subset of primary CRC and determine its relation to different clinico-pathological factors and survival. Paraffin blocks of 127 CRC patients were retrieved. Antigen expressions of MMP-2 and -9 were analyzed by immunohistochemistry (IHC) and their cytoplasmic and stromal staining was evaluated. The results showed that overexpressions of both MMP-2 and MMP-9 were a significant sign of poor outcome and recurrence as evaluated by univariate Kaplan–Meier for disease-free survival (DFS) (p= 0.012, p= 0.001) and disease-specific survival (DSS) (p= 0.012, p= 0.038). In multivariate survival (Cox) analysis, MMP-2 and -9 also were significant independent predictors of DFS (p= 0.006, p=0.018) and DSS as well (p= 0.004, p=0.049). These results implicate the usefulness of MMP-2 and -9 expressions in predicting outcome of patients with CRC.

Research Title:	Medicinal Herbs and Therapeutic Drugs Interactions.
Source:	Therapeutic Drug Monitoring Lippincott Williams & Wilkins Volume 0, Issue 0, page 1-10
ISSN:	1536-3694
Date and Year of Publication:	2014-AUG
Impact Factor:	1.926
Affiliated Department(s):	Clinical Biochemistry
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ABSTRACT

People mistakenly think that all herbs are safe, because of the fact that they are natural, and the use of herbal medication is growing. Aspects of the efficacy, safety, and quality of herbal or natural products are the subjects of on-going debates. Concurrent administration of herbs may interfere with the effect of drugs. Lack of knowledge of the interaction potential together with an underreporting of herbal use poses a challenge for health care providers and a safety concern for patients. A good understanding of the mechanisms of herb-drug interactions is also essential for assessing and minimizing clinical risks. Examples of herbal medicine-pharmaceutical drug interactions of commonly used herbs are presented. The potential pharmacokinetic and pharmacodynamic basis of such interactions is discussed, as well as the challenges associated with the identification and prediction of herb-drug interactions.

Research Title:	Optimization of self-nanoemulsifying systems for the enhancement of in vivo hypoglycemic efficacy of glimepiride transdermal patches
Source:	Expert Opinion on Drug Delivery Informa Healthcare Volume 11, Issue 7, page 1005-1013
ISSN:	1744-7593
Date and Year of Publication:	2014-JUL
Impact Factor:	4.116
Affiliated Department(s):	Clinical Biochemistry
Author(s):	Osama AA Ahmed, Mohsen I Afouna, Khalid M El-Say, Ashraf B Abdel-Naim, Alaa Khedr, Zainy M Banjar
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ABSTRACT

Objectives: To optimize and use of glimepiride (GMD)-loaded self-nanoemulsifying delivery systems (SNEDs) for the preparation of transdermal patches.
Methods: Mixture design was utilized to optimize GMD-loaded SNEDs in acidic and aqueous pH media. Optimized GMD-loaded SNEDs were used in the preparation of chitosan (acidic) and hydroxypropyl methyl cellulose (HPMC) (aqueous) films. The prepared optimized formulations were investigated for ex vivo skin permeation, for in vivo hypoglycemic activity and for their pharmacokinetic parameters using animal model.
Results: The optimized formulations showed flux value of (2.88 and 4.428 mu g/ cm(2)/h) through rat skin for chitosan and HPMC films, respectively. The pattern of GMD release from both formulations was in favor of Higuchi and approaching zero order models. The n values for Korsmeyer-Peppas equation were characteristic of anomalous (non-Fickian) release mechanism. Moreover, HPMC patches have shown significant reductions ($p < 0.05$) in blood glucose levels; (213.33 +/- 15.19) mg/100 ml from the base-line measurement after 12 h of application.
Conclusions: Optimized GMD SNEDs patches were found to improve GMD skin permeability and the essential pharmacokinetic parameters. Further extensive pre/clinical studies are necessary prior to use transdermal GMD as a valuable alternative to peroral dosage forms with improved bioavailability, longer duration of action and more patient convenience.

Research Title:	Potential of bone marrow mesenchymal stem cells in management of Alzheimer's disease in female rats
Source:	Cell Biology International Wiley-Blackwell Volume 38, Issue 12, page 1367-1383
ISSN:	1065-6995
Date and Year of Publication:	2014-DEC
Impact Factor:	1.635
Affiliated Department(s):	Clinical Biochemistry
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ABSTRACT

Alzheimer's disease (AD) has been called the disease of the century with significant clinical and socioeconomic impacts. Pharmacological treatment has limited efficacy and only provides symptomatic relief without long-term cure. Accordingly, there is an urgent need to develop novel and effective medications for AD. Stem cell-based therapy is a promising approach to handling neurodegenerative diseases. Therefore, the current study aimed to explore the possible therapeutic role of single intravenous injection of bone marrow derived mesenchymal stem cells (BM-MSCs) after 4 months in management of AD in the experimental model. The work also extended to compare the therapeutic potential of BM-MSCs with 2 conventional therapies of AD; rivastigmine and cerebrolysin administered daily. BM-MSCs were able to home at the injured brains and produced significant increases in the number of positive cells for choline acetyltransferase (ChAT) and survivin expression, as well as selective AD indicator-1 (seladin-1) and nestin gene expression. Histopathological examination indicated that BM-MSCs could remove beta-amyloid plaques from hippocampus. Significant improvement in these biomarkers was similar to or better sometimes than the reference drugs, clearly showing the potential therapeutic role of BM-MSCs against AD through their anti-apoptotic, neurogenic and immunomodulatory properties.

Research Title:	Structural and Functional Characterization of Pathogenic Non-Synonymous Genetic Mutations of Human Insulin-Degrading Enzyme by In Silico Methods
Source:	CNS & Neurological Disorders-Drug Targets Bentham Science Publishing Ltd Volume 13, Issue 3, page 517-532
ISSN:	1871-5273
Date and Year of Publication:	2014-APR
Impact Factor:	2.702
Affiliated Department(s):	Clinical Biochemistry, Medical Genetics, Pharmacology
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ABSTRACT

Insulin-degrading enzyme (IDE) is a key protease involved in degrading insulin and amyloid peptides in human body. Several non-synonymous genetic mutations of IDE gene have been recently associated with susceptibility to both diabetes and Alzheimer's diseases. However, the consequence of these mutations on the structure of IDE protein and its substrate binding characteristics is not well elucidated. The computational investigation of genetic mutation consequences on structural level of protein is recently found to be an effective alternate to traditional in vivo and in vitro approaches. Hence, by using a combination of empirical rule and support vector machine based in silico algorithms, this study was able to identify that the pathogenic non-synonymous genetic mutations corresponding to p.I54F, p.P122T, p.T533R, p.P581A and p.Y609A have more potential role in structural and functional deviations of IDE activity. Moreover, molecular modeling and secondary structure analysis have also confirmed their impact on the stability and secondary properties of IDE protein. The molecular docking analysis of IDE with combinational substrates has revealed that peptide inhibitors compared to small non-peptide inhibitor molecules possess good inhibitory activity towards mutant IDE. This finding may pave a way to design novel potential small peptide inhibitors for mutant IDE. Additionally by un-translated region (UTR) scanning analysis, two regulatory pathogenic genetic mutations i.e., rs5786997 (3' UTR) and rs4646954 (5' UTR), which can influence the translation pattern of IDE gene through sequence alteration of upstream-Open Reading Frame and Internal Ribosome Entry Site elements were identified. Our findings are expected to help in narrowing down the number of IDE genetic variants to be screened for disease association studies and also to select better competitive inhibitors for IDE related diseases.

Research Title:	Theonellamide G, a Potent Antifungal and Cytotoxic Bicyclic Glycopeptide from the Red Sea Marine Sponge Theonella swinhoei
Source:	Marine Drugs MDPI AG Volume 12, Issue 4, page 1911-1923
ISSN:	1660-3397
Date and Year of Publication:	2014-APR
Impact Factor:	3.512
Affiliated Department(s):	Clinical Biochemistry
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ABSTRACT

In our search for bioactive metabolites from marine organisms, we have investigated the polar fraction of the organic extract of the Red Sea sponge Theonella swinhoei. Successive chromatographic separations and final HPLC purification of the potent antifungal fraction afforded a new bicyclic glycopeptide, theonellamide G (1). The structure of the peptide was determined using extensive 1D and 2D NMR and high-resolution mass spectral determinations. The absolute configuration of theonellamide G was determined by chemical degradation and 2D NMR spectroscopy. Theonellamide G showed potent antifungal activity towards wild and amphotericin B-resistant strains of Candida albicans with IC50 of 4.49 and 2.0 M, respectively. Additionally, it displayed cytotoxic activity against the human colon adenocarcinoma cell line (HCT-16) with IC50 of 6.0 M. These findings provide further insight into the chemical diversity and biological activities of this class of compounds.

Research Title:	Therapeutic effects of mesenchymal stem cells on hepatocellular carcinma: tracking of cells using iron oxide nanoparticles
Source:	The FASEB Journal Federation of American Societies for Experimental Biology Volume 28, Issue 1 Supplement, page 87.3
ISSN:	0892-6638
Date and Year of Publication:	2014-APR
Impact Factor:	5.48
Affiliated Department(s):	Clinical Biochemistry, Pediatrics, Medicine
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ABSTRACT

Recently, a significant increase in the incidence of hepatocellular carcinoma (HCC) has been reported. However, early detection of the disease can help in selecting from various available therapies. Unfortunately, in advanced liver cancer cases, treatment options are very limited. In the present study, we point to the need to identify a new effective, less aggressive treatment approach. Advances in stem cell research, led us to consider cell-based therapy for treating liver cancer. It was previously reported that bone marrow derived mesenchymal stem cells (MSCs) have the tumor suppressive effects in an experimental HCC model in rats. In this work, we investigated the possible role of Wnt signaling in hepatic carcinogenesis and how it is influenced by by MSCs labeled with iron oxide nanoparticles. Forty rats were used and were divided equally into four groups: a normal control group and 3 groups that received diethylnitroseamine and CCl4 to induce HCC. Then after induction, one group was treated with MSCs only, the second group with PBS (vehicle) only, and the third group with labeled MSCs with iron-oxide nanoparticles. Gene expression of Wnt signaling target genes by reverse transcription-polymerase chain reaction (RT-PCR), in rat liver tissue, was measured. In addition, serum levels of liver function parameters and alpha fetoprotein were performed in all groups. Histopathological examination of the liver and organ samples from all groups was performed. Magnetic resonance imaging (MRI) was used to visualize MSCs loaded with iron oxide nanoparticles in the affected liver. We detected a significant tumor-mass reduction in the group which received MSCs compared to the control groups. The results of this work confirm the previous finding of a possible therapeutic effect of MSCs on HCC. In addition, the use of iron oxide nanoparticles may prove to be successful in tracking and localizing MSCs to the site of the lesion, which may provide a documentation of their therapeutic effect.

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Research Title:	A Single Center Experience in Biological Therapy for the Treatment of Rheumatoid Arthritis in Saudi Arabia
Source:	Open Journal of Rheumatology and Autoimmune Diseases Scientific Research Publishing Inc Volume 4, Issue 4, page 199-206
ISSN:	2163-9914
Date and Year of Publication:	2014-OCT
Impact Factor:	0
Affiliated Department(s):	Family Medicine
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ABSTRACT

Background: Biological therapy is indicated in the treatment of RA (Rheumatoid Arthritis) after failure of disease-modifying anti-rheumatic drugs (DMARDS) by the ACR/EULAR recommendations.

Objective: The objective of the study is to describe the characteristics of Saudi patients at the initiation of biological therapy and to evaluate clinical effectiveness of this therapy measured by the disease activity score DAS 28.

Methods: This was a retrospective cohort study of RA (rheumatoid arthritis) patients in King Fahad Hospital in Jeddah, Saudi Arabia from January 2005-July 2011. Data were collected from the medical records of all RA patients on biological therapy including: demographics, disease characteristics, comorbid illnesses and DAS 28 score over a period of 1 year.

Results: 139 patients were studied (mean age 46 ± 13 years), of which 118 (84%) were females; mean duration of affliction with RA was 7.2 years ranging 1 - 45 years. Rheumatoid factor (RF) was positive in 88 patients (63.3%) and one or more comorbidities were present in 102 patients (73.3%). First choice of biological drug was ADA (Adalimumab) 44 patients (31.7%) and RTX (Rituximab) was the 2nd frequently prescribed biological drug. Mean DAS 28 activity at baseline was in ADA 41 patients (6.10 ± 1.62), ETA (Etarnercept) 29 patients (6.64 ± 1.42) and RTX 50 patients (6.7 ± 1.32). Moderate to good EULAR response was obtained in 74%, 85.7% and 53.3% at 6 months in ADA, ETA and RTX patients respectively. Moderate to good EULAR response was obtained in 61.8%, 86.6% and 72% in ADA, ETA AND RTX patients respectively at 1 year of treatment. Therapeutic effectiveness was comparable with the response rates in published observational trials.

Conclusion: Our data demonstrate daily clinical practice in management of RA. The pattern of prescription is in agreement with the ACR/EULAR recommendations for initiation of biologicals in the treatment of RA.

Research Title:	Assessment of the Common Risk Factors Associated with Type 2 Diabetes Mellitus in Jeddah
Source:	International Journal of Endocrinology Hindawi Publishing Corporation Volume 2014, page 1-9
ISSN:	1687-8345
Date and Year of Publication:	2014-SEPT
Impact Factor:	1.515
Affiliated Department(s):	Family Medicine
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ABSTRACT

Risk factor management is important in avoiding life-threatening complications and preventing new-onset diabetes. We performed a case-control study in 2013 at ten primary health care centers in Jeddah, Saudi Arabia to determine the common risk factors of diabetes mellitus type 2 (DM2) and the demographic background of adult Saudi patients with DM2. Known diabetic patients were recruited as cases, while nondiabetic attendants were selected as controls. A pretested designed questionnaire was used to collect data from 159 cases and 128 controls. Cases were more likely than controls to be men ($P < 0.0001$), less educated ($P < 0.0001$), natives of eastern Saudi Arabia ($P < 0.0001$), retired ($P < 0.0001$), lower-salaried ($P < 0.0001$), or married or divorced ($P < 0.0001$). By univariate analysis cases were likely to be current smokers ($P < 0.0001$), hypertensive ($P < 0.0001$), or overweight/obese ($P < 0.0001$). Cases were also more likely to have a history of DM in a first-degree relative ($P = 0.020$). By multivariate analysis, cases were more likely to be older than 40 years ($P < 0.0001$), less educated ($P = 0.05$), married or divorced ($P = 0.04$), jobless/housewives ($P < 0.0001$), or current smokers ($P = 0.002$). They were also more likely to have salaries <7000 Saudi riyals ($P = 0.01$). Overall, prediabetic and high risk groups should be identified and counseled early before the occurrence of diabetes.

Research Title:	Characteristics and risk factors of candidemia in pediatric intensive care unit of a tertiary care children's hospital in Egypt
Source:	The Journal of Infection in Developing Countries The Journal of Infection in Developing Countries Volume 8, Issue 5, page 624-634
ISSN:	1972-2680
Date and Year of Publication:	2014-MAY
Impact Factor:	1.267
Affiliated Department(s):	Family Medicine
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ABSTRACT

Introduction: This study was conducted to determine characteristics of Candida colonization and candidemia in the pediatric intensive care unit (PICU) of a tertiary care children's hospital.
Methodology: Patients between 6 months and 15 years of age consecutively admitted to the PICU of Mansoura University Children's Hospital in Mansoura, Egypt, during one year period, were evaluated for Candida colonization and candidemia. Susceptibility of Candida species isolated from blood to fluconazole and amphotericin B was determined by Etest.
Results: Sixty-six patients without prior fluconazole prophylaxis had 88 episodes of candidemia, representing 19% of all cases with blood stream infections (BSIs). Candida albicans (CA) and non-albicans Candida (NAC) species accounted for 40% and 60% of candidemia episodes respectively. C. parapsilosis, C. tropicalis, and C. glabrata accounted for 25%, 17%, and 8% of NAC candidemias respectively. Fluconazole resistance was detected in 11.4% and 18.9% of CA and NAC isolates respectively. Of the fluconazole resistant NAC isolates, four were C. krusei. Amphotericin B resistance was detected in 17% of NAC isolates. Candida colonization was detected in 78.8% of patients. Compared to CA candidemia, higher risk for NAC candidemia was associated with age older than 1 year, Candida isolation from endotracheal tube (ETT) and from central venous catheter. Mortality rate was 42.4%, attributable mortality of candidemia was 16.7%. Regression analysis showed that the most significant independent predictors of death were ETT and mechanical ventilation (MV), MV longer than 7 days, and candiduria.
Conclusions: This study presents important epidemiological features of Candida BSIs in a non-neonatal population.

Research Title:	Comparison of RT-PCR assay and virus isolation in cell culture for the detection of alkhumra hemorrhagic fever virus.
Source:	Journal of Medical Virology Wiley Periodicals, Inc. Volume 86, Issue 7, page 1176-1180
ISSN:	1096-9071
Date and Year of Publication:	2014-JUL
Impact Factor:	2.217
Affiliated Department(s):	Family Medicine, Medicine
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ABSTRACT

Alkhumra hemorrhagic fever virus (AHFV) is an emerging flavivirus that was isolated originally from Saudi Arabia in 1994-1995. The main tests used for the detection of AHFV are the real time (rt) RT-PCR and virus isolation in cell culture. In the present study the detection of AHFV by rtRT-PCR was compared with virus isolation in BHK-21, HEp-2, and LLC-MK2 cell lines. AHFV suspensions grown in BHK-21, HEp-2, and LLC-MK2 cell lines were serially diluted 10-fold from 10(-1) to 10(-11) . Samples from each dilution were used to inoculate four cell culture tubes and were also examined by the rtRT-PCR for AHFV RNA. Fifteen non-inoculated cell culture samples (five from each cell line) were included blindly in both tests. Thus, a total of 132 AHFV-positive and 15 negative control samples were tested. The rtRT-PCR could detect the viral RNA in all diluted specimens up to and including the 10(-10) dilution (40 specimens for each cell line), whereas, cell cultures were positive in 70% of specimens for BHK-21, 65% for LLC-MK2, and 45% for HEp-2 at this dilution. None of the three cell cultures nor the rtRT-PCR was positive at 10(-11) dilution. The specificity and positive predictive values of virus isolation compared to rtRT-PCR were each 100%, whereas the negative predictive values were 29.4% for BHK-21, 26.3% for LLC-MK2, and 18.5% for HEp-2. In conclusion, the rtRT-PCR is more sensitive than virus isolation for detecting AHFV.

Research Title:	Complete Genome Sequencing and Genetic Characterization of Alkhumra Hemorrhagic Fever Virus Isolated from Najran, Saudi Arabia
Source:	Intervirology Karger Volume 57, Issue 5, page 300-310
ISSN:	0300-5526
Date and Year of Publication:	2014-AUG
Impact Factor:	1.773
Affiliated Department(s):	Family Medicine, Medicine
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ABSTRACT

Background: Alkhumra hemorrhagic fever virus (AHFV) is a newly described flavivirus first isolated in 1994-1995 from the Alkhumra district south of Jeddah, Saudi Arabia. Subsequently, the virus was also isolated from Makkah (2001 2003) and Najran (2008-2009), Saudi Arabia.

Methods: The full-length genome of an AHFV strain isolated from patients in Najran (referred to as AHFV/997/NJ/09/SA) was PCR amplified and sequenced, and compared with the sequences of 18 other AHFV strains previously isolated from Jeddah and Makkah, dengue virus (DENV), Kyasanur forest disease virus (KFDV), Langat virus, Omsk hemorrhagic fever virus (OHFV), and tick-borne encephalitis virus (TBEV).

Results: The RNA of the AHFV/997/NJ/09/SA strain was found to have 10,546 nucleotides encoding for a single 3,416-amino acid polyprotem, whereas the previously reported AHFV strains were composed of 10,685-10,749 nucleotides. The AHFV/997/NJ/09/ SA strain showed about 99% homology with the previously reported AHFV strains. The KFDV, Langat virus, TBEV, and OHFV isolates formed a separate cluster with a variable homology. The most important variations were observed in the core protein and NS4a gene sequences of two AHFV isolates.

Conclusion: The variation in the number of nucleotides and phylogenetic analysis with the other AHFV isolates could have resulted from recombination of circulating virus strains.

Research Title:	Energy Drinks Consumption amongst Medical Students and Interns from Three Colleges in Jeddah, Saudi Arabia
Source:	Journal of Food and Nutrition Research Science and Education Publishing Volume 2, Issue 4, page 174-179
ISSN:	2333-1240
Date and Year of Publication:	2014-APR
Impact Factor:	0.444
Affiliated Department(s):	Family Medicine
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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.

Research Title:	Impact of maternal breast cancer on school-aged children in Saudi Arabia
Source:	BMC Research Notes BioMed Central Ltd Volume 7, Issue 1, page 261
ISSN:	1756-0500
Date and Year of Publication:	2014-APR
Impact Factor:	0
Affiliated Department(s):	Medicine, Ob-Gyne, Family Medicine
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ABSTRACT

Background: We examine whether mothers with breast cancer told their children about the diagnosis, explore mothers' perceptions of the impact of doing so on the mother-child relationship, and assess perceptions of how this affected the children.
Methods: A convenience sample of 28 women with breast cancer ages 35 to 60 was interviewed using a 39-item close-ended questionnaire at the Al-Amoudi Breast Cancer Center of Excellence, King Abdulaziz University, Jeddah, Saudi Arabia. Inclusion criteria were having a diagnosis of breast cancer and having school-aged children (ages 5 to 16 years). Questions were asked concerning each child (n = 99).
Results: The majority of women (75%) told their children about the diagnosis, and explained the treatment (61%). In most cases, telling the children had a positive effect on how the children treated their mothers (84%), on the maternal-child relationship (80%), and on the personality and behavior of the child (90%). The most common negative reaction by children was increased clinging behavior to the mother (15%). Despite the perceived positive impact on the mother-child relationship and on the child's overall behavior towards the mother, school performance suffered as a result (77%).
Conclusions: These preliminary results suggest that when a mother with breast cancer tells a child about the diagnosis and discusses it with them, this often results in an improvement in the maternal-child relationship. However, the knowing the mother's diagnosis may adversely affect the child's school performance, which will need to be anticipated and addressed with formal counseling if it persists.

Research Title:	Interns' perceived abuse during their undergraduate training at King Abdul Aziz University
Source:	Advances in Medical Education and Practice Dovepress Volume 5, page 159-166
ISSN:	1179-7258
Date and Year of Publication:	2014-MAY
Impact Factor:	0
Affiliated Department(s):	Family Medicine
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ABSTRACT

Background and objectives: Abuse occurs in all workplaces, including the medical field. The aim of this study was to determine the prevalence of perceived abuse among medical students, the types of abuse experienced during medical training, the source of abuse, and the perceived barriers to reporting abuse.

Method: This cross-sectional survey was conducted between September 2013 and January 2014 among medical graduates of King Abdul Aziz University, Jeddah. The survey questionnaire was designed to gather information regarding the frequency with which participants perceived themselves to have experienced abuse, the type of abuse, the source of abuse, and the reasons for nonreporting of perceived abuse. Data were analyzed using the Statistical Package for the Social Sciences.

Result: Of the 186 students enrolled in this study, 169 (90.9%) reported perceiving some form of abuse during medical school training. Perceived abuse was most often verbal (86.6%), although academic abuse (73.1%), sex discrimination (38.7%), racial or ethnic discrimination (29.0%), physical abuse (18.8%), religious discrimination (15.1%), and sexual harassment (8.6%) were also reported. Professors were most often cited as the sources of perceived abuse, followed by associate professors, demonstrators (or assistant teaching staff), and assistant professors. The Internal Medicine Department was the most frequently cited department where students perceived themselves to have experienced abuse. Only 14.8% of the students reported the abuse to a third party.

Conclusion: The self-reported prevalence of medical student abuse at King Abdul Aziz University is high. A proper system for reporting abuse and for supporting victims of abuse should be set up, to promote a good learning environment.

Research Title:	Perception of Patients with Cancer towards Support Management Services and Use of Complementary Alternative Medicine - a Single Institution Hospital-Based Study in Saudi Arabia
Source:	Asian Pacific Journal of Cancer Prevention Head Office, Korean Natl Cancer Center Volume 15, Issue 6, page 2547-2554
ISSN:	1513-7368
Date and Year of Publication:	2014-JUN
Impact Factor:	1.5
Affiliated Department(s):	Ob-Gyne, Medical Education, Familiy Medicine, Medicine
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ABSTRACT

Background: To evaluate the perception of cancer patients toward treatment services and influencing factors and to inquire about the use of complementary alternative medicine (CAM).

Materials and Methods: Information was obtained through pre-tested structured questionnaires completed by cancer patients during treatment at King Abdulaziz University Hospital, Jeddah, Saudi Arabia.

Results: Of 242 patients, 137 (64.6%) accepted to enter this study. Most were Saudi (n=93, 68%), female (n=80, 58%), educated at university (n=71, 52%), married (n=97, 72%) and with breast cancer (n=36, 26%). One-hundred (73%) patients were satisfied with the services provided; 61% were Saudi. Ninety-four (68%) respondents were satisfied with the explanation of their cancer. Twenty-eight (21.6%) patients received CAM, of them 54.0% received herbal followed by rakia (21.0%), nutritional supplements/vitamins (7.0%) and Zamam water (18.0%), with significant differences among them (p =0.004). Seven (5%) patients believed this therapy could be used alone; 34 (25%) patients believed it could be used with other treatments, regardless of whether they themselves used this therapy. Fifty-three (53%) satisfied patients felt they received enough support; 31 (58%) patients received support from family and friends; 22 (41.6%) patients received support from the health-care team. Patients who received information about their disease from their physicians and those who felt they had enough support were more satisfied. The patients who took alternative treatment were older age, mostly female and highly educated but values did not reach significance.

Conclusions: We stress enhancing the educational and supportive aspects of cancer-patient services to improve their treatment satisfaction and emphasize the need for increasing the educational and awareness programs offered to these patients.

Research Title:	Pregnant Woman with Fulminant Disseminated TB to the Omentum and Placenta
Source:	Gynecology & Obstetrics OMICS Publishing Group Volume 4, Issue 5, page 1-3
ISSN:	2161-0932
Date and Year of Publication:	2014-MAY
Impact Factor:	3.687
Affiliated Department(s):	Family Medicine, Ob-Gyne
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CASE REPORT / ABSTRACT

This is a case report of a young 24 year old Somali woman in her 27th week of gestation who was given Rifampicin, Ethambutol, INH, Pyridoxine and Pyrazinamide as a treatment for systemic TB. She did not respond to the treatment. She died because of brainstem infarction (brain death). According to MRI results, multiple brain tuberculomas were seen suggesting brain TB. Brain biopsy was not done and the treatment was initiated at her 27th week of gestation. Patient arrested and was transferred to ICU with GCS of 3-4/15. Cesarean section was done at the 29th week of gestation and the infant was not infected. There were query tuberculosis seeding scattered all over the patient's omentum and placenta. A specimen was taken for histopathology, which demonstrated that the placenta and omentum contained focal areas of microinfarctions and necrotizing granulomas consistent with tuberculosis. We emphasize that screening should be done during pregnancy to discover dormant infection, asymptomatic disease and to lower the incidence of congenital TB. The aggressive early treatment for dissemination of the disease, especially when associated with pregnancy, and the importance of early diagnosis and therapy will result in regression of the lesions.

Research Title:	Propagation and titration of Alkhumra hemorrhagic fever virus in the brains of newborn Wistar rats.
Source:	Journal of Virological Methods Elsevier B.V. Volume 199, Issue 1, page 39-45
ISSN:	0166-0934
Date and Year of Publication:	2014-APR
Impact Factor:	1.883
Affiliated Department(s):	Family Medicine, Medicine, Pathology
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ABSTRACT

Alkhumra hemorrhagic fever virus (AHFV) is a novel flavivirus identified first in Saudi Arabia. In this study, successful propagation of AHFV in the brains of newborn Wistar rats is described and the median rat lethal dose (RLD50) is determined. AHFV-RNA-positive human sera diluted 1:10 were injected intracerebrally into 16, ≤24h old rats. Post-inoculation, the rats were observed daily for 30 days. Brains of moribund rats were tested for AHFV-RNA using RT-PCR and cultured in LLC-MK2 cells. The titer of the isolated virus was determined and expressed in median tissue culture infectious dose (TCID50). To determine the RLD50, AHFV brain suspension was 10-fold diluted serially and each dilution was inoculated in the cerebral hemispheres of 10 rats for a total of 90 rats. Three days post-inoculation, the rats developed tremor, irritability, convulsion, opisthotonus, and spastic paresis starting in the hind limbs and ascending to involve the whole body. All infected rats died within 3-7 days with histopathologically confirmed meningoencephalitis. AHFV-RNA was detected in the brains of all infected rats and the virus titer was 10(9.4) RLD50/ml. The virus titer in LLC-MK2 was 10(8.2) TCID50/ml. In conclusion, AHFV was propagated successfully to high titers in the brains of newborn Wistar rats.

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
ISSN:	1471-2458
Date and Year of Publication:	2014-APR
Impact Factor:	2.321
Affiliated Department(s):	Family Medicine, Medicine,
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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:	Serum Adipokines in Hypertensive Male Patients with Metabolic Syndrome and Risk of Left Ventricular Hypertrophy
Source:	Clinical Medicine and Diagnostics Scientific & Academic Publishing Volume 4, Isue 3, page 33-41
ISSN:	2163-1433
Date and Year of Publication:	2014-MAR
Impact Factor:	0
Affiliated Department(s):	Family Medicine
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ABSTRACT

Background: Adipokines had been suggested for their potential use in tracking the clinical progress in subjects with metabolic syndrome (MS). Retinol binding protein 4 (RBP4), an adipokine, that had been reported to induce insulin resistance and to play a role in the pathogenesis and severity of essential hypertension (EH), while adiponectin was known to have anti-inflammatory and anti-atherogenic activities.

Objective: to investigate the relationship between serum RBP4, adiponectin with insulin resistance in hypertensive (HTN) male patients and its role in the severity of hypertension and risk of left ventricular hypertrophy (LVH).

Subjects and Methods: This study included twenty five HTN male patients with mean age 48.84 ± 2.59 years and fifteen normal subjects with mean age 50.53 ± 1.96 years as a control (group III).The patients were divided into two groups; Group I, representing HTN patients with MS and Group II representing HTN patients without MS. All included males underwent history taking, physical examination including determination of BMI, waist circumference, blood pressure and the following laboratory investigations: measurement of levels of serum adiponectin, RBP4, lipid profile, uric acid, blood glucose, creatinine, high sensitivity C-reactive protein (hs-CRP) and, insulin together with calculation of homeostasis model assessment-insulin resistance (HOMA-IR). Assays of serum RBP4 and adiponectin were carried out using an enzyme-linked immunosorbent assay (ELISA) technique.

Results: Patients in Group I were found to have significant higher values of RBP4, BMI, waist circumference, HOMA-IR, uric acids and triglycerides with low adiponectin levels together with high prevalence of LVH compared to patient group II. Serum RBP4 was found to be positively correlated with HOMA-IR, hs-CRP, uric acid, systolic and diastolic blood pressure and negatively correlated with adiponectin and HDL. The area under the ROC curve (AUC) for adiponectin was 0.894 with cut-off value ≤10.75 μg/mL, while the AUC for RBP4 was 0.962 with cut-off value > 101 ng/mL.

Conclusion: increased serum RBP4 and HOMA-IR with decreased adiponectin levels have a predictive value for the severity of hypertension and associated risk of LVH in HTN patients with MS.

Research Title:	Sleep habits in adolescents of Saudi Arabia; distinct patterns and extreme sleep schedules
Source:	Sleep Medicine Elsevier Science Bv Volume 15, Issue 11, page 1370-1378
ISSN:	1878-5506
Date and Year of Publication:	2014-NOV
Impact Factor:	3.1
Affiliated Department(s):	Family Medicine, Medicine
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ABSTRACT

Background and Study Objectives: There is a need for comprehensive studies on adolescents' sleep habits in the Middle Eastern region. The aim of this study was to investigate the sleep-wake patterns, prevalence of excessive daytime sleepiness (EDS), and disturbed sleep among adolescents in Saudi Arabia and to identify the associated factors.
Methods: The study was a cross-sectional survey done on a random sample of 1035 high school students, ages 14-23 years, in Jeddah, Saudi Arabia. The response rate was 91%. Students filled a self-reported questionnaire that included sleep-wake questions, Pittsburgh Sleep Quality Index, Epworth Sleepiness Scale, Perceived Stress Scale, academic performance, and personal data.
Results: Students slept an average of 7.0 hours on school nights, with an average delay of 2.8 and 6.0 hours in weekend sleep and rise times, respectively. Around 1 in 10 students stayed up all night and slept after returning from school (exhibiting a reversed sleep cycle) on weeknights. This pattern was more prevalent among boys and students with lower grade point averages. The prevalence of sleep disturbance was 65%, and EDS was found in 37% of the students. Predictors of EDS were school type, stress, napping and caffeine use, while gender was a predictor of disturbed sleep.
Conclusions: Adolescents in Saudi Arabia showed a high percentage of poor sleep quality. Compared with adolescents from other countries, they had a larger delay in weekend sleep and rise times. An alarming reversed sleep cycle on weekdays is present and highlights the need for further assessment.

Research Title:	Surveillance of Communicable Diseases in Era of Emerging Viral Zoonotic Infections: lessons from H1N1and MERS-CoV
Source:	Austin Journal of Public Health and Epidemiology Austin Publishing Group Volume 1, Issue 1, page 1005
ISSN:	2381-9014
Date and Year of Publication:	2014-JAN
Impact Factor:	0
Affiliated Department(s):	Family Medicine
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CASE REPORT

The threat of communicable diseases is re-emerging both in developed and developing countries. In the era of globalization the world around us is becoming progressively interconnected, complex and human health is increasingly perceived as the integrated outcome of its diverse determinants. Changes in commercial and social practices, the environment, and travel will continually provide new opportunities for new viral pathogens to infect humans. Importantly, many of these viruses, including influenza, Hendra, Nipah and corona are of zoonotic importance

Emerging zoonotic viral diseases outbreaks are increasing in number with at least 65% of recent major disease epidemics have zoonotic origins. The pandemic of Severe Acute Respiratory Syndrome (SARS) in 2003, the highly pathogenic avian influenza (HPAI) H5N1 in 2003 also, a novel 2009 influenza A/H1N1 pandemic and 2013 infections with influenza A (H7N9) with serious illness in China, and many other viruses are examples of such emerging viral zoonotic infectious diseases.

In 2012, a novel human Middle East Respiratory Syndrome - Corona Virus (MERS-CoV) has emerged in to cause fatal human infections. The virus has a zoonotic origin and recent studies confirmed that MERS-CoV infects dromedary camels and that this virus is genetically very similar to a MERS-CoV that is infecting humans . Furthermore, there are five corona viruses that can infect people are: alpha corona viruses 229E and NL63 and beta corona viruses OC43, HKU1, and SARS-CoV . The earliest known human infections with MERS-CoV occurred in Jordan in March, 2012 , after that Professor Ali Zaki conducted laboratory isolation and identification of the virus from a patient in Saudi Arabia occurring some months later . Globally, at 1st July 2014, 827 laboratory-confirmed cases of infection with MERS-CoV, including at least 287 related deaths have officially been reported to WHO. MERS-CoV infections present with high case-fatality ratio (~40%), multiple transmission routes are suspected, more among healthcare workers, with multiple disease foci are affecting Gulf Region, and cases have been exported to several other countries. However, we still remain with many unanswered questions about the virus with lack serological studies, sequences from human cases, treatment or vaccines.

Research Title:	Thermal inactivation of Alkhumra hemorrhagic fever virus
Source:	Archives of Virology Springer Vienna Volume 159, issue 10, page 2687-2691
ISSN:	1432-8798
Date and Year of Publication:	2014-OCT
Impact Factor:	2.282
Affiliated Department(s):	Medicine, Family Medicine
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ABSTRACT

The physico-chemical and biological characteristics of Alkhumra hemorrhagic fever virus (AHFV) are not yet known. The present study describes the thermal stability of this virus at different temperatures for different periods. The kinetics of thermal inactivation were studied, linear regressions were plotted, the Arrhenius equation was applied, and the activation energy was calculated accordingly. Titers of the residual virus were determined in median tissue culture infective dose (TCID50), and the rate of destruction of infectivity at various temperatures was determined. Infectivity of AHFV was completely lost upon heating for 3 minutes at 60 A degrees C and for 30 min at 56 A degrees C. However, the virus could maintain 33.2 % of its titer after heating for 60 min at 45 A degrees C and 32 % of its titer after heating for 60 min at 50 A degrees C. In conclusion, AHFV is thermo-labile, and its inactivation follows first-order kinetics.

Research Title:	Trends in ultrasound examination in family practice
Source:	Journal of Family and Community Medicine Medknow Publications Volume 21, Issue 2, page 107-111
ISSN:	2230-8229
Date and Year of Publication:	2014-MAY
Impact Factor:	0
Affiliated Department(s):	Family Medicine
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ABSTRACT

Background: Ultrasound examination is very frequently used for the evaluation of abnormalities in various organs of the body. Our aim was to determine whether the requests by family physicians (FPs) for ultrasound examinations were appropriate. Our secondary objective was to enumerate positive and negative ultrasound reports for various diagnostic indications.

Materials And Methods: This cross-sectional study was conducted during the period of month between June and August 2010, at the Family Medicine Department of North West Armed Forces Prince Salman Hospital, Tabuk. We reviewed the ultrasound requests of all patients included in this study and the findings of the procedure. Data were analyzed using the Statistical Package for the Social Sciences (SPSS Inc., Chicago, IL), version 16.0.

Results: The requests and reports of 815 patients for ultrasound were reviewed. Females comprised 58.7% of the referred cases. The mean age of the sample at referral was 30 ± 18.5 for females and 34 ± 20.7 for males. Only 46% of the request forms contained conclusive information and instructions. Abdominal/pelvic ultrasounds were the most frequently requested; Nearly 71.2% of the ultrasound scans were normal. Abdominal/pelvis ultrasound was more likely to be reported as normal than ultrasound scans of other regions (P = 0.007). Patients aged 41-60 years were more likely to have an abnormal ultrasound (P = 0.02).

Conclusion: Our findings suggest that FPs have to be educated about imaging referral protocols in order to achieve better outcomes.

Research Title:	Unique features and risk factors of Helicobacter pylori infection at the main children's intermediate school in Rabigh, Saudi Arabia
Source:	Indian Journal of Gastroenterology Springer International Publishing AG Volume 33, Issue 4, page 375-382
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Date and Year of Publication:	2014-JUL
Impact Factor:	0
Affiliated Department(s):	Family Medicine
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ABSTRACT

Background: This study was conducted to determine characters and risk factors of Helicobacter pylori infection and its relationship with recurrent abdominal pain and other gastrointestinal symptoms at the main children's intermediate school in Rabigh, Saudi Arabia.

Methods: A cross-sectional study was conducted at a boys' intermediate school. A questionnaire for the gastrointestinal (GI) symptoms and relevant personal and socioeconomic risk factors related to H. pylori infection was distributed followed by H. pylori IgG antibody assay and 14C urea breath test to detect active infection.

Results: H. pylori was diagnosed by positive urea breath test in 51.5 % of students. H. pylori infection was symptomatic with at least one upper GI symptom in 89.7 % of infected students which was higher than symptomatic cases reported in any other study. H. pylori-infected students had significantly more association with the presence of any upper GI symptom ($p < 0.001$), recurrent abdominal pain ($p < 0.001$), anorexia ($p < 0.001$), nausea ($p < 0.026$), family history of peptic disease ($p < 0.001$), drinking desalinated municipal water ($p < 0.001$), lower income ($p = 0.02$), and eating outside home ($p = 0.003$) than uninfected students. Logistic regression analysis showed that the most significant predictors of H. pylori infection were presence of any upper GI symptom (OR 5.3, 95 % CI 2.32–15.71), family history of peptic disease (OR 2.2, 95 % CI 1.11–3.9), and drinking desalinated municipal water (OR 2.1, 95 % CI 1.09–3.2).

Conclusions: This study presented unique features and risk factors of H. pylori infection in 12–15-year-old Saudi boys in Rabigh, and mainly supported the role of H. pylori in causing recurrent abdominal pain.

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Research Title:	A Nanotechnological Approach to the Management of Alzheimer Disease and Type 2 Diabetes
Source:	CNS & Neurological Disorders-Drug Targets Bentham Science Publishing Ltd Volume 13, Issue 3, page 478-476
ISSN:	1871-5273
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Impact Factor:	2.702
Affiliated Department(s):	Hematology
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ABSTRACT

Alzheimer's disease (AD) and type 2 diabetes (T2D) are both prevalent in older individuals and have gained significant attention due to alarming rates of increase. The high incidences of these diseases pose a great socioeconomic burden and cause major public health concerns worldwide. A number of studies have established potential links between AD and T2D, supporting the hypothesis that T2D is linked with an increased risk of AD and that controlling diabetes could have a positive impact on the prevention of AD. At present, both diseases lack precise diagnostic approaches for early intervention and effective cure. Further, the currently available diagnostic tools for AD screening are insufficiently sensitive and robust for preventive measures. Although several drugs are used for the treatment of both these diseases, none of these drugs offers complete remission of the disease, merely symptomatic relief. Moreover, these drugs have limited efficacy because of problems such as conventional drug delivery systems beyond the blood brain barrier, a lack of target specificity and diminished potency. From this perspective, the emerging field of nanotechnology has offered new techniques and tools to overcome these challenges. In this review, we discuss the direct and indirect limitations of existing therapies and describe alternative potential nanotechnological approaches that could be utilized to overcome these limitations. New insight in the field of nanomedicine is necessary for early diagnosis, the development of novel drug therapies, the action of drugs and prevention, as well as for gaining an in-depth understanding of the complex biology of both diseases.

Research Title:	Anticancer Compound Plumbagin and Its Molecular Targets: A Structural Insight into the Inhibitory Mechanisms Using Computational Approaches
Source:	PLOS One Public Library Science Volume 9, Issue 2, page 1-12
ISSN:	1932-6203
Date and Year of Publication:	2014-FEB
Impact Factor:	3.534
Affiliated Department(s):	Hematology
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ABSTRACT

Plumbagin (5-hydroxy-2-methyl-1,4-naphthoquinone) is a naphthoquinone derivative from the roots of plant Plumbago zeylanica and belongs to one of the largest and diverse groups of plant metabolites. The anticancer and antiproliferative activities of plumbagin have been observed in animal models as well as in cell cultures. Plumbagin exerts inhibitory effects on multiple cancer-signaling proteins, however, the binding mode and the molecular interactions have not yet been elucidated for most of these protein targets. The present study is the first attempt to provide structural insights into the binding mode of plumbagin to five cancer signaling proteins viz. PI3K gamma, AKT1/PKB alpha, Bcl-2, NF-kappa B, and Stat3 using molecular docking and (un) binding simulation analysis. We validated plumbagin docking to these targets with previously known important residues. The study also identified and characterized various novel interacting residues of these targets which mediate the binding of plumbagin. Moreover, the exact modes of inhibition when multiple mode of inhibition existed was also shown. Results indicated that the engaging of these important interacting residues in plumbagin binding leads to inhibition of these cancer-signaling proteins which are key players in the pathogenesis of cancer and thereby ceases the progression of the disease.

Research Title:	Candida identification: a journey from conventional to molecular methods in medical mycology
Source:	World Journal of Microbiology & Biotechnology Springer Volume 30, Issue 5, page 1437-1451
ISSN:	1573-0972
Date and Year of Publication:	2014-MAY
Impact Factor:	1.353
Affiliated Department(s):	Hematology, Microbiology and Medical Parasitology
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ABSTRACT

The incidence of Candida infections have increased substantially in recent years due to aggressive use of immunosuppressants among patients. Use of broad-spectrum antibiotics and intravascular catheters in the intensive care unit have also attributed with high risks of candidiasis among immunocompromised patients. Among Candida species, C. albicans accounts for the majority of superficial and systemic infections, usually associated with high morbidity and mortality often caused due to increase in antimicrobial resistance and restricted number of antifungal drugs. Therefore, early detection of candidemia and correct identification of Candida species are indispensable pre-requisites for appropriate therapeutic intervention. Since blood culture based methods lack sensitivity, and species-specific identification by conventional method is time-consuming and often leads to misdiagnosis within closely related species, hence, molecular methods may provide alternative for accurate and rapid identification of Candida species. Although, several molecular approaches have been developed for accurate identification of Candida species but the internal transcribed spacer 1 and 2 (ITS1 and ITS2) regions of the rRNA gene are being used extensively in a variety of formats. Of note, ITS sequencing and PCR-RFLP analysis of ITS region seems to be promising as a rapid, easy, and cost-effective method for identification of Candida species. Here, we review a number of existing techniques ranging from conventional to molecular approaches currently in use for the identification of Candida species. Further, advantages and limitations of these methods are also discussed with respect to their discriminatory power, reproducibility, and ease of performance.

Research Title:	Deviating From Safety Guidelines During Deferiprone Therapy in Clinical Practice May Not be Associated With Higher Risk of Agranulocytosis
Source:	Pediatric Blood & Cancer Wiley-Blackwell Volume 61, Issue 5, page879-884
ISSN:	1545-5017
Date and Year of Publication:	2014-MAY
Impact Factor:	2.562
Affiliated Department(s):	Hematology
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ABSTRACT

Background: A risk associated with the iron chelator deferiprone is the development of neutropenia or agranulocytosis. Accordingly, the product label recommends weekly blood monitoring and immediate interruption of treatment upon detection of an absolute neutrophil count (ANC) <1.5x10(9)/L, out of concern that continued therapy might lead to a more severe drop. However, it is uncertain how these recommendations are followed under real-life conditions and, if they are not followed, whether continuation of therapy results in increased incidence of agranulocytosis.
Procedure: This non-interventional surveillance program assessed the monitoring of deferiprone therapy in clinical practice. A total of 294 patients with transfusion-dependent anemias received deferiprone, as monotherapy or with another chelator, for up to 1 year. The participating physicians were not given any instructions about treatment and monitoring beyond being referred to the information in the package insert.
Results: ANC monitoring was conducted at an average interval of 54 weeks, and deferiprone was not always interrupted upon detection of neutropenia. One patient (0.3%) experienced agranulocytosis, and nine others (3%) experienced a total of 11 episodes of neutropenia. All neutropenia episodes resolved; median time to resolution was similar whether or not treatment was interrupted; and no case of neutropenia progressed to agranulocytosis.
Conclusions: These data indicate that less frequent ANC monitoring and continuation of deferiprone therapy during neutropenia are not associated with prolonged neutropenia or with progression to agranulocytosis.

Research Title:	Distribution of HBV genotypes from two blood transfusion centers in western Saudi Arabia
Source:	Future Virology Future Medicine Ltd Volume 9, Issue 5, page 457-464
ISSN:	1746-0808
Date and Year of Publication:	2014-MAY
Impact Factor:	1
Affiliated Department(s):	Hematology
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ABSTRACT

Aim: To determine the distribution of HBV genotypes among HBsAg-positive blood donors in Makkah and Jeddah.
Materials & methods: A total of 158 volunteered HBsAg-positive male blood donors donated blood samples at two transfusion centers in western Saudi Arabia. RFLP digestion was performed on 83 PCR products of the S gene. A subset of 77 positive samples were sequenced and aligned with reference Genbank sequences.
Results: RFLP showed the following genotype distribution: 71 (85.6%) D; two (2.4%) E; one (1.2%) A; one (1.2%) B; one (1.2%) C; five (6.0%) untypable; one (1.2%) mixed genotypes D+A; and one (1.2%) mixed genotype D+C. Seventy-seven samples were genotyped by sequencing as follows: 73 (94.8%) D, three (3.9%) E; and one (1.3%) A. The study showed that there is concordance in the results of RFLP and sequencing in 67 samples and discrepancy in ten samples: genotypes B, genotype C, one of genotype E and dual genotypes by RFLP could only been detected as genotype D by sequencing. Sequencing showed the RFLP untypable samples as genotypes D and E.
Conclusion: HBV type D is the most prevalent genotype in western Saudi Arabia. RFLP is a reliable tool for predicting genotype D in Saudi population.

Research Title:	Genomic Linkage Between Alzheimer's Disease and Type 2 Diabetes
Source:	CNS & Neurological Disorders-Drug Targets Bentham Science Publishing Ltd Volume 13, Issue 2, page 203-212
ISSN:	1996-3181
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Impact Factor:	2.702
Affiliated Department(s):	Hematology
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ABSTRACT

Alzheimer's disease (AD) is a major health concern that affects nearly every society worldwide. The disease is an irreversible, progressive and age-related neurodegenerative disorder. It is characterized by impaired cognitive function and the diffuse deposition of amyloid plaques and neurofibrillary tangles. The causes of AD and the underlying mechanisms that trigger the onset of the disease are still a matter of debate. Several epidemiological studies have shown that the development of AD is associated with type 2 diabetes mellitus (T2D). In this review, we provide evidence for the link between T2D and AD, highlighting the critical role of insulin in the pathogenesis of these diseases, and we provide information on the genes that might be involved in the interplay between these two disorders. New insight into the complex biology of AD is necessary for the early diagnosis of the disease, the development of novel drug therapies and the prevention of these health issues.

Research Title:	Paroxysmal nocturnal hemoglobinuria: Diagnosis and management protocol
Source:	Journal of Applied Hematology Medknow Publications Volume 5, Issue 2, page 37-44
ISSN:	1658-5127
Date and Year of Publication:	2014-JUL
Impact Factor:	0.95
Affiliated Department(s):	Hematology
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ABSTRACT

Paroxysmal nocturnal hemoglobinuria (PNH) is an acquired, rare clonal blood disorder, characterized by chronic intravascular hemolysis, bone marrow failure, renal failure and pulmonary hypertension, and a heightened risk of thrombotic complications. PNH etiology is an Y-linked gene somatic mutation of the phosphatidylinositol glycan class ť (PIG-A), that results in deficiency of the glycosylphosphatidylinositol anchor structure responsible for fixing a wide spectrum of proteins on blood cell membranes, absence of these proteins, particularly CD55 and CD59, dysregulates the complement on cell membranes and results in significant chronic complement-mediated hemolysis. Early diagnosis of PNH is crucial for effective disease management. However, the heterogeneity of clinical symptoms and rarity of this disease usually results in untimely diagnosis, severe disability of patients, and increased risk of fatal complication. These recommendations are formulated by a panel of experts from the gulf cooperation countries. This information reflects their experience and to assist specialists looking after PNH patients, including hematologists, nephrologists, dialysis specialists, gastroenterologists, cardiologists, and surgeons.

Research Title:	Proteomics Approaches to Understand Linkage Between Alzheimer's Disease and Type 2 Diabetes Mellitus
Source:	CNS & Neurological Disorders-Drug Targets Bentham Science Publishing Ltd Volume 13, Issue 2, page 213-225
ISSN:	1996-3181
Date and Year of Publication:	2014-MAR
Impact Factor:	2.702
Affiliated Department(s):	Hematology
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ABSTRACT

Alzheimer's disease (AD) is a progressive neurological disease of the brain leading to the irreversible loss of neurons and intellectual abilities. Diabetes mellitus type 2 (T2DM) is a metabolic disorder that is characterized by high blood glucose in the context of insulin resistance and relative insulin deficiency. The prevalence of AD and T2DM is increasing at an alarming rate and has become a major public health concern worldwide. The clinico-pathological relationship between AD and T2DM has been debated for more than a decade. Recent epidemiological studies have provided direct evidence that T2DM is a strong risk factor for AD and numerous studies have demonstrated that patients with diabetes have an increased risk of developing AD as compared with healthy individuals. The underlying biological mechanisms that link the development of diabetes with AD are not fully understood and therefore are worth intensive research. The existence of proteomic links between AD and diabetes is an important topic currently under active debate. An understanding of the complex association between diabetes and AD is necessary for the development of novel drug therapies and lifestyle guidelines aimed at the treatment and/or prevention of these diseases. This review aims to summarize what is currently known about the biological and especially proteomic relationships and similarities between these two age-related devastating diseases of modern day life. This study may also aid in future for the identification of a single or a panel of potential blood-based protein biomarkers for early diagnosis of AD and T2DM with high sensitivity and specificity.

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Research Title:	Differences In Studying Habits Between Male And Female Medical Students Of King Abdulaziz University
Source:	Egyptian Dental Journal Research Gate Volume 2014, Issue 60, page 1687-1693
ISSN:	0070-9484
Date and Year of Publication:	2014-APR
Impact Factor:	0
Affiliated Department(s):	Medicine, Medical Education
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ABSTRACT

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 201 1 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 10 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=0.02 l). 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.

Research Title:	Does the Study Guide Represent a Helpful Learning Tool for Medical Students? Students Perspectives
Source:	Jokull Journal 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
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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.

Research Title:	Evaluating staff skills and needs for conducting distance learning healthcare courses
Source:	icehtm.net
ISSN:	
Date and Year of Publication:	2014-JUN
Impact Factor:	0
Affiliated Department(s):	Clinical Biochemistry, Medical Education, Microbiology and Parasitology, Medicine
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ABSTRACT

Introduction: The widespread utilization of technology in business and social environments offers a pedagogical shift. The era of technology has brought great expansion in the development and introduction of online courses and technology tools to teaching and learning strategies. The development of distance learning courses and programs should be based on sound pedagogical principals. Academic staff members and other healthcare professionals, who are responsible for teaching and physician training, should be aware of the principal of course design, development, implementation, and therefore, they need to follow one of the instructional design approaches such as the ADDIE Approach.
Aim: The aim of this study is to evaluate instructors' skills and needs for conducting distance learning healthcare courses, including the level of assistance they need to implement and use online and software tools in online courses. In addition, this study evaluates the level of helpfulness of different types of training and support.
Methods: This study applied the online faculty survey used by the Center for Teaching Excellence, University of South Carolina to assess the faculty's instructional technology needs for training and support. The survey asked faculty staff about a broad number of classroom and online technologies, with a helpful response scale that reveals not only what the faculty is already using, but also what the instructors want to use and what they need help with.
Results: The results of this study illustrated the significant need of faculty staff members for the training and development of their skills in almost all tools used for conducting online courses. Regarding the use of software, although the majority of participating staff members in this study use almost all software tools required for conducting online healthcare courses, they expressed a need for help in developing new ideas to use the software effectively
Conclusion: The results of this study showed that it is essential to organize comprehensive faculty development training courses to help staff members conduct their online courses or convert their face-to-face courses to blended courses effectively. These courses should include an introductory course and provide training on instructional design, the use of technology tools, and assessment techniques in online courses.

Research Title:	Knowledge, Perception, and Attitudes About Cancer and its Treatment Among Healthy Relatives of Cancer Patients: Single Institution Hospital-Based Study in Saudi Arabia
Source:	Journal of Cancer Education Springer Volume 29, Issue 4, page 772-780
ISSN:	0885-8195
Date and Year of Publication:	2014-DEC
Impact Factor:	1.054
Affiliated Department(s):	OB-Gyne, Medicine, Medical Education
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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:	Perception of Patients with Cancer towards Support Management Services and Use of Complementary Alternative Medicine - a Single Institution Hospital-Based Study in Saudi Arabia
Source:	Asian Pacific Journal of Cancer Prevention Head Office, Korean Natl Cancer Center Volume 15, Issue 6, page 2547-2554
ISSN:	1513-7368
Date and Year of Publication:	2014-JUN
Impact Factor:	1.5
Affiliated Department(s):	Ob-Gyne, Medical Education, Familiy Medicine, Medicine
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ABSTRACT

Background: To evaluate the perception of cancer patients toward treatment services and influencing factors and to inquire about the use of complementary alternative medicine (CAM).

Materials and Methods: Information was obtained through pre-tested structured questionnaires completed by cancer patients during treatment at King Abdulaziz University Hospital, Jeddah, Saudi Arabia.

Results: Of 242 patients, 137 (64.6%) accepted to enter this study. Most were Saudi (n=93, 68%), female (n=80, 58%), educated at university (n=71, 52%), married (n=97, 72%) and with breast cancer (n=36, 26%). One-hundred (73%) patients were satisfied with the services provided; 61% were Saudi. Ninety-four (68%) respondents were satisfied with the explanation of their cancer. Twenty-eight (21.6%) patients received CAM, of them 54.0% received herbal followed by rakia (21.0%), nutritional supplements/vitamins (7.0%) and Zamam water (18.0%), with significant differences among them (p =0.004). Seven (5%) patients believed this therapy could be used alone; 34 (25%) patients believed it could be used with other treatments, regardless of whether they themselves used this therapy. Fifty-three (53%) satisfied patients felt they received enough support; 31 (58%) patients received support from family and friends; 22 (41.6%) patients received support from the health-care team. Patients who received information about their disease from their physicians and those who felt they had enough support were more satisfied. The patients who took alternative treatment were older age, mostly female and highly educated but values did not reach significance.

Conclusions: We stress enhancing the educational and supportive aspects of cancer-patient services to improve their treatment satisfaction and emphasize the need for increasing the educational and awareness programs offered to these patients.

Research Title:	Social Impact of Dialysis on Children and Their Families
Source:	The Indian Journal of Pediatrics Springer India Volume 81, Issue 10, page 1020-1026
ISSN:	0019-5456
Date and Year of Publication:	2014-OCT
Impact Factor:	0.919
Affiliated Department(s):	Pediatrics, Medical Education
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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:	Life Science Journal Elsevier B.V. Volume 11, issue 12, page 102-108
ISSN:	1097-8135
Date and Year of Publication:	2014-DEC
Impact Factor:	2.296
Affiliated Department(s):	Medical Education, Medical Genetics, ORL
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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 individulas with a syndromic diagnosis known to have ORL problems or who sufferd from speech delay were refered 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 reffered 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.

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Research Title:	A common Greenlandic TBC1D4 variant confers muscle insulin resistance and type 2 diabetes
Source:	Nature Nature Publishing Group Volume 512, Article 7513, page 190-190
ISSN:	1476-4687
Date and Year of Publication:	2014-AUG
Impact Factor:	42.351
Affiliated Department(s):	Medical Genetics
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ABSTRACT

The Greenlandic population, a small and historically isolated founder population comprising about 57,000 inhabitants, has experienced a dramatic increase in type 2 diabetes (T2D) prevalence during the past 25 years(1). Motivated by this, we performed association mapping of T2D-related quantitative traits in up to 2,575 Greenlandic individuals without known diabetes. Using array-based genotyping and exome sequencing, we discovered a nonsense p.Arg684Ter variant (in which arginine is replaced by a termination codon) in the gene TBC1D4 with an allele frequency of 17%. Here we show that homozygous carriers of this variant have markedly higher concentrations of plasma glucose(beta=3.8 mmol l(-1), P = 2.5 X 10(-35)) and serum insulin (beta = 165 pmol l(-1), P = 1.5 X 10(-20)) 2 hours after an oral glucose load compared with individuals with other genotypes (both non-carriers and heterozygous carriers). Furthermore, homozygous carriers have marginally lower concentrations of fasting plasma glucose (beta = -0.18 mmol l(-1), P = 1.1 X 10(-6)) and fasting serum insulin (beta = -8.3 pmol l(-1), P = 0.0014), and their T2D risk is markedly increased (odds ratio (OR) = 10.3, P = 1.6 X 10(-24)). Heterozygous carriers have a moderately higher plasma glucose concentration 2 hours after an oral glucose load than non-carriers (beta = 0.43 mmol l(-1), P = 5.3 X 10(-5)). Analyses of skeletal muscle biopsies showed lower messenger RNA and protein levels of the long isoform of TBC1D4, and lower muscle protein levels of the glucose transporter GLUT4, with increasing number of p.Arg684Ter alleles. These findings are concomitant with a severely decreased insulin-stimulated glucose uptake in muscle, leading to postprandial hyperglycaemia, impaired glucose tolerance and T2D. The observed effect sizes are several times larger than any previous findings in large-scale genome-wide association studies of these traits(2-4) and constitute further proof of the value of conducting genetic association studies outside the traditional setting of large homogeneous populations.

Research Title:	Adaptations to a Subterranean Environment and Longevity Revealed by the Analysis of Mole Rat Genomes.
Source:	Cell Reports Elsevier Inc Volume 8. Issue 5, page 641-647
ISSN:	2211-1247
Date and Year of Publication:	2014-SEPT
Impact Factor:	7.207
Affiliated Department(s):	Medical Genetics
Author(s):	Xiaodong Fang, Inge Seim, Zhiyong Huang, Maxim V Gerashchenko, Zhiqiang Xiong, Anton A Turanov, Yabing Zhu, Alexei V Lobanov, Dingding Fan, Sun Hee Yim, Xiaoming Yao, Siming Ma, Lan Yang, Sang-Goo Lee, Eun Bae Kim, Roderick T Bronson, Radim Šumbera, Rochelle Buffenstein, Xin Zhou, Anders Krogh, Thomas J Park, Guojie Zhang, Jun Wang, Vadim N Gladyshev
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ABSTRACT

Subterranean mammals spend their lives in dark, unventilated environments that are rich in carbon dioxide and ammonia and low in oxygen. Many of these animals are also long-lived and exhibit reduced aging-associated diseases, such as neurodegenerative disorders and cancer. We sequenced the genome of the Damaraland mole rat (DMR, Fukomys damarensis) and improved the genome assembly of the naked mole rat (NMR, Heterocephalus glaber). Comparative genome analyses, along with the transcriptomes of related subterranean rodents, revealed candidate molecular adaptations for subterranean life and longevity, including a divergent insulin peptide, expression of oxygen-carrying globins in the brain, prevention of high CO2-induced pain perception, and enhanced ammonia detoxification. Juxtaposition of the genomes of DMR and other more conventional animals with the genome of NMR revealed several truly exceptional NMR features: unusual thermogenesis, an aberrant melatonin system, pain insensitivity, and unique processing of 28S rRNA. Together, these genomes and transcriptomes extend our understanding of subterranean adaptations, stress resistance, and longevity.

Research Title:	An induced pluripotent stem cell model of hypoplastic left heart syndrome (HLHS) reveals multiple expression and functional differences in HLHS-derived cardiac myocytes.
Source:	Stem Cells Translational Medicine AlphaMed Press Volume 3, Issue 4, page 416-423
ISSN:	2157-6580
Date and Year of Publication:	2014-APR
Impact Factor:	3.596
Affiliated Department(s):	Medical Genetics
Author(s):	Yan Jiang, Saba Habibollah, Katarzyna Tilgner, Joseph Collin, Tomas Barta, Jumana Yousuf Al-Aama, Lenka Tesarov, Rafiqul Hussain, Andrew W Trafford, Graham Kirkwood, Evelyne Sernagor, Cyril G Eleftheriou, Stefan Przyborski, Miodrag Stojković, Majlinda Lako, Bernard Keavney, Lyle Armstrong
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ABSTRACT

Hypoplastic left heart syndrome (HLHS) is a serious congenital cardiovascular malformation resulting in hypoplasia or atresia of the left ventricle, ascending aorta, and aortic and mitral valves. Diminished flow through the left side of the heart is clearly a key contributor to the condition, but any myocardial susceptibility component is as yet undefined. Using recent advances in the field of induced pluripotent stem cells (iPSCs), we have been able to generate an iPSC model of HLHS malformation and characterize the properties of cardiac myocytes (CMs) differentiated from these and control-iPSC lines. Differentiation of HLHS-iPSCs to cardiac lineages revealed changes in the expression of key cardiac markers and a lower ability to give rise to beating clusters when compared with control-iPSCs and human embryonic stem cells (hESCs). HLHS-iPSC-derived CMs show a lower level of myofibrillar organization, persistence of a fetal gene expression pattern, and changes in commitment to ventricular versus atrial lineages, and they display different calcium transient patterns and electrophysiological responses to caffeine and β-adrenergic antagonists when compared with hESC- and control-iPSC-derived CMs, suggesting that alternative mechanisms to release calcium from intracellular stores such as the inositol trisphosphate receptor may exist in HLHS in addition to the ryanodine receptor thought to function in control-iPSC-derived CMs. Together our findings demonstrate that CMs derived from an HLHS patient demonstrate a number of marker expression and functional differences to hESC/control iPSC-derived CMs, thus providing some evidence that cardiomyocyte-specific factors may influence the risk of HLHS.

Research Title:	An integrated catalog of reference genes in the human gut microbiome.
Source:	Nature Biotechnology Macmillan Publishers Volume 32, Issue 8, page 834-841
ISSN:	1087-0156
Date and Year of Publication:	2014-AUG
Impact Factor:	39.08
Affiliated Department(s):	Medical Genetics
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ABSTRACT

Many analyses of the human gut microbiome depend on a catalog of reference genes. Existing catalogs for the human gut microbiome are based on samples from single cohorts or on reference genomes or protein sequences, which limits coverage of global microbiome diversity. Here we combined 249 newly sequenced samples of the Metagenomics of the Human Intestinal Tract (MetaHit) project with 1,018 previously sequenced samples to create a cohort from three continents that is at least threefold larger than cohorts used for previous gene catalogs. From this we established the integrated gene catalog (IGC) comprising 9,879,896 genes. The catalog includes close-to-complete sets of genes for most gut microbes, which are also of considerably higher quality than in previous catalogs. Analyses of a group of samples from Chinese and Danish individuals using the catalog revealed country-specific gut microbial signatures. This expanded catalog should facilitate quantitative characterization of metagenomic, metatranscriptomic and metaproteomic data from the gut microbiome to understand its variation across populations in human health and disease.

Research Title:	Clinically significant missense variants in human GALNT3, GALNT8, GALNT12, and GALNT13 genes: intriguing in silico findings.
Source:	Journal of Cellular Biochemistry Wiley Periodicals, Inc. Volume 115, Issue 2, page 313-327
ISSN:	1097-4644
Date and Year of Publication:	2014-FEB
Impact Factor:	3.368
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ABSTRACT

Aberrant glycosylation by N-acetylgalactosaminyl transferases (GALNTs) is a well-described pathological alteration that is widespread in hereditary diseases, prominently including human cancers, familial tumoral calcinosis and hyperostosis-hyperphosphatemia. In this study, we integrated different computational tools to perform the in silico analysis of clinically significant mutations (nsSNPs/single amino acid change) at both functional and structural levels, found in human GALNT3, GALNT8, GALNT12, and GALNT13 genes. From function and structure based insights, mutations encoding R162Q, T359K, C574G, G359D, R297W, D303N, Y396C, and D313N substitutions were concordantly predicted highly deleterious for relevant GALNTs proteins. From intriguing findings, T359K-GALNT3 was simulated with high contribution for disease susceptibility (tumor calcinosis) as compared to its partner variant T272K (Ichikawa et al. [2006] J. Clin. Endocrinol. Metab. 91:4472-4475). Similarly, the prediction of high damaging behavior, evolutionary conservation and structural destabilization for C574G were proposed as major contributing factors to regulate metabolic disorder underlying tumor calcinosis and hyperostosis-hyperphosphatemia syndrome. In case of R297W-GALNT12, prediction of highly deleterious effect and disruption in ionic interactions were anticipated with reduction in enzymatic activity, associated with bilateral breast cancer and primary colorectal cancers. The second GALNT12 mutation (D303N)-known splice variant-was predicted with disease severity as a result of decrease in charge density and buried behavior neighboring the catalytic B domain. In the lack of adequate in silico data about systematic characterization of clinically significant mutations in GALNTs genes, current study can be used as a significant tool to interpret the role of GALNTs reaction chemistry in disease-association risks in body.

Research Title:	Construction of naive camelids VHH repertoire in phage display-based library
Source:	Comptes Rendus Biologies Elsevier France-Editions Scientifiques Medicales Elsevier Volume 337, Issue 4, page 244-249
ISSN:	1768-3238
Date and Year of Publication:	2014-APR
Impact Factor:	1.681
Affiliated Department(s):	Medical Genetics
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ABSTRACT

Camelids have unique antibodies, namely HCAbs (VHH) or commercially named Nanobodies (R) (Nb) that are composed only of a heavy-chain homodimer. As libraries based on immunized camelids are time-consuming, costly and likely redundant for certain antigens, we describe the construction of a naive camelid VHHs library from blood serum of non-immunized camelids with affinity in the subnanomolar range and suitable for standard immune applications. This approach is rapid and recovers VHH repertoire with the advantages of being more diverse, non-specific and devoid of subpopulations of specific antibodies, which allows the identification of binders for any potential antigen (or pathogen). RNAs from a number of camelids from Saudi Arabia were isolated and cDNAs of the diverse vhh gene were amplified; the resulting amplicons were cloned in the phage display pSEX81 vector. The size of the library was found to be within the required range (107) suitable for subsequent applications in disease diagnosis and treatment. Two hundred clones were randomly selected and the inserted gene library was either estimated for redundancy or sequenced and aligned to the reference camelid vhh gene (acc. No. ADE99145). Results indicated complete non-specificity of this small library in which no single event of redundancy was detected. These results indicate the efficacy of following this approach in order to yield a large and diverse enough gene library to secure the presence of the required version encoding the required antibodies for any target antigen. This work is a first step towards the construction of phage display-based biosensors useful in disease (e.g., TB or tuberculosis) diagnosis and treatment.

Research Title:	De novo mutation in the KCNQ1 gene causal to Jervell and Lange-Nielsen syndrome
Source:	Clinical Genetics Blackwell Publishing Ltd Volume 86, Issue 5, page 492-495
ISSN:	1399-0004
Date and Year of Publication:	2014-NOV
Impact Factor:	3.652
Affiliated Department(s):	Medical Genetics
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ABSTRACT

Jervell and Lange-Nielsen syndrome (JLNS) is an autosomal recessive disorder, clinically characterized by severe cardiac arrhythmias [due to prolonged QTc interval in electrocardiogram (ECG)] and bilateral sensory neural deafness. Molecular defects causal to JLNS are either homozygous or compound heterozygous mutations, predominantly in the KCNQ1 gene and occasionally in the KCNE1 gene. As the molecular defect is bi-allelic, JLNS patients inherit one pathogenic mutation causal to the disorder from each parent. In this report, we show for the first time that such a disorder could also occur due to a spontaneous de novo mutation in the affected individual, not inherited from the parent, which makes this case unique unlike the previously reported JLNS cases.

Research Title:	Evidence for the presence of somatic mitochondrial DNA mutations in right atrial appendage tissues of coronary artery disease patients
Source:	Molecular Genetics and Genomics Springer Heidelberg Volume 289, issue 4, page 533-540
ISSN:	1617-4615
Date and Year of Publication:	2014-APR
Impact Factor:	2.831
Affiliated Department(s):	Medical Genetics
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ABSTRACT

Coronary artery disease (CAD) is a multifactorial disease with the underlying involvement of environment, life style and nuclear genetics. However, the role of extranuclear genetic material in terms of somatically acquired mutations in mitochondrial tRNA and protein coding genes in the initiation or progression of CAD is not well defined. Hence, in the present study, right atrial appendage tissues and matched blood samples of 150 CAD patients were screened for mutations in nucleotide regions encompassing the Cytochrome c oxidase subunit II (MT-CO2), tRNA lysine (MT-TK), ATP synthase F0 subunit 8 (MT-ATP8) and Cytochrome b (MT-CYB) genes of mitochondrial DNA. We have found 9 different somatic mutations in 6 % of the CAD patients. Out of these mutations, 4 each were localized in MT-TK gene (T8324A, A8326G, A8331G and A8344G) and MT-CYB genes (T15062C, C15238A, T15378G and C15491G) in addition to one mutation in non-coding region 7 (A8270T) of mitochondrial genome. In addition, we noticed that majority (85.3 %) of CAD patients showed double repeats of germ-line "CCCCCTCTA" intergenic sequence between MT-CO2 and MT-TK genes. Our in-silico investigations of missense mutations revealed that they may alter the free energy and stability of polypeptide chains of MT-CYB protein of complex III of mitochondrial respiratory chain. Based on our study findings, we hypothesize that the somatically acquired variations in MT-TK and MT-CYB genes may negatively impact the energy metabolism of cardiomyocytes in right atrial appendage tissues and contribute in the cardiac dysfunction among CAD patients. In conclusion, our findings may be likely to have potential implications in understanding the disease pathophysiology, diagnosis as well as for the better therapeutic management of CAD patients.

Research Title:	Exome Sequencing Links Corticospinal Motor Neuron Disease to Common Neurodegenerative Disorders
Source:	Science American Association for the Advancement of Science Volume 343, Issue 6170, page 506-511
ISSN:	0036-8075
Date and Year of Publication:	2014-JAN
Impact Factor:	31.477
Affiliated Department(s):	Medical Genetics
Author(s):	Gaia Novarino, Ali G Fenstermaker, Maha S Zaki, Matan Hofree, Jennifer L Silhavy, Andrew D Heiberg, Mostafa Abdellateef, Basak Rosti, Eric Scott, Lobna Mansour, Amira Masri, Hulya Kayserili, Jumana Y Al-Aama, Ghada MH Abdel-Salam, Ariana Karminejad, Majdi Kara, Bulent Kara, Bita Bozorgmehri, Tawfeg Ben-Omran, Faezeh Mojahedi, Iman Gamal El Din Mahmoud, Naima Bouslam, Ahmed Bouhouche, Ali Benomar, Sylvain Hanein, Laure Raymond, Sylvie Forlani, Massimo Mascaro, Laila Selim, Nabil Shehata, Nasir Al-Allawi, PS Bindu, Matloob Azam, Murat Gunel, Ahmet Caglayan, Kaya Bilguvar, Aslihan Tolun, Mahmoud Y Issa, Jana Schroth, Emily G Spencer, Rasim O Rosti, Naiara Akizu, Keith K Vaux, Anide Johansen, Alice A Koh, Hisham Megahed, Alexandra Durr, Alexis Brice, Giovanni Stevanin, Stacy B Gabriel, Trey Ideker, Joseph G Gleeson
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ABSTRACT

Hereditary spastic paraplegias (HSPs) are neurodegenerative motor neuron diseases characterized by progressive age-dependent loss of corticospinal motor tract function. Although the genetic basis is partly understood, only a fraction of cases can receive a genetic diagnosis, and a global view of HSP is lacking. By using whole-exome sequencing in combination with network analysis, we identified 18 previously unknown putative HSP genes and validated nearly all of these genes functionally or genetically. The pathways highlighted by these mutations link HSP to cellular transport, nucleotide metabolism, and synapse and axon development. Network analysis revealed a host of further candidate genes, of which three were mutated in our cohort. Our analysis links HSP to other neurodegenerative disorders and can facilitate gene discovery and mechanistic understanding of disease.

Research Title:	First comprehensive in silico analysis of the functional and structural consequences of SNPs in human GalNAc-T1 gene.
Source:	Computational and Mathematical Methods in Medicine Hindawi Publishing Corporation Volume 2014, Article 904052, page 1-15
ISSN:	1748-670X
Date and Year of Publication:	2014-MAR
Impact Factor:	1.018
Affiliated Department(s):	Medical Genetics
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ABSTRACT

GalNAc-T1, a key candidate of GalNac-transferases genes family that is involved in mucin-type O-linked glycosylation pathway, is expressed in most biological tissues and cell types. Despite the reported association of GalNAc-T1 gene mutations with human disease susceptibility, the comprehensive computational analysis of coding, noncoding and regulatory SNPs, and their functional impacts on protein level, still remains unknown. Therefore, sequence- and structure-based computational tools were employed to screen the entire listed coding SNPs of GalNAc-T1 gene in order to identify and characterize them. Our concordant in silico analysis by SIFT, PolyPhen-2, PANTHER-cSNP, and SNPeffect tools, identified the potential nsSNPs (S143P, G258V, and Y414D variants) from 18 nsSNPs of GalNAc-T1. Additionally, 2 regulatory SNPs (rs72964406 and #x26; rs34304568) were also identified in GalNAc-T1 by using FastSNP tool. Using multiple computational approaches, we have systematically classified the functional mutations in regulatory and coding regions that can modify expression and function of GalNAc-T1 enzyme. These genetic variants can further assist in better understanding the wide range of disease susceptibility associated with the mucin-based cell signalling and pathogenic binding, and may help to develop novel therapeutic elements for associated diseases.

Research Title:	Health Impact of Fasting in Saudi Arabia during Ramadan: Association with Disturbed Circadian Rhythm and Metabolic and Sleeping Patterns.
Source:	PLOS One PLOS One Volume 9, Issue 5, page: 1-7
ISSN:	1932-6203
Date and Year of Publication:	2014-MAY
Impact Factor:	3.534
Affiliated Department(s):	Clinical Biochemistry, Medical Genetics
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ABSTRACT

Background: Muslims go through strict Ramadan fasting from dawn till sunset for one month yearly. These practices are associated with disturbed feeding and sleep patterns. We recently demonstrated that, during Ramadan, circadian cortisol rhythm of Saudis is abolished, exposing these subjects to continuously increased cortisol levels.
Hypothesis: Secretory patterns of other hormones and metabolic parameters associated with cortisol, and insulin resistance, might be affected during Ramadan.
Protocol: Ramadan practitioners (18 males, 5 females; mean age 6SEM = 23.1661.2 years) were evaluated before and two weeks into Ramadan. Blood was collected for measurements of endocrine and metabolic parameters at 9 am (61 hour) and again twelve hours later.
Results: In Ramadan, glucose concentration was kept within normal range, with a significant increase in the morning. Mean morning concentration of leptin was significantly higher than pre-Ramadan values (p = 0.001), in contrast to that of adiponectin, which was significantly lower (p,0.001). These changes were associated with increased insulin resistance in morning and evening. Concentrations of hsCRP were lower during Ramadan than those during regular living conditions, however, normal circadian fluctuation was abolished (p = 0.49). Even though means of liver enzymes, total bilirubin, total protein and albumin were all decreased during Ramadan, statistically lower means were only noted for GGT, total protein, and albumin (p = 0.018, 0.002 and 0.001 respectively).
Discussion: Saudi Ramadan practitioners have altered adipokine patterns, typical of insulin resistance. The noted decreases of hsCRP, liver enzymes, total protein, and albumin, are most likely a result of fasting, while loss of circadian rhythmicity of hsCRP is probably due to loss of circadian cortisol rhythm.
Conclusions: Modern Ramadan practices in Saudi Arabia, which are associated with evening hypercortisolism, are also characterized by altered adipokines patterns, and an abolished hsCRP circadian rhythm, all likely to increase cardiometabolic risk.

Research Title:	Investigation of Calpain 10 (rs2975760) gene polymorphism in Asian Indians with Gestational Diabetes Mellitus
Source:	Meta Gene Elsevier B.V. Volume 2, page 299-306
ISSN:	2214-5400
Date and Year of Publication:	2014-APR
Impact Factor:	0
Affiliated Department(s):	Medical Genetics
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ABSTRACT

Background: Type 2 Diabetes Mellitus (T2DM) and Gestational Diabetes Mellitus (GDM) are part of a heterogeneous and complex metabolic group of disorders that share common pathophysiological circumstances, including β-cell dysfunction and insulin resistance. The protein Calpain 10 (CAPN10) plays a role in glucose metabolism, pancreatic β-cell insulin secretion, and thermogenesis.
Objective: Polymerase Chain Reaction-Restriction Fragment Length Polymorphism (PCR-RFLP) based genotyping of CAPN10 (rs2975760) polymorphism was carried out in T2DM and GDM with suitable controls for each of the pathologies from the same population. Genomic DNA was isolated from 787 participants, including 250 cases of T2DM, 287 pregnant women, of which 137 were identified as having GDM and the remaining 150 were confirmed as non-GDM, and 250 healthy control volunteers, and association analysis was carried out for genotypes and alleles.
Results: In the present study, T2DM was compared with healthy controls and was not found to be associated with the CAPN10 C allele (odds ratio, OR: 1.09; 95% CI = 0.8011-1.484; p = 0.5821). GDM also did not show any association when compared with non-GDM (OR: 1.124; 95% CI = 0.7585-1.667; p = 0.5606) respectively.
Conclusion: Our study suggests that the CAPN10 (rs2975760) polymorphism scrutinized in this study is not associated with T2DM and GDM.

Research Title:	Otolaryngologicl 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
Date and Year of Publication:	2014-JAN
Impact Factor:	2.296
Affiliated Department(s):	Medicine Genetics, ORL
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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 otolarygologic anomalies with complete examination and investigations for further proper intervention.

Research Title:	Prevalence and Characteristics of Non-Syndromic Orofacial Clefts and the Influence of Consanguinity
Source:	Arts and Humanities Journal Journal Pedodontics Inc Volume 38, Issue 3, page 241-246
ISSN:	1319-0989
Date and Year of Publication:	2014-MAY
Impact Factor:	0
Affiliated Department(s):	Medical Genetics
Author(s):	NM Alamoudi, HJ Sabbagh, NPT Innes, D El Derwi, AZ Hanno, JY Al-Aama, AH Habiballah, PA Mossey
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ABSTRACT

Objectives: The Objective of this study was to identify the prevalence and describe the characteristics of non-syndromic orofacial cleft (NSOFC) in Jeddah, Saudi Arabia and examine the influence of consanguinity.
Study Design: Six hospitals were selected to represent Jeddah's five municipal districts. New born infants with NSOFC born between 1st of January 2010 to 31st of December 2011 were clinically examined and their number compared to the total number of infants born in these hospitals to calculate the prevalence of NSOFC types and sub-phenotypes. Referred Infants were included for the purpose of studying NSOFC characteristics and their relationship to consanguinity. Information on NSOFC infants was gathered through parents' interviews, infants' files and patient examinations.
Results: Prospective surveillance of births resulted in identifying 37 NSOFC infants born between 1st of January 2010 to 31st of December 2011 giving a birth prevalence of 0.80/1000 living births. The total infants seen, including referred cases, were 79 children. Consanguinity among parents of cleft palate (CP) cases was statistically higher than that among cleft lip with or without cleft palate (CL/P) patients (P=0.039). Although there appears to be a trend in the relationship between consanguinity and severity of CL/P sub-phenotype, it was not statistically significant (P= 0.248).
Conclusions: Birth prevalence of NSOFC in Jeddah City was 0.8/1000 live births with CL/P: 0.68/1000 and CP: 0.13/1000. Both figures were low compared to the global birth prevalence (NSOFC: 1.25/1000, CL/P: 0.94/1000 and CP: 0.31/1000 live births). Consanguineous parents were statistically higher among CP cases than among other NSOFC phenotypes.

Research Title:	Screening of mitochondrial mutations and insertion-deletion polymorphisms in gestational diabetes mellitus in Asian Indian population
Source:	Saudi Journal of Biological Sciences Elsevier B.V. page 1-20
ISSN:	1319-562X
Date and Year of Publication:	2014-NOV
Impact Factor:	0.741
Affiliated Department(s):	Medical Genetics
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ABSTRACT

In this study we scrutinized the association between the A8344G/A3243G mutations and a 9-bp deletion polymorphism with gestational diabetes mellitus (GDM) in an Asian Indian population. The A3243G mutation in the mitochondrial tRNA Leu(UUR) causes mitochondrial encephalopathy myopathy, lactic acidosis, and stroke-like episodes (MELAS), while the A8344G mutation in tRNALys causes Myoclonus epilepsy with ragged red fibers (MERRF). We screened 140 pregnant women diagnosed with GDM and 140 non-GDM for these mutations by PCR-RFLP analysis. Both A3243G and A8344G were associated with GDM (A3243: OR- 3.667, 95%CI = 1.001-13.43, p = 0.03; A8344G: OR-11.00, 95% CI = 0.6026-200.8, p = 0.04). Mitochondrial DNA mutations contribute to the development of GDM. Our results conclude that mitochondrial mutations are associated in the GDM women in our population. Thus it is important to screen other mitochondrial mutations in the GDM women

Research Title:	Structural and Functional Characterization of Pathogenic Non-Synonymous Genetic Mutations of Human Insulin-Degrading Enzyme by In Silico Methods
Source:	CNS & Neurological Disorders-Drug Targets Bentham Science Publishing Ltd Volume 13, Issue 3, page 517-532
ISSN:	1871-5273
Date and Year of Publication:	2014-APR
Impact Factor:	2.702
Affiliated Department(s):	Clinical Biochemistry, Medical Genetics, Pharmacology
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ABSTRACT

Insulin-degrading enzyme (IDE) is a key protease involved in degrading insulin and amyloid peptides in human body. Several non-synonymous genetic mutations of IDE gene have been recently associated with susceptibility to both diabetes and Alzheimer's diseases. However, the consequence of these mutations on the structure of IDE protein and its substrate binding characteristics is not well elucidated. The computational investigation of genetic mutation consequences on structural level of protein is recently found to be an effective alternate to traditional in vivo and in vitro approaches. Hence, by using a combination of empirical rule and support vector machine based in silico algorithms, this study was able to identify that the pathogenic non-synonymous genetic mutations corresponding to p.I54F, p.P122T, p.T533R, p.P581A and p.Y609A have more potential role in structural and functional deviations of IDE activity. Moreover, molecular modeling and secondary structure analysis have also confirmed their impact on the stability and secondary properties of IDE protein. The molecular docking analysis of IDE with combinational substrates has revealed that peptide inhibitors compared to small non-peptide inhibitor molecules possess good inhibitory activity towards mutant IDE. This finding may pave a way to design novel potential small peptide inhibitors for mutant IDE. Additionally by un-translated region (UTR) scanning analysis, two regulatory pathogenic genetic mutations i.e., rs5786997 (3' UTR) and rs4646954 (5' UTR), which can influence the translation pattern of IDE gene through sequence alteration of upstream-Open Reading Frame and Internal Ribosome Entry Site elements were identified. Our findings are expected to help in narrowing down the number of IDE genetic variants to be screened for disease association studies and also to select better competitive inhibitors for IDE related diseases.

Research Title:	The Pattern of Otolaryngological Problems that Affect Syndromic Patients at King Abdulaziz University. A Retrospective Study.
Source:	Life Science Journal Elsevier B.V. Volume 11, issue 12, page 102-108
ISSN:	1097-8135
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Impact Factor:	2.296
Affiliated Department(s):	Medical Education, Medical Genetics, ORL
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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 individulas with a syndromic diagnosis known to have ORL problems or who sufferd from speech delay were refered 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 reffered 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.

Research Title:	Variations in the GST activity are associated with single and combinations of GST genotypes in both male and female diabetic patients
Source:	Molecular Biology Reports Springer Volume 41, Issue 2, page 841-848
ISSN:	0301-4851
Date and Year of Publication:	2014-FEB
Impact Factor:	1.958
Affiliated Department(s):	Medical Genetics
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ABSTRACT

In the present cross sectional study, we aimed to ascertain the relative associations of GST genotypes with GST activity variations and also with the risk to DMT2 predisposition among men and women separately. Clinical samples obtained from 244 DMT2 cases (120 Males and 124 Females) and 228 controls (117 Males and 111 Females) belonging to Asian Indian ethnicity were used to test for glycemic index, lipid profile, GST activity and GST genotypes. The frequencies of single and combinations of GST genotypes were statistically examined for their association with DMT2 risk among both study groups. The GST activity is significantly lowered in DMT2 group compared to controls ($p = < 0.001$). This reduction is found to be subjective to single and combinations of GST genotypes among diabetic patients. The frequency distribution for single, double and triple combinations of genotypes of GSTT1, GSTM1 and GSTP1 showed the varying degrees of association with DMT2 risk from 0.5 to 5.6-fold among male and female patients (for all associations, p value was <0.05). Interestingly, GST activity was lowered in both male and female patients with single or combinational genotypes of GSTM1 (Null), GSTT1 (Null), and P1 (V/V) (for all associations, p value was = <0.0001). The reduced anti-oxidant capacity among diabetic patients with certain GST genotypes may have some important implications for disease diagnosis and therapy.

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Research Title:	A Randomized Clinical Trial of Human Interleukin-11 in Dengue Fever-Associated Thrombocytopenia
Source:	Jcpsp-Journal of The College of Physicians And Surgeons Pakistan Coll Physicians & Surgeons Pakistan Volume 24, Issue 2014, page 164-168
ISSN:	1681-7168
Date and Year of Publication:	2014-MAR
Impact Factor:	0.318
Affiliated Department(s):	Medicine
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ABSTRACT

Objective: To assess the effectiveness of recombinant human (rh) IL-11 to increase platelets count in patients suffering from Dengue fever (DF).
Study Design: Randomized double blind placebo control study. Place and Duration of Study: Farooq Hospital, Lahore, from July to October 2011.
Methodology: Forty hospitalized patients suffering from Dengue fever having platelets count <= 30000 per micro liter were randomly categorized into two groups, rhIL-11 (test) and distilled water (placebo) groups. The efficacy outcomes (as indicated by step up in platelets count at 48 hours) for the treatment group were compared with the outcomes for the placebo group.
Results: The data revealed that the increase in platelet response with recombinant human interleukin 11, 1.5 mg subcutaneously is significantly more brisk than the placebo group. The platelets response in patients with severe thrombocytopenia was greater in the treatment group (50%) at 48 hours as compared to the placebo group (20%) (p=0.047). Response rate was slightly greater among males (6/10, 60%) than females (8/16, 50%); moreover, three-fourth (75%) female responders were in the placebo group, compared to half (50%) male responders in the treatment group.
Conclusion: Results of the study suggest that treatment of severe thrombocytopenia accompanying DF with recombinant human interleukin11 may be a useful therapeutic option.

Research Title:	A retrospective Study of Patients for Antibiotic Resistance to Organisms in Intensive Care Unit
Source:	Life Science Journal Marsland Press Volume 11, Issue 5, page 24-31
ISSN:	1097-8135
Date and Year of Publication:	2014-MAY
Impact Factor:	2.296
Affiliated Department(s):	Medicine
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ABSTRACT

Appropriate and timely treatment is of utmost importance especially for patients in intensive care unit (ICU). Hence knowledge of antibiotic resistance pattern of common organisms that cause infection amongst the patients in ICU, can guide the medical practitioners/intensivist in administration of the antibiotic treatment accordingly and help to reduce the emergence of antibiotic resistant pathogens. The study was conducted from June 2012-to June 2013, in order to examine the prevalence and antibiotic resistance patterns among the patients in ICU at King Abdul Aziz university hospital, Jeddah (tertiary centre in the western province of Saudi Arabia). A retrospective study design, where isolates are obtained from a wide range of clinical samples including blood, Sputum and Tracheal samples from 1235 patients in the ICU, blood culture, routine sputum culture and broncoalveolar lavage methods were used to observe the growth of organisms in the samples. The clinical samples were collected over the studied period. The results indicated that, common pathogens found in this study are Acinetobacter Baumani and Klebsiella were found to be the most common organism amongst the ICU patients. As well as, the susceptibility to antibiotics was more or less equal in both men and women, however, the level of resistance increase with the length of the stay in ICU. The study concluded that, Preventing the emergence and propagation of these antibiotic resistant pathogens would substantially reduce the detrimental events and also associated expenses.

Research Title:	Acute Coronary Syndrome Patients Admitted to Coronary Care Unit: An In-Hospital Outcome at King Abdulaziz University Hospital
Source:	Journal of King Abdulaziz University-Medical Sciences King Abdulaziz University Volume 21, Issue 1, page 65-77
ISSN:	1658-4279
Date and Year of Publication:	2014-JAN
Impact Factor:	0
Affiliated Department(s):	Medicine
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ABSTRACT

The primary objective of this observational study is to compare clinical data and short-term outcome of patients admitted with acute coronary syndromes to coronary care unit in King Abdulaziz University Hospital over 1 year period, with patients enrolled in a multinational registry. The study cohort consisted of 399 patients hospitalized in King Abdulaziz University Hospital and 4,445 patients from the Global Registry of Acute Coronary Events. Average age of patients in King Abdulaziz University Hospital was nearly a decade younger (56 vs. 66 years), with male predominance (75% vs. 69%). Clinical presentation and management strategies were nearly the same, but in patients with ST elevation myocardial infarction, thrombolysis rather than primary percutaneous intervention was the main strategy in our group. In-hospital mortality rates were less in King Abdulaziz University Hospital patients (3% vs. 3.8%). This difference is probably related to smaller sample size, and late presentation. Future studies with larger sample size should explore the effects of differences in patient characteristics and treatment practices with long-term prognosis.

Research Title:	Acute heart failure with preserved or reduced ejection fraction: is it bimodal or overlapping multiple phenotypes?
Source:	European Heart Journal Oxford University Press Volume 35, Supplement 1, page 505-506
ISSN:	1522-9645
Date and Year of Publication:	2014-SEPT
Impact Factor:	14.723
Affiliated Department(s):	Medicine
Author(s):	Kashour, T.; Alhabib, K.; Alfaleh, H.; Hersi, A.; Thalib, L.; Abuosa, A.; Mimish, L.; Alhabeeb, W.; Almasood, A; Elasfar, A.
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MEETING ABSTRACT

Purpose: Whether heart failure with preserved or reduced left ventricular ejection fraction (LVEF) represents distinct or overlapping syndromes and whether they are associated with different outcomes remain unsettled. The different cut offs of ejection fraction used to dichotomize the two syndromes contributed to the confusion surrounding this issue. We sought to characterize further the importance of LVEF in patients hospitalized with acute heart failure stratified according to a spectrum of LV function strata rather than two dichotomized groups.
Methods: We conducted a prospective registry in 18 hospitals in between October 2009 and December 2010, and followed mortality rates till January 2013. In this sub-study we describe the baseline characteristics and outcomes in this patient population stratified into 4 groups according to LVEF; normal (>50%), mild LV dysfunction (41-50%), moderate LV dysfunction (31-40%) and severe LV dysfunction (≤30%).
Results: A total of 2,610 patients were enrolled in this study with mean age (SD) of 61.3 (14.9) and 65.6% were men. Patients with normal LV systolic function and those with severe systolic dysfunction presented two distinct groups. Compared to those with severe systolic dysfunction, patients with normal LVEF were older (64.9 vs. 58.7, p<0.001) with those above 70 years constituted 40% vs 24% (p<0.001), more likely to be female (60.4% vs 23.3%, p<0.001) and have higher body mass index (32.6 vs 28, p<0.001). They also have higher prevalence of hypertension (83.2% vs 63.6%, p<0.001), diabetes (66.9% vs 59.2%, p<0.001), atrial fibrillation (27.7% vs 13.9%, p<0.001) and anemia (33.1% vs17.9%, p<0.001). Ischemia and ventricular arrhythmias were less reported in this group (27.3% and 0.9% vs 56.4% and 5.2%, p<0.001 respectively). The other two groups with mild and moderate LV systolic dysfunction showed an overlapping spectrum between the normal and severe LV dysfunction groups. All-cause cumulative mortality rates at 30 days, 1 year and 3 years were 8.3%, 19.5% and 24.3%, and were similar in the 4 groups.
Conclusion: Classifying acute heart failure patients according to LVEF uncovers two distinct groups with normal LV function and severe dysfunction with a spectrum of phenotypes in between; however, short-term and long-term mortality was similar across these groups. The higher age and comorbidities in the normal LVEF patients may explain the observed similar mortality in the normal and severe LV systolic dysfunction groups.

Research Title:	Acute paraplegia caused by Schistosoma mansoni
Source:	Neurosciences (Riyadh) Neurosciences Volume 19, Issue 1, page 47-51
ISSN:	1658-3183
Date and Year of Publication:	2014-JAN
Impact Factor:	0.391
Affiliated Department(s):	Medicine
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ABSTRACT

Schistosomiasis affects over 200 million people worldwide. Involvement of the CNS is a rare occurrence. We report 2 young males who presented with rapidly progressing paraparesis associated with urinary incontinence. In both cases, MRI of the spine demonstrated a diffusely enhancing mass at the conus medullaris with extensive spinal cord edema. Laboratory investigations revealed mild peripheral eosinophilia and abnormal, but non-specific, CSF analysis. In one patient, the diagnosis was made based on a rising schistosomal titer with a positive rectal biopsy. In the other patient, spinal cord biopsy revealed a granuloma. Both cases were caused by Schistosoma mansoni and patients were treated with praziquantel and steroid therapy. They both made a remarkable neurological recovery. We emphasize that a high index of suspicion should be raised in the differential diagnosis of transverse myelitis in endemic areas.

Research Title:	Alzheimer's and Type 2 Diabetes Treatment via Common Enzyme Targeting
Source:	Cns & Neurological Disorders-Drug Targets Bentham Science Publishing Ltd Volume 13, Issue 2, page 299-304
ISSN:	1871-5273
Date and Year of Publication:	2014-MAR
Impact Factor:	2.702
Affiliated Department(s):	Medicine, Surgery
Author(s):	Nasimudeen R Jabir, Mohammad A Kamal, Adel Mohammad Abuzenadah, Siew Hua Gan, Mohammed Nabil Alama, Saleh S Baeesa, Shams Tabrez
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ABSTRACT

Alzheimer's disease (AD) and type 2 diabetes mellitus (T2DM) are two devastating diseases that are currently incurable. Epidemiological, clinical and pathological evidence has confirmed the co-existence of these two disorders. Moreover, there has been promising progress made in the identification of the pathological linkage between T2DM and AD in the last decade. Hence, developing common treatment strategies for these diseases is important. Currently, enzyme targeting is a potential strategy to cure many diseases. In this communication, we tried to summarize the single enzyme-targeted therapeutic approach for the treatment of AD and T2DM. This field of research continues to be active and progressive in identifying many promising enzymes that are involved in both diseases. Based on this review article, we also believe that enzyme inhibition is a promising and reliable strategy for the treatment of many incurable diseases. In the future, we expect that the scientific community will be able to develop common enzyme inhibitors for the treatment of both AD and T2DM.

Research Title:	Amelioration of doxorubicin-induced cardiotoxicity by resveratrol
Source:	Molecular Medicine Reports Spandidos Publishing Ltd Volume 10, Issue 3, page 1455-1460
ISSN:	1791-2997
Date and Year of Publication:	2014-SEPT
Impact Factor:	1.484
Affiliated Department(s):	Medicine, Pharmacology
Author(s):	Sameer E Al‐Harthi, Ohoud M Alarabi, Wafaa S Ramadan, Mohamed N Alaama, Huda M Al‐Kreathy, Zoheir A Damanhouri, Lateef M Khan, Abdel‐Moneim M Osman
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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.

Research Title:	Anisocoria with high dose ipratropium bromide inhaler
Source:	Saudi Medical Journal Saudi Medical Journal Volume 35, Issue 5, page: 508-509
ISSN:	1658-3175
Date and Year of Publication:	2014-MAY
Impact Factor:	0.554
Affiliated Department(s):	Medicine
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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.

Research Title:	Association between endogenous sex steroid hormones and insulin-like growth factor proteins in US men
Source:	Cancer Causes & Control Springer International Publishing Volume 25, Issue 3, page 353-363
ISSN:	1573-7225
Date and Year of Publication:	2014-MAR
Impact Factor:	2.961
Affiliated Department(s):	Medicine
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ABSTRACT

Purpose: Sex steroid hormone concentrations and insulin-like growth factor (IGF) proteins have been independently associated with risk of cancer, chronic diseases, and mortality. However, studies that evaluated the inter-relation between the sex hormones and IGF pathways have provided mixed results. We examined the association between endogenous sex hormones and sex hormone-binding globulin (SHBG) with IGF-1 and IGF-binding protein 3 (IGFBP-3) in a population-based sample of US men.
Methods: Data from 1,135 men aged 20 years or older participating in the third National Health and Nutrition Examination Survey (NHANES III) were analyzed. Weighted linear regression was used to estimate geometric means and 95 % confidence intervals for IGF-1 and IGFBP-3 concentrations by sex steroid hormones and SHBG after adjusting for age, race/ethnicity, body mass index, waist circumference, alcohol consumption, cigarette smoking, physical activity, diabetes, and mutually adjusting for other sex hormones and SHBG.
Results: No significant association was observed between sex steroid hormones, SHBG, and IGF-1 concentrations. Total estradiol (% difference in Q5 − Q1 geometric means −9.7 %; P-trend 0.05) and SHBG (% difference −7.3 %; P-trend 0.02) were modestly inversely associated with IGFBP-3. Total testosterone was modestly inversely associated with IGFBP-3 (% difference −6.2 %; P-trend 0.01), but this association disappeared after adjustment for total estradiol and SHBG (% difference 2.6 %; P-trend 0.23). Androstanediol glucuronide was not associated with IGFBP-3.
Conclusions: These findings suggest that there may be inter-relationships between circulating total estradiol, SHBG, and IGFBP-3 concentrations. Future research may consider these inter-relationships when evaluating potential joint effects of the sex hormones and IGF pathways.

Research itle:	Beneficial Effects of Ramadan Fasting in Saudi Arabia Might be Offset By Changes in Secretion Pattern of Adipokines and Increased Insulin Resistance
Source:	Endocrine Society Endocrine Society Volume June 23, 2014, Article MON-1050
ISSN:	0013-7227
Date and Year of Publication:	2014-JUN
Impact Factor:	0
Affiliated Department(s):	Medicine
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ABSTRACT

Background: intermittent fasting improves risk factors for coronary artery disease. However, Muslims in Saudi Arabia experience severe disturbance in their sleeping patterns during the fasting month of Ramadan and cortisol, a hormone that controls the expression of many hormones and inflammatory markers, loses its circadian rhythm during this month. This might have deleterious effects on metabolic homeostasis, increasing the risk of chronic cardiometabolic disorders.

Objectives: to investigate the change during Ramadan in the pattern of secretion of: 1- high sensitivity C-reactive protein (hsCRP), an inflammatory marker associated with increased cardiovascular risk and regulated by cortisol and 2-the adipokines leptin and adiponectin and related changes in insulin resistance.

Subjects and methods: Twenty-three young, apparently healthy subjects were evaluated before and two weeks into Ramadan. Blood samples were collected at 9.00 am and 9.00 pm for measurements of glucose, insulin, leptin, adiponectin and hsCRP.

Results: During Ramadan, the concentratios of hsCRP were lower compared to regular living conditions, while glucose homeostasis was maintained by increases in the secretion of insulin without a change in its circadian pattern, indicating an increase in insulin resistance, as also measured by HOMA- IR. Furthermore, leptin and adiponectin secretion were significantly changed to a pattern favoring insulin resistance. Mean morning concentrations of leptin were significantly higher than pre-Ramadan values ($p = 0.001$), in contrast to those of adiponectin, which were significantly lower ($p < 0.001$).

Conclusions: In Saudi Arabia, the beneficial effects of fasting on hsCRP during Ramadan is offset by disturbed sleeping and eating patterns leading to alterations in leptin and adiponectin secretion, associated with decreased insulin sensitivity. These changes might contribute to the high prevalence of obesity, metabolic syndrome and diabetes mellitus type 2, and their cardiovascular sequelae, in this population.

Research Title:	Biomarkers for virus-induced hepatocellular carcinoma (HCC)
Source:	Infection Genetics And Evolution Elsevier Science Bv Volume 26, page 327-339
ISSN:	1567-7257
Date and Year of Publication:	2014-AUG
Impact Factor:	3.264
Affiliated Department(s):	Medicine
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ABSTRACT

Hepatocellular carcinoma (HCC) is one of the most common cancers worldwide, and is advanced by severe viral hepatitis B or C (HBV or HCV) as well as alcoholic liver disease. Many patients with early disease are asymptomatic therefore HCC is frequently diagnosed late requiring costly surgical resection or transplantation. The available non-invasive detections systems are based on the clinical utility of alpha fetoprotein (AFP) measurement, together with ultrasound and other more sensitive imaging techniques. The hallmark of liver disease and its propensity to develop into fully blown HCC is depended on several factors including the host genetic make-up and immune responses. While common symptoms involve diarrhea, bone pain, dyspnea, intraperitoneal bleeding, obstructive jaundice, and paraneoplastic syndrome, the evolution of cell and immune markers is important to understand viral induced liver cancers in humans. The circulating miRNA, cell and immune based HCC biomarkers are imperative candidates to successfully develop strategies to restrain liver injury. The current molecular genetics and proteomic analysis have lead to the identification of number of key biomarkers for HCC for earlier diagnosis and more effective treatment of HCC patients. In this review article, we provide latest updates on the biomarkers of HBV or HCV-associated HCC and their co-evolutionary relationship with liver cancer.

Research Title:	Brown tumor in a patient with ectopic mediastinal parathyroid adenoma: A case report
Source:	The Saudi Dental Journal Elsevier B.V. Volume 26, Issue 2, page 74-77
ISSN:	1013-9052
Date and Year of Publication:	2014-MAR
Impact Factor:	0.138
Affiliated Department(s):	Medicine
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ABSTRACT

Brown tumors are uncommon focal giant-cell lesions that arise as a direct result of the effect of parathyroid hormone on bone tissue in some patients that have hyperparathyroidism. Primary hyperparathyroidism could be caused by ectopic mediastinal parathyroid adenomas. The occurrence of lesions is explainable on embryologic basis. We present a 55-year-old Saudi woman with a rare case of brown tumor of the maxilla due to ectopic mediastinal parathyroid adenoma. Brown tumors are uncommon focal giant-cell lesions that arise as a direct result of the effect of parathyroid hormone on bone tissue in some patients that have hyperparathyroidism. Primary hyperparathyroidism could be caused by ectopic mediastinal parathyroid adenomas. The occurrence of lesions is explainable on embryologic basis. We present a 55-year-old Saudi woman with a rare case of brown tumor of the maxilla due to ectopic mediastinal parathyroid adenoma.

Research Title:	Causes of Re-admission in Medical ward within 30 days of discharge among hospitalized Saudi and NonSaudi patients
Source:	Life Science Journal Marsland Press Volume 11, Issue 6, page 98-104
ISSN:	1097-8135
Date and Year of Publication:	2014-JUN
Impact Factor:	2.296
Affiliated Department(s):	Medicine
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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 re-admission. 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, septicaemia 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.

Research Title:	Central Nervous System Manifestation in Patients with SLE: A 12-Year Retrospective Chart Review at a Tertiary Center
Source:	Kuwait Medical Journal Kuwait Medical Association Volume 46, Issue 1, page 14-20
ISSN:	0023-5776
Date and Year of Publication:	2014-MAR
Impact Factor:	0.098
Affiliated Department(s):	Medicine
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ABSTRACT

Background: Central nervous system manifestation of systemic lupus erythematosus (CNS-SLE) is a common complication, which is clinically associated with patient morbidity and mortality
Objective: To determine the CNS-SLE manifestations and to determine the predictors of death among the studied cohort
Design: Retrospective
Setting: King Abdulaziz University Hospital, Jeddah, Kingdom of Saudi Arabia
Subjects: All patients diagnosed with SLE were identified, using a computerized retrieval system, for the period January 1, 2000 to May 31, 2012.
Intervention(s): Data pertaining to demographics, risk factors for cerebrovascular accident and CNS manifestations were collected from the patients' medical charts
Main Outcome Measure(s): CNS-SLE and the predictors of death among the studied cohort
Results: The study included 307 patients (91% females) with a mean (M +/- SD) age of 35.6 +/- 13 years and mean disease duration of 9 +/- 5 years. CNS manifestations were found in 70 patients (23%). The commonest was stroke in 25 patients (35%) and aseptic meningitis, cerebritis, recurrent stroke and cavernous sinus thrombosis occurred only in one patient each (1.4%). The most significant predictors for CNS involvement were hyperlipidemia (OR = 5.48) followed by positive Antiphospholipid antibodies (OR = 2.74). By univariate analysis CNS involvement, negative anti-nuclear antibody (ANA) and combined low complements were found to be predictors of death.
Conclusions: Clinical studies have shown varying results with respect to the prevalence of CNS involvement in SLE. Antiphospholipid antibodies (APA) is a known risk factor whereas the role played by hyperlipidemia in escalating the risk of CNS involvement in SLE warrants further clinical evaluation.

Research Title:	Cerebrospinal Fluid Lysosomal Enzymes and Alpha-Synuclein in Parkinson's Disease
Source:	Movement Disorders Wiley-Blackwell Volume 29, Issue 8, page 1019-1027
ISSN:	0885-3185
Date and Year of Publication:	2014-JUL
Impact Factor:	5.634
Affiliated Department(s):	Medicine
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ABSTRACT

To assess the discriminating power of multiple cerebrospinal fluid (CSF) biomarkers for Parkinson's disease (PD), we measured several proteins playing an important role in the disease pathogenesis. The activities of beta-glucocerebrosidase and other lysosomal enzymes, together with total and oligomeric alpha-synuclein, and total and phosphorylated tau, were thus assessed in CSF of 71 PD patients and compared to 45 neurological controls. Activities of beta-glucocerebrosidase, beta-mannosidase, beta-hexosaminidase, and beta-galactosidase were measured with established enzymatic assays, while alpha-synuclein and tau biomarkers were evaluated with immunoassays. A subset of PD patients (n=44) was also screened for mutations in the beta-glucocerebrosidase-encoding gene (GBA1). In the PD group, beta-glucocerebrosidase activity was reduced ($P < 0.05$) and patients at earlier stages showed lower enzymatic activity ($P < 0.05$); conversely, beta-hexosaminidase activity was significantly increased ($P < 0.05$). Eight PD patients (18%) presented GBA1 sequence variations; 3 of them were heterozygous for the N370S mutation. Levels of total alpha-synuclein were significantly reduced ($P < 0.05$) in PD, in contrast to increased levels of alpha-synuclein oligomers, with a higher oligomeric/total alpha-synuclein ratio in PD patients when compared with controls ($P < 0.001$). A combination of beta-glucocerebrosidase activity, oligomeric/total alpha-synuclein ratio, and age gave the best performance in discriminating PD from neurological controls (sensitivity 82%; specificity 71%, area under the receiver operating characteristic curve=0.87). These results demonstrate the possibility of detecting lysosomal dysfunction in CSF and further support the need to combine different biomarkers for improving the diagnostic accuracy of PD.

Research Title:	Challenges facing postgraduate training in family medicine in Saudi Arabia: Patterns and solutions
Source:	Journal of Health Specialties Wolters Kluwer Health Volume 2, Issue 2, page 61-67
ISSN:	2321-6298
Date and Year of Publication:	2014-APR
Impact Factor:	0
Affiliated Department(s):	Medicine
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ABSTRACT

Objective: The objective of this paper was to show the challenges that are faced by the Family Medicine Training Programmes in the Kingdom of Saudi Arabia as well as suggests appropriate and practical solutions.

Materials and Methods: This study was conducted from 2010 - 2013 using a semi-structured questionnaire to achieve the objective. The questionnaire was designed and completed by the investigators during their visits to accredit the training centres all over the Kingdom. It consisted of questions concerning the trainers' and trainees' opinions regarding all the aspects of training. Another tool used was the accreditation checklist, which contained a comprehensive list of training structures and processes mandatory for any training centre. The accreditation checklist and questionnaire were reviewed by the investigators after visiting all the training centres. The challenges were then classified manually and solutions were reviewed as well as approved by the members of the Accreditation Committee.

Results: Seventy-five training centres were visited and 250 trainees along with 75 trainers participated in this study. Twenty-five challenges were identified and classified under 6 major groups. The practical solutions to these challenges were discussed with participants and then approved by the investigators.

Conclusion: This study showed that Family Medicine Training in the Kingdom of Saudi Arabia faces many different challenges. Early identification along with key solutions to these difficulties are extremely important in the efforts to produce a new generation of competent Saudi Family Physicians who can improve the quality of healthcare for the population of Saudi Arabia.

Research Title:	Chemical constituents and biological investigations of the aerial parts of Egyptian Clerodendrum inerme
Source:	Bulletin of Faculty of Pharmacy, Cairo University Elsevier B.V Volume 52, Issue 2, page 165-170
ISSN:	1110-0931
Date and Year of Publication:	2014-JUN
Impact Factor:	0
Affiliated Department(s):	Medicine
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ABSTRACT

B-friedoolean-5-ene-3-β-ol (1), β-sitosterol (2), stigmasta-5,22,25-trien-3-β-ol (3), betulinic acid (4), and 5-hydroxy-6,7,4′-trimethoxyflavone (5) were isolated from the aerial parts of Clerodendrum inerme L. (Verbenaceae). Their structures were established based on analyses of physical and spectroscopic data. Compounds 1, 4, and 5 were isolated for the first time from the plant. C. inerme L. was known as a rich source of terpenes, sterols, and phenolic compounds, so the antioxidant and anti-inflammatory activities were evaluated. The total methanolic extract (TME) and compound 5 showed scavenging activity with maximum inhibition of 61.84% for TME (100 μg/mL) and 37.19% for 5 (20 μM), respectively, using DPPH assay. In addition, the TME exhibited anti-inflammatory activity more than indomethacin at dose 200 mg/kg using the formalin induced hind paw edema method.

Research Title:	Chemotherapy-induced febrile neutropenia in patients with breast cancer. A multivariate risk assessment model for first cycle chemotherapy
Source:	Saudi Medical Journal Saudi Medical Journal Volume 35, Issue 6, page 612-616
ISSN:	0379-5284
Date and Year of Publication:	2014-JUN
Impact Factor:	0.554
Affiliated Department(s):	Medicine
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ABSTRACT

Objectives: To identify factors that increase the risk of developing febrile neutropenia (FN) during the first cycle of chemotherapy in breast cancer patients.
Methods: In this retrospective study, we reviewed the records of 211 patients with confirmed breast cancer treated with chemotherapy at the Princess Norah Oncology Center, King Abdulaziz Medical City, Jeddah, Kingdom of Saudi Arabia between January 2010 and May 2012. Statistical analysis was conducted using descriptive analysis, univariate, and multivariate logistic regressions. A multivariate regression of FN occurrence in the first cycle was developed.
Results: The median age of patients was 48 years. Febrile neutropenia was documented in 43 (20.3%) of 211 patients. Twenty-one (49%) of the 43 patients had FN during the first cycle of chemotherapy. A multivariate logistic regression revealed that age (odds ratio [OR] 1.059, 95% confidence interval [CI]: 1.007-1.114), non-anthracycline and/or taxane-based chemotherapy regimens (OR of 39.488; 95% CI: 4.995-312.187), and neo-adjuvant chemotherapy (OR of 8.282; 95% CI: 1.667-41.152) were the most important independent risk factors of FN.
Conclusion: Identifying risk factors of FN may help to target high-risk patients with granulocyte colony-stimulating factor prophylaxis and reduce FN incidences, with subsequent morbidities and mortalities.

Research Title:	Clinical characteristics of Fuchs' Heterochromic Iridocyclitis in a tertiary medical center in Makkah region of Saudi Arabia: A retrospective study
Source:	Journal of Taibah University Medical Sciences Elsevier Ltd volume 9, Issue 1, page 65-68
ISSN:	1658-3612
Date and Year of Publication:	2014-MAR
Impact Factor:	0.047
Affiliated Department(s):	Medicine
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ABSTRACT

Objectives: To characterize the clinical features of Fuchs' Heterochromic Iridocyclitis in a Saudi population.
Methods: Retrospective analysis of the records of the consecutive patients presented to the uveitis clinic, Magrabi Eye and Ear Hospital, Jeddah, Saudi Arabia, between 2001and 2011.
Results: We enrolled 21 eyes of 19 patients with the diagnosis of Fuch's Heterochromic Iridocyclitis who completed a minimum of 6 months follow up. The mean follow up was 25 ± 13.35 (range 6–48) months. Males predominated (13/19, 68.3%). Majority (17/19, 89.5%) had unilateral presentation. The age at presentation was 36.2 ± 11 (range 18–59) years. 31.6% (6/19) showed heterochromia. All patients (100%) showed fine stellate filamentary keratic precipitates and majority (57.9%) showed mild (<1/2 cells and <1/2 flare) anterior chamber inflammation. Iris atrophy was seen in majority (15/19, 78.9%) of patients. All (100%) showed fine vitreous cells and vitreous debris. In majority of patients (15/19, 78.9%) Iris nodules were absent. Koeppe nodules were seen in 15.8% (3/19) patients. Peripheral anterior synechiae was noted in 3 (15.8%) patients and 2 of them had elevated intraocular pressure which responded to anti glaucoma treatment. All patients had developed cataracts. Best corrected visual acuity was better than 0.5 in 12/19 (63.2%) of patients at the final follow up.
Conclusion: Our patients had less heterochromia and Iris nodules. Subtle iris atrophy with fine keratic precipitates and very mild anterior chamber inflammation (<1/2 cells, <1/2 flare) along with fine vitreous cells and debris could lead to the diagnosis of Fuch's Heterochromic Iridocyclitis in our population.

Research Title:	Clinical features, management, and short- and long-term outcomes of patients with acute decompensated heart failure: phase I results of the HEARTS database
Source:	European Journal of Heart Failure John Wiley & Sons, Ltd Volume 16, Issue 4, page 461-469
ISSN:	1879-0844
Date and Year of Publication:	2014-FEB
Impact Factor:	6.577
Affiliated Department(s):	Medicine
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ABSTRACT

Aims: The Heart function Assessment Registry Trial in Saudi Arabia (HEARTS) is a national multicentre project, studying clinical features, management, short- and long-term outcomes, and mortality predictors in patients admitted with acute decompensated heart failure (ADHF).

Methods and results: Our prospective registry enrolled 2610 ADHF patients admitted to 18 hospitals in Saudi Arabia between October 2009 and December 2010, and followed mortality rates until January 2013. The patients included 66% men and 85.5% Saudis, with a median age (interquartile range) of 61.4 (15) years; 64% had acute on chronic heart failure (HF), 64.1% diabetes mellitus, 70.6% hypertension, and 55.7% CAD. Exacerbating factors for hospital admission included acute coronary syndromes (37.8%), infections (20.6%), non-compliance with low-salt diet (25.2%), and non-compliance with HF medications (20%). An LVEF <40% was found in 73%. In-hospital use of evidence-based medications was high. All-cause cumulative mortality rates at 30 days, 6 months, 1 year, 2 years, and 3 years were 8.3, 13.7, 19.5, 23.5, and 24.3%, respectively. Important independent predictors of mortality were history of stroke, acute on chronic HF, systolic blood pressure <90 mmHg upon presentation, estimated glomerular filtration rate <60 mL/min, and haemoglobin <10 g/dL.

Conclusion: Patients with ADHF in Saudi Arabia presented at a younger age and had higher rates of CAD risk factors compared with those in developed countries. Most patients had reduced LV systolic function, mostly due to ischaemic aetiology, and had poor long-term prognosis. These findings indicate a need for nationwide primary prevention and HF disease management programmes.

Research Title:	Clinically probable REM sleep behavior disorder: a case series and a literature review
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
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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.

Research Title:	Clinicopathological characteristics of lupus nephritis in Western region of Saudi Arabia: An experience from two tertiary medical centres
Source:	Journal of Microscopy and Ultrastructure Elsevier B.V Volume 2, Issue 1, page 12-19
ISSN:	2213-879X
Date and Year of Publication:	2014-MAR
Impact Factor:	0
Affiliated Department(s):	Medicine, Pathology
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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.

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
Date and Year of Publication:	2014-OCT
Impact Factor:	1.426
Affiliated Department(s):	Medicine
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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(A (R))) 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(A (R)), 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 in 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(A (R)) with CyDs after dissolution, leading to the inhibition of the polymer-polymer interaction of Sangelose(A (R)) 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(A (R))-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(A (R)) solutions and their solubility enhancing effect on the drug.

Research Title:	Comparative Study of the Eficacy of Brushles Surgical Hand Preparation Techniques Using Antiseptic Soap, Alcohol and Non-medicated Soap
Source:	British Journal of Medicine & Medical Research Science Domain International Volume 4, Issue 8, page 1663-1671
ISSN:	2231-0614
Date and Year of Publication:	2014-AUG
Impact Factor:	0
Affiliated Department(s):	Pediatrics, Medicine, Microbiology and Medical Parasitology,
Author(s):	Mohammed Al-Biltagi, Jameel Al-Ata, Asif A Jiman-Fatani, Abdullah Sindy, Abdullah Alghamdi, Abdulhameed Basabrain, Abdulrahman Alsabban, Ahmad Jefri, Ahmad Alzomity
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ABSTRACT

Background & Objectives: Preoperative hand preparation with a brush-les method is almost a common practice. The aim of this study was to compare the eficacy of brushles preoperative hand preparation using alcohol to antiseptic soap, and non-medicated soap in eliminating germs by standard proper pre-operative hand preparation.
Methods: Twenty volunters tried thre diferent ways of surgical hand preparation with antiseptic soap, alcohol, and non-medicated soap-based preoperative hand preparation.
Results: There was no positve bacterial growth sample in the alcohol-based scrubing group while it was 2% with positve bacterial growth in the antimicrobial soap and 5% with positve bacterial growth in the non-medicated soap group.
Conclusion: The alcohol-based pre-operative hand preparation was signifcantly more eficient han both the antimicrobial soap and the non-medicated soap

Research Title:	Comparison of Five Methods for Chromogranin A Measurement in Healthy Subjects and in Patients with Neuroendocrine Neoplasms
Source:	Endocrine Society's 96th Annual Meeting and Expo, June 21–24, 2014 – Chicago Endocrine Society MON-0641
ISSN:	0013-7227
Date and Year of Publication:	2014-JUN
Impact Factor:	0
Affiliated Department(s):	Medicine
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POSTER/ABSTRACT

Background: The accurate measurement and interpretation of Chromogranin A (CGA) is of utmost importance for the care of patients with neuroendocrine neoplasms (NEN). Information on the reference ranges of several commercially available CGA assays as well as the effect of collection mediums is limited. The aims of this study were to determine the reference range of CGA across assays, and to compare the serum vs. plasma CGA levels. Moreover, we assessed utility of these assays for NEN patients with both active and inactive disease.

Methods: In a cross-sectional study, we collected serum and plasma samples in 61 healthy subjects and one hundred and sixteen NEN patients, of which 57 had active disease. Patients were recruited from a referral clinic for diagnosis and treatment of NEN. All samples were analyzed in a single laboratory using CGA ELISA assays from CisBio (serum & plasma), Alpco (serum & plasma), Dako (plasma only), RIA from CisBio (plasma only) and a chemiluminescent method from Invitron (plasma only). Reference ranges were determined using a bootstrap non-parametric procedure, and Passing-Bablok non-parametric regression. Paired T tests were used to compare results across assays and plasma vs. serum values. Unpaired T tests were used to compare results across disease states and controls. Test accuracy was analyzed via ROC curves.

Results: The reference ranges were calculated for CGA values specified by assay and medium. There was considerable variation across assays both for plasma and serum, with serum ranges often significantly lower than plasma. Furthermore, for several assays, reference ranges that we established varied significantly from those provided in package inserts.

Also, CGA levels were significantly higher in NEN patients compared with healthy controls throughout assays ($P<0.001$). Within NEN patients, CGAs were significantly higher in active disease states than non-active disease states in six of seven assays ($P<0.05$). ROC curve analysis did not reveal strong cut off points for active disease throughout assays (Sensitivity 41-68%, specificity 50-72%). DAKO was superior when differentiating healthy subjects vs. NEN and active vs. non-active disease (AUC 0.823 & 0.641). PPI use did not result in a significant CGA variation within NEN patients.

Conclusions: Reference ranges for CGA in healthy subjects may considerably differ from package insert references. Reference ranges need to be established separately for serum and plasma. This information is critical for correct interpretation of CGA results in the care of patients with NEN's. Furthermore, high levels of CGA are a characteristic feature of patients with NENs and CGA levels vary to some extent with disease activity. However, no strong cut off values for the diagnosis of active disease were identified, suggesting its utility as a prognostic marker within individual patients rather than as a screening tool.

Research Title:	Comparison of RT-PCR assay and virus isolation in cell culture for the detection of alkhumra hemorrhagic fever virus.
Source:	Journal of Medical Virology Wiley Periodicals, Inc. Volume 86, Issue 7, page 1176-1180
ISSN:	1096-9071
Date and Year of Publication:	2014-JUL
Impact Factor:	2.217
Affiliated Department(s):	Family Medicine, Medicine
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ABSTRACT

Alkhumra hemorrhagic fever virus (AHFV) is an emerging flavivirus that was isolated originally from Saudi Arabia in 1994-1995. The main tests used for the detection of AHFV are the real time (rt) RT-PCR and virus isolation in cell culture. In the present study the detection of AHFV by rtRT-PCR was compared with virus isolation in BHK-21, HEp-2, and LLC-MK2 cell lines. AHFV suspensions grown in BHK-21, HEp-2, and LLC-MK2 cell lines were serially diluted 10-fold from 10(-1) to 10(-11) . Samples from each dilution were used to inoculate four cell culture tubes and were also examined by the rtRT-PCR for AHFV RNA. Fifteen non-inoculated cell culture samples (five from each cell line) were included blindly in both tests. Thus, a total of 132 AHFV-positive and 15 negative control samples were tested. The rtRT-PCR could detect the viral RNA in all diluted specimens up to and including the 10(-10) dilution (40 specimens for each cell line), whereas, cell cultures were positive in 70% of specimens for BHK-21, 65% for LLC-MK2, and 45% for HEp-2 at this dilution. None of the three cell cultures nor the rtRT-PCR was positive at 10(-11) dilution. The specificity and positive predictive values of virus isolation compared to rtRT-PCR were each 100%, whereas the negative predictive values were 29.4% for BHK-21, 26.3% for LLC-MK2, and 18.5% for HEp-2. In conclusion, the rtRT-PCR is more sensitive than virus isolation for detecting AHFV.

Research Title:	Complete Genome Sequencing and Genetic Characterization of Alkhumra Hemorrhagic Fever Virus Isolated from Najran, Saudi Arabia
Source:	Intervirology Karger Volume 57, Issue 5, page 300-310
ISSN:	0300-5526
Date and Year of Publication:	2014-AUG
Impact Factor:	1.773
Affiliated Department(s):	Family Medicine, Medicine
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ABSTRACT

Background: Alkhumra hemorrhagic fever virus (AHFV) is a newly described flavivirus first isolated in 1994-1995 from the Alkhumra district south of Jeddah, Saudi Arabia. Subsequently, the virus was also isolated from Makkah (2001 2003) and Najran (2008-2009), Saudi Arabia.

Methods: The full-length genome of an AHFV strain isolated from patients in Najran (referred to as AHFV/997/NJ/09/SA) was PCR amplified and sequenced, and compared with the sequences of 18 other AHFV strains previously isolated from Jeddah and Makkah, dengue virus (DENV), Kyasanur forest disease virus (KFDV), Langat virus, Omsk hemorrhagic fever virus (OHFV), and tick-borne encephalitis virus (TBEV).

Results: The RNA of the AHFV/997/NJ/09/SA strain was found to have 10,546 nucleotides encoding for a single 3,416-amino acid polyprotem, whereas the previously reported AHFV strains were composed of 10,685-10,749 nucleotides. The AHFV/997/NJ/09/ SA strain showed about 99% homology with the previously reported AHFV strains. The KFDV, Langat virus, TBEV, and OHFV isolates formed a separate cluster with a variable homology. The most important variations were observed in the core protein and NS4a gene sequences of two AHFV isolates.

Conclusion: The variation in the number of nucleotides and phylogenetic analysis with the other AHFV isolates could have resulted from recombination of circulating virus strains.

Research Title:	Correlation between Erythrocyte Sedimentation Rate and C-Reactive Protein Levels with Disease Activity in Systemic Lupus Erythematosus Patients
Source:	Middle East Journal of Family Medicine medi+WORLD International Volume 7, Issue 10, page 20-24
ISSN:	148-4196
Date and Year of Publication:	2014-JAN
Impact Factor:	0
Affiliated Department(s):	Medicine
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ABSTRACT

Aim: To investigate the correlation between erythrocyte sedimentation rate (ESR) and c-reactive protein (CRP) levels with systemic lupus erythematosus (SLE) disease activity index (SLEDAI) as well as the onset of renal impairment in inactive and active groups of SLE patients.

Methods: This study was done using 49 women patients who are positive for SLE. They were classified into inactive and active groups based on the SLEDAI. All the physical examination and the laboratory parameters were used to determine SLEDAI. Fully automated cell counter was used for the estimation of ESR and the CRP was detected by latex agglutination slide test.

Results: ESR was significant in SLEDAI inactive group and SLEDAI active group. There was no significant correlation between SLEDAI and CRP positive and negative patients. There was no significant difference between inactive and active groups with reference to red blood cells (RBC) and white blood cells (WBC) in urine.

Conclusion: The correlation levels found in this study can be used as an appropriate marker for evaluation of disease activity and also used as an onset for renal impairment for SLE patients.

Research Title:	CTA Collateral Status and Response to Recanalization in Patients with Acute Ischemic Stroke
Source:	American Journal of Neuroradiology American Journal of Neuroradiology Volume 35, Issue 5, page 844-890
ISSN:	0195-6108
Date and Year of Publication:	2014-MAY
Impact Factor:	3.675
Affiliated Department(s):	Medicine
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ABSTRACT

Background and Purpose: Collateral status at baseline is an independent determinant of clinical outcome among patients with acute ischemic stroke. We sought to identify whether the association between recanalization after intra-arterial acute stroke therapy and favorable clinical response is modified by the presence of good collateral flow assessed on baseline CTA.

Materials and Methods: Data are from the Keimyung Stroke Registry, a prospective cohort study of patients with acute ischemic stroke from Daegu, South Korea. Patients with M1 segment MCA with or without intracranial ICA occlusions on baseline CTA from May 2004 to July 2009 who also had baseline MR imaging were included. Two readers blinded to all clinical information assessed baseline and follow-up imaging. Leptomeningeal collaterals on baseline CTA were assessed by consensus by use of the regional leptomeningeal score.

Results: Among 84 patients (mean age, 65.2 +/- 13.2 years; median NIHSS score, 14; interquartile range, 8.5), median time from stroke onset to initial MR imaging was 164 minutes. TICI 2b-3 recanalization was achieved in 38.1% of patients and mRS 0-2 at 90 days in 35.8% of patients. In a multivariable model, the interaction between collateral status and recanalization was significant. Only patients with intermediate or good collaterals who recanalized showed a statistically significant association with good clinical outcome (rate ratio = 3.8; 95% CI, 1.2-12.1). Patients with good and intermediate collaterals who did not achieve recanalization and patients with poor collaterals, even if they achieved recanalization, did not do well.

Conclusions: Patients with good or intermediate collaterals on CTA benefit from intra-arterial therapy, whereas patients with poor collaterals do not benefit from treatment.

Research Title:	Current and investigational treatments for spinal muscular atrophy
Source:	Expert Opinion on Orphan Drugs Informa Healthcare Volume 2, Issue 5, page 465-476
ISSN:	2167-8707
Date and Year of Publication:	2014-MAY
Impact Factor:	2.735
Affiliated Department(s):	Medicine
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ABSTRACT

Introduction: Spinal muscular atrophy (SMA) is an autosomal recessive neurodegenerative disorder in humans characterized by impaired motor neuron function resulting in muscle weakness and atrophy. It is clinically classified into four main types based on age of onset and clinical severity. SMA is caused by a reduced level of functional survival motor neuron (SMN) protein. The physiological relevance of SMN has been implicated in pre-mRNA splicing and its critical involvement in cellular processes in the axons of motor neurons.
Areas covered: At present, no effective treatment is available for SMA. Current therapeutic strategies for treating SMA focus on SMN expression augmentation and the development of neuroprotective agents. Preclinical successes from approaches including gene therapy, antisense oligonucleotides, small molecule drugs and stem cell technology have been described and their clinical relevance has been discussed. However, clinical trials of drug compounds conducted hitherto have not shown conclusive evidence to support any particular type of drug compound as an effective intervention for curing SMA patients.
Expert opinion: Among the current therapeutic strategies, vector-based gene therapy is one of the most promising candidates for treating SMA. Its success and safety demonstrated in preclinical studies in mouse models and non-human primates have given us optimism in translating the technology into the clinic. Major challenges yet to be addressed are the efficient penetration of the blood-brain-barrier, the route of delivery that maximizes global distribution with a minimal invasive technique to the patient and the timing of the treatment for patients to achieve the highest therapeutic benefits.

Research Title:	Demographic distribution and transmission potential of influenza A and 2009 pandemic influenza A H1N1 in pilgrims
Source:	Journal of Infection in Developing Countries Journal of Infection in Developing Countries Volume 8, Issue 9, page 1169-1175
ISSN:	1972-2680
Date and Year of Publication:	2014-SEPT
Impact Factor:	1.268
Affiliated Department(s):	Medicine
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ABSTRACT

Introduction: The World Health Organization's persistent reporting of global outbreaks of influenza A viruses, including the 2009 pandemic swine A H1N1 strain (H1N1pdm09), justified the targeted surveillance of pilgrims during their annual congregation that pools more than two million people from around 165 nations in a confined area of Makkah city in the Kingdom of Saudi Arabia (KSA).

Methodology: A total of 1,600 pilgrims were included in the targeted surveillance of influenza A and the 2009 pandemic swine H1N1 strain in the Hajj (pilgrimage) season of 2010. Each pilgrim responded to a demographic and health questionnaire. Collected oropharyngeal swabs were analyzed by real-time PCR for influenza A viruses, and positive samples were further analyzed for the presence of H1N1pdm09. Fisher's exact test was applied in the analysis of the significance of the distribution of influenza-positive pilgrims according to demographic characters.

Results: A total of 120 pilgrims (7.5%) tested positive for influenza A viruses by real-time PCR. Nine out of the 120 influenza-A-positive pilgrims (7.5%) were positive for H1N1pdm09. Demographics played a significant role in those pilgrims who tested positive for influenza A.

Conclusions: The detection of H1N1pdm09 in pilgrims at their port of entry to the KSA was alarming, due to the high potential of trans-boundary transmission. This situation necessitates the implementation of specific prevention and control programs to limit infection by influenza A viruses.

Research Title:	Depression in patients with chronic kidney disease on dialysis in Saudi Arabia
Source:	International Urology and Nephrology Springer Volume 46, issue 12, page 2393-2402
ISSN:	1573-2584
Date and Year of Publication:	2014-DEC
Impact Factor:	1.293
Affiliated Department(s):	Medicine
Author(s):	Faten Al Zaben, Doaa Ahmed Khalifa, Mohammad Gamal Sehlo, Saad Al Shohaib, Faisul Shaheen, Hanadi Alhozali, Alferdose Osama Hariri, Riyadh Ghazi Ahmad, Moayad Reda Kabli, Harold G Koenig
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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.

Research Title:	Depression in patients with colorectal cancer in Saudi Arabia
Source:	Psycho-Oncology John Wiley & Sons, Ltd Volume 2014, page 1-8
ISSN:	1099-1611
Date and Year of Publication:	2014-OCT
Impact Factor:	4.044
Affiliated Department(s):	Medicine
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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 wthin 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.

Research Title:	Detection of rare single nucleotide variants affecting genes in the DNA repair pathways in hereditary breast cancer
Source:	BMC Genomics BioMed Central Ltd Volume 15, Supplement 2, page 20
ISSN:	1471-2164
Date and Year of Publication:	2014-APR
Impact Factor:	4.041
Affiliated Department(s):	Surgery, Pathology, Medicine
Author(s):	Shireen Hussein, Adnan Merdad, Jaudah Al-Maghrabi, Mamdooh A Gari, Fatma Al-Thubaiti, Ibtessam R Hussein, Adeel G Chaudhary, Adel M Abuzenadah, Hanaa Tashkandi, Shadi Al-Khayyat, Taha Kumosani, Mohammed H Al-Qahtani, Ashraf Dallol
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ABSTRACT

Background: Patients with hereditary breast cancer constitute a considerable fraction of overall breast cancer sufferers. The contribution of genetic factors to the development of breast cancer in the admixed and highly consanguineous population of the western region of Saudi Arabia is thought to be significant as the disease is early onset [1]. The current protocols of continuous clinical follow-up of relatives of such patients are costly and cause a burden on the usually over-stretched medical resources. Discovering the significant contribution of BRCA1/2 mutations to breast cancer susceptibility allowed for the design of genetic tests that allows the medical practitioner to focus the care for those who need it most. However, BRCA1/2 mutations do not account for all breast cancer susceptibility genes and there are other genetic factors, known and unknown that may play a role in the development of such disease.

Materials and methods: We have performed whole-exome sequencing of seven cases of breast cancer patients with positive family history of the disease using the Agilent SureSelect™ Whole-Exome Enrichment kit and sequencing on the SOLiD™ platform.

Results: In addition to identifying two rare or novel mutations in BRCA2, we have identified several coding single nucleotide variations that affect genes controlling DNA repair in the BRCA1/2 pathway. The disruption of these pathways is very likely to contribute to breast cancer susceptibility.

Conclusions: Our findings suggest that whole exome sequencing is a powerful tool for identifying mutations associated with hereditary breast cancer that might be missed by using other classical genetic testing strategies. Moreover, this will guide the treatment of breast cancer patients who have failed to respond to first-line therapies, thus, it is a great leap towards applying personalized medicine in Saudi Arabia.

Research Title:	Detection of the Middle East Respiratory Syndrome Coronavirus Genome in an Air Sample Originating from a Camel Barn Owned by an Infected Patient
Source:	MBIO American Society for Microbiology Volume 5, Issue 4, page 1-5
ISSN:	2150-7511
Date and Year of Publication:	2014-AUG
Impact Factor:	6.875
Affiliated Department(s):	Microbiology and Parasitology, Medicine
Author(s):	Esam I Azhar, Anwar M Hashem, Sherif A El-Kafrawy, Sayed Sartaj Sohrab, Asad S Aburizaiza, Suha A Farraj, Ahmed M Hassan, Muneera S Al-Saeed, Ghazi A Jamjoom, Tariq A Madani
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ABSTRACT

Middle East respiratory syndrome coronavirus (MERS-CoV) is a novel betacoronavirus that has been circulating in the Arabian Peninsula since 2012 and causing severe respiratory infections in humans. While bats were suggested to be involved in human MERS-CoV infections, a direct link between bats and MERS-CoV is uncertain. On the other hand, serological and virological data suggest dromedary camels as the potential animal reservoirs of MERS-CoV. Recently, we isolated MERS-CoV from a camel and its infected owner and provided evidence for the direct transmission of MERS-CoV from the infected camel to the patient. Here, we extend this work and show that identical MERS-CoV RNA fragments were detected in an air sample collected from the same barn that sheltered the infected camel in our previous study. These data indicate that the virus was circulating in this farm concurrently with its detection in the camel and in the patient, which warrants further investigations for the possible airborne transmission of MERS-CoV. IMPORTANCE This work clearly highlights the importance of continuous surveillance and infection control measures to control the global public threat of MERS-CoV. While current MERS-CoV transmission appears to be limited, we advise minimal contact with camels, especially for immunocompromised individuals, and the use of appropriate health, safety, and infection prevention and control measures when dealing with infected patients. Also, detailed clinical histories of any MERS-CoV cases with epidemiological and laboratory investigations carried out for any animal exposure must be considered to identify any animal source.

Research Title:	Dialysis Dementia: A Review
Source:	Saudi Journal of Internal Medicine Saudi Society of Internal Medicine Volume 4, Issue 1, page 29-35
ISSN:	1658-5763
Date and Year of Publication:	2014-JAN
Impact Factor:	2
Affiliated Department(s):	Medicine
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ABSTRACT

Dialysis dementia is a rare syndrome that was first described by Alfrey et al. in 1972. This disease is an entity nowadays, however, in Europe, between 1976 and 1977; the prevalence of dialysis dementia was 600 per 100,000 dialysis patients, although there was a wide variation between centers. The clinical picture is characterized by an insidious onset of altered behaviour, dementia, speech disturbance, myoclonus, tremor, asterixis and convulsions. In this manuscript, an interesting case of dialysis dementia and review topic is presented

Research Title:	Differences In Studying Habits Between Male And Female Medical Students Of King Abdulaziz University
Source:	Egyptian Dental Journal Research Gate Volume 2014, Issue 60, page 1687-1693
ISSN:	0070-9484
Date and Year of Publication:	2014-APR
Impact Factor:	0
Affiliated Department(s):	Medicine, Medical Education
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ABSTRACT

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 201 1 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 10 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=0.02 l). 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.

Research Title:	Differential role of CSF alpha-synuclein species, tau, and A beta 42 in Parkinson's Disease
Source:	Frontiers in Aging Neuroscience Frontiers Research Foundation Volume 6, Issue 53, page 1-8
ISSN:	1663-4365
Date and Year of Publication:	2014-MAR
Impact Factor:	5.2
Affiliated Department(s):	Medicine
Author(s):	Lucilla Parnetti, Lucia Farotti, Paolo Eusebi, Davide Chiasserini, Claudia De Carlo, David Giannandrea, Nicola Salvadori, Viviana Lisetti, Nicola Tambasco, Aroldo Rossi, Nour K Majbour, Omar El-Agnaf, Paolo Calabresi
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ABSTRACT

There is a great interest in developing cerebrospinal fluid (CSF) biomarkers for diagnosis and prognosis of Parkinson's disease (PD). CSF alpha synuclein (alpha-syn) species, namely total and oligomeric alpha-syn (t-alpha-syn and o-alpha-syn), have shown to be of help for PD diagnosis. Preliminary evidences show that the combination of CSF t-alpha-syn and classical Alzheimer's disease (AD) biomarkers-beta-amyloid 1-42 (A beta(42)), total tau (t-tau), phosphorylated tau (p-tau)-differentiate PD patients from controls, and that reduced levels of A beta(42) represent a predictive factor for development of cognitive deterioration in PD. In this prospective study carried out in 44 PD patients and 25 neurological controls we wanted to verify whether the combination of CSF alpha-synuclein species-t-alpha-syn and o-alpha-syn-and classical AD biomarkers may help in differentiating PD from neurological controls, and if these biomarkers may predict cognitive decline. The median of follow-up duration was 3 years (range: 2-6 years). Mini Mental State Examination (MMSE) and Montreal Cognitive Assessment (MoCA) were used for monitoring cognitive changes along time, being administered once a year. Oligo/total alpha-syn ratio (o/t-alpha-syn ratio) confirmed its diagnostic value, significantly contributing to the discrimination of PD from neurological controls. A greater diagnostic accuracy was reached when combining o/t-alpha-syn and A beta(42)/tau ratios (Sens = 0.70, Spec = 0.84, AUC = 0.82; PPV = 0.89, NPV = 0.62, LR+ = 4.40, DOR = 12.52). Low CSF A beta(42) level was associated with a higher rate of MMSE and MoCA decline, confirming its role as independent predictive factor for cognitive decline in PD. None of the other biomarkers assessed (t-tau, p-tau, t-alpha-syn and o-alpha-syn) showed to have prognostic value. We conclude that combination of CSF o/t-alpha-syn and A beta(42)/tau ratios improve the diagnostic accuracy of PD. PD patients showing low CSF A beta(42) levels at baseline are more prone to develop cognitive decline.

Research Title:	Directions of Autism Diagnosis by Electroencephalogram Based brain Computer Interface: A Review
Source:	Life Science Journal Marsland Press Volume 11, Issue 6, page 298-304
ISSN:	1097-8135
Date and Year of Publication:	2014-JUN
Impact Factor:	2.296
Affiliated Department(s):	Medicine
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ABSTRACT

Autism is a social development disorder that is a difficult task to diagnose by a medical professional with support from physical, occupational and speech therapists. It is being investigated through many different approaches. This paper review the literatures of EEG and BCI that help us to answer some unanswered questions by many psychologists, scholars of education and parents of autistic children about common signs of autism such as problems with social skills, interaction, and communication. This can be seen as the ground work for applying new BCI applications for further development diagnosis of the autism to see how the treatment is working as well in future.

Research Title:	Does the Study Guide Represent a Helpful Learning Tool for Medical Students? Students Perspectives
Source:	Jokull Journal 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
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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.

Research Title:	Early Reperfusion Rates with IV tPA Are Determined by CTA Clot Characteristics
Source:	American Journal of Neuroradiology American Society of Neuroradiology Volume 35, Issue 12, page 2265-2272
ISSN:	0195-6108
Date and Year of Publication:	2014-JUL
Impact Factor:	3.675
Affiliated Department(s):	Medicine
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ABSTRACT

Background And Purpose: An ability to predict early reperfusion with IV tPA in patients with acute ischemic stroke and intracranial clots can help clinicians decide if additional intra-arterial therapy is needed or not. We explored the association between novel clot characteristics on baseline CTA and early reperfusion with IV tPA in patients with acute ischemic stroke by using classification and regression tree analysis.

Materials And Methods: Data are from patients with acute ischemic stroke and proximal anterior circulation occlusions from the Calgary CTA data base (2003–2012) and the Keimyung Stroke Registry (2005–2009). Patients receiving IV tPA followed by intra-arterial therapy were included. Clot location, length, residual flow within the clot, ratio of contrast Hounsfield units pre- and postclot, and the M1 segment origin to the proximal clot interface distance were assessed on baseline CTA. Early reperfusion (TICI 2a and above) with IV tPA was assessed on the first angiogram.

Results: Two hundred twenty-eight patients (50.4% men; median age, 69 years; median baseline NIHSS score, 17) fulfilled the inclusion criteria. Median symptom onset to IV tPA time was 120 minutes (interquartile range = 70 minutes); median IV tPA to first angiography time was 70.5 minutes (interquartile range = 62 minutes). Patients with residual flow within the clot were 5 times more likely to reperfuse than those without it. Patients with residual flow and a shorter clot length (≤15 mm) were most likely to reperfuse (70.6%). Patients with clots in the M1 MCA without residual flow reperfused more if clots were distal and had a clot interface ratio in Hounsfield units of <2 (36.8%). Patients with proximal M1 clots without residual flow reperfused 8% of the time. Carotid-T/-L occlusions rarely reperfused (1.7%). Interrater reliability for these clot characteristics was good.

Conclusions: Our study shows that clot characteristics on CTA help physicians estimate a range of early reperfusion rates with IV tPA.

Research Title:	Effect of Simvastatin and Atorvastatin on Serum Vitamin D and Bone Mineral Density in Hypercholesterolemic Patients: A Cross-Sectional Study
Source:	Journal of Osteoporosis Hindawi Publishing Corporation Volume 2014, page 1-9
ISSN:	2042-0064
Date and Year of Publication:	2014-AUG
Impact Factor:	0
Affiliated Department(s):	Medicine
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ABSTRACT

Background: Besides lipid-lowering effect of statins, they have been shown to have nonlipid lowering effects, such as improving bone health. An improvement in bone mineral density (BMD) has been indicated in some studies after the use of statins, in addition to an increase in 25-hydroxyvitamin D (25OHD) level. The aim of this study is to explore the association between statins and bone health taking into consideration 25OHD level and BMD.

Methods: This is a randomized, cross-sectional comparative study. Subjects were divided into two groups, hypercholesterolemic participants taking simvastatin or atorvastatin as the study group and a matched control group not taking statins. All participants were assessed for serum 25OHD and BMD at lumbar spine and femoral neck.

Results: total of 114 participants were included in the study, 57 participants in each group. Results of serum 25OHD showed no significant difference between study and control groups ($P = 0.47$), while BMD results of lumbar spine and femoral neck showed significant difference ($P = 0.05$ and 0.03, resp.).

Conclusion: Simvastatin and atorvastatin, at any dose for duration of more than one year, have no additive effect on 25OHD level but have a positive effect on the BMD.

Research Title:	Elevated levels of cerebrospinal fluid alpha-synuclein oligomers in healthy asymptomatic LRRK2 mutation carriers
Source:	Frontiers in Aging Neuroscience Frontiers Research Foundation Volume 6, Article 248
ISSN:	1663-4365
Date and Year of Publication:	2014-SEPT
Impact Factor:	5.2
Affiliated Department(s):	Anatomy, Medicine
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ABSTRACT

Mutations in the leucine-rich repeat kinase 2 gene are the most common cause of autosomal dominant Parkinson's disease (PD). To assess the cerebrospinal fluid (CSF) levels of alpha-synuclein oligomers in symptomatic and asymptomatic leucine-rich repeat kinase 2 mutation carriers, we used enzyme-linked immunosorbent assays (ELISA) to investigate total and oligomeric forms of alpha-synuclein in CSF samples. The CSF samples were collected from 33 Norwegian individuals with leucine-rich repeat kinase 2 mutations: 13 patients were clinically diagnosed with PD and 20 patients were healthy, asymptomatic leucine-rich repeat kinase 2 mutation carriers. We also included 35 patients with sporadic PD (sPD) and 42 age-matched healthy controls. Levels of CSF alpha-synuclein oligomers were significantly elevated in healthy asymptomatic individuals carrying leucine-rich repeat kinase 2 mutations ($n = 20$; $P < 0.0079$) and in sPD group ($n = 35$; $P < 0.003$) relative to healthy controls. Increased alpha-synuclein oligomers in asymptomatic leucine-rich repeat kinase 2 mutation carriers showed a sensitivity of 63.0% and a specificity of 74.0%, with an area under the curve of 0.66, and a sensitivity of 65.0% and a specificity of 83.0%, with an area under the curve of 0.74 for sPD cases. An inverse correlation between CSF levels of alpha- synuclein oligomers and disease severity and duration was observed. Our study suggests that quantification of alpha-synuclein oligomers in CSF has potential value as a tool for PD diagnosis and presymptomatic screening of high-risk individuals.

Research Title:	Evaluating staff skills and needs for conducting distance learning healthcare courses
Source:	icehtm.net
ISSN:	
Date and Year of Publication:	2014-JUN
Impact Factor:	0
Affiliated Department(s):	Clinical Biochemistry, Medical Education, Microbiology and Parasitology, Medicine
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ABSTRACT

Introduction: The widespread utilization of technology in business and social environments offers a pedagogical shift. The era of technology has brought great expansion in the development and introduction of online courses and technology tools to teaching and learning strategies. The development of distance learning courses and programs should be based on sound pedagogical principals. Academic staff members and other healthcare professionals, who are responsible for teaching and physician training, should be aware of the principal of course design, development, implementation, and therefore, they need to follow one of the instructional design approaches such as the ADDIE Approach.
Aim: The aim of this study is to evaluate instructors' skills and needs for conducting distance learning healthcare courses, including the level of assistance they need to implement and use online and software tools in online courses. In addition, this study evaluates the level of helpfulness of different types of training and support.
Methods: This study applied the online faculty survey used by the Center for Teaching Excellence, University of South Carolina to assess the faculty's instructional technology needs for training and support. The survey asked faculty staff about a broad number of classroom and online technologies, with a helpful response scale that reveals not only what the faculty is already using, but also what the instructors want to use and what they need help with.
Results: The results of this study illustrated the significant need of faculty staff members for the training and development of their skills in almost all tools used for conducting online courses. Regarding the use of software, although the majority of participating staff members in this study use almost all software tools required for conducting online healthcare courses, they expressed a need for help in developing new ideas to use the software effectively
Conclusion: The results of this study showed that it is essential to organize comprehensive faculty development training courses to help staff members conduct their online courses or convert their face-to-face courses to blended courses effectively. These courses should include an introductory course and provide training on instructional design, the use of technology tools, and assessment techniques in online courses.

Research Title:	Evaluation of Interval Times From Onset to Reperfusion in Patients Undergoing Endovascular Therapy in the Interventional Management of Stroke III Trial
Source:	Circulation Lippincott Williams & Wilkins Volume 130, Issue 3, page 265
ISSN:	1524-4539
Date and Year of Publication:	2014-JUL
Impact Factor:	14.948
Affiliated Department(s):	Medicine
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ABSTRACT

Background: Meaningful delays occurred in the Interventional Management of Stroke (IMS) III trial. Analysis of the work flow will identify factors contributing to the in-hospital delays.
Methods and Results: In the endovascular arm of the IMS III trial, the following time intervals were calculated: stroke onset to emergency department arrival; emergency department to computed tomography (CT); CT to intravenous tissue plasminogen activator start; intravenous tissue plasminogen activator start to randomization; randomization to groin puncture; groin puncture to thrombus identification; thrombus identification to start of endovascular therapy; and start of endovascular therapy to reperfusion. The effects of enrollment time, CT angiography use, interhospital transfers, and intubation on work flow were evaluated. Delays occurred notably in the time intervals from intravenous tissue plasminogen activator initiation to groin puncture (median 84 minutes) and start of endovascular therapy to reperfusion (median 85 minutes). The CT to groin puncture time was significantly shorter during working hours than after. Times from emergency department to reperfusion and groin puncture to reperfusion decreased over the trial period. Patients with CT angiography had shorter emergency department to reperfusion and onset to reperfusion times. Transfer of patients resulted in a longer onset to reperfusion time compared with those treated in the same center. Age, sex, National Institutes of Health Stroke Scale score, and intubation did not affect delays.
Conclusions: Important delays were identified before reperfusion in the IMS III trial. Delays decreased as the trial progressed. Use of CT angiography and endovascular treatment in the same center were associated with time savings. These data may help in optimizing work flow in current and future endovascular trials.

Research Title:	Evaluation of Multiple Choice and Short Essay Question items in Basic Medical Sciences
Source:	Pakistan Journal of Medical Sciences Professional Medical Publications Volume 30, Issue 1, page 3-6
ISSN:	1682-024X
Date and Year of Publication:	2014-JAN
Impact Factor:	0.098
Affiliated Department(s):	Medicine
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ABSTRACT

Objectives: To evaluate Multiple Choice and Short Essay Question items in Basic Medical Sciences by determining item writing flaws (IWFs) of MCQs along with cognitive level of each item in both methods.
Methods: This analytical study evaluated the quality of the assessment tools used for the first batch in a newly established medical college in Karachi, Pakistan. First and sixth module assessment tools in Biochemistry during 2009-2010 were analyzed. Cognitive level of MCQs and SEQs, were noted and MCQ item writing flaws were also evaluated.
Results: A total of 36 SEQs and 150 MCQs of four items were analyzed. The cognitive level of 83.33% of SEQs was at recall level while remaining 16.67% were assessing interpretation of data. Seventy six percent of the MCQs were at recall level while remaining 24% were at the interpretation. Regarding IWFs, 69 IWFs were found in 150 MCQs. The commonest among them were implausible distracters (30.43%), unfocused stem (27.54%) and unnecessary information in the stem (24.64%).
Conclusion: There is a need to review the quality including the content of assessment tools. A structured faculty development program is recommended for developing improved assessment tools that align with learning outcomes and measure competency of medical students.

Research Title:	Evidence for Camel-to-Human Transmission of MERS Coronavirus
Source:	New England Journal Of Medicine Massachusetts Medical Soc Volume 370, Issue 26, page 2499-2505
ISSN:	0028-4793
Date and Year of Publication:	2014-JUN
Impact Factor:	54.42
Affiliated Department(s):	Medicine
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ABSTRACT

We describe the isolation and sequencing of Middle East respiratory syndrome coronavirus (MERS-CoV) obtained from a dromedary camel and from a patient who died of laboratory-confirmed MERS-CoV infection after close contact with camels that had rhinorrhea. Nasal swabs collected from the patient and from one of his nine camels were positive for MERS-CoV RNA. In addition, MERS-CoV was isolated from the patient and the camel. The full genome sequences of the two isolates were identical. Serologic data indicated that MERS-CoV was circulating in the camels but not in the patient before the human infection occurred. These data suggest that this fatal case of human MERS-CoV infection was transmitted through close contact with an infected camel.

Research Title:	Exploratory Socio-Spatial Distribution Of Overweight And Obesity Among Female Colleges In The Faculty Of Arts And Humanities, King Abdul Aziz University, Jeddah Governorate, KSA In 2013
Source:	IMPACT: International Journal of Research in Applied, Natural and Social Sciences Impact Journals Volume 2, Issue 8, page 19-26
ISSN:	2321-8851
Date and Year of Publication:	2014-AUG
Impact Factor:	1.017
Affiliated Department(s):	Medicine
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ABSTRACT

In the present study, we study socio-spatial distribution of overweight and obesity among female colleagues in the faculty of arts and humanities, King Abdul Aziz University, Jeddah, and KSA. A cross-sectional study is conducted on female colleges in different majors (Arabic, English, European Languages, French, Psychology, Information Technology, Islamic Studies, Geography, History, and Media). A total of 525 colleges are included, and asked to answer a pre-designed validated questionnaire. Their body mass index (BMI) is calculated by measuring their individual weight and height. Then, based on their BMI, they are placed in the following categories: underweight; normal weight; overweight and obesity. 111 colleges are placed in the underweight category (21.1%), 286 (54.5%) are found to have a normal weight and 128 (24.4%) are overweight. We observe a significant correlation between increased age and the number of individuals in the "overweight and obese" category. The prevalence of overweight and obese subjects is significantly higher among married colleges and those who have children.

Research Title:	External Radiation Doses From Patients Administered With Radiopharmaceuticals Measurements and Monte Carlo Simulation
Source:	Nuclear Technology & Radiation Protection Vinča Institute of Nuclear Sciences Volume 29, Issue 3, page 199-206
ISSN:	1451-3994
Date and Year of Publication:	2014-SEPT
Impact Factor:	0
Affiliated Department(s):	Medicine
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ABSTRACT

Monte Carlo simulations and dose measurements were performed for radionuclides in the whole body and trunks of different sizes in order to estimate external radiation whole body doses from patients administered with radiopharmaceuticals. Calculations were performed on cylindrical water phantoms whose height was 176 cm and for three body diameters: of 24 cm, 30 cm, and 36 cm. The investigated radionuclides were: Tc-99m, I-131, I-23, Ga-67, Tl-201, and In-111. Measured and MCNP-calculated values were 2-6 times lower than the values calculated by the point source method. Additionaly, the total dose received by the public until a radionuclide is completely disintegrated was calculated. The other purpose of this work is to provide data on whole body and finger occupational doses received by technologists working in nuclear medicine. Data showed a wide variation in doses that depended on the individual technologist and the position of the dosimeter.

Research Title:	Factors Influencing the Measurement of Lysosomal Enzymes Activity in Human Cerebrospinal Fluid
Source:	PLOS One Public Library Science Volume 9, Issue 7, page 1-11
ISSN:	1932-6203
Date and Year of Publication:	2014-JUL
Impact Factor:	3.534
Affiliated Department(s):	Medicine
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ABSTRACT

Measurements of the activities of lysosomal enzymes in cerebrospinal fluid have recently been proposed as putative biomarkers for Parkinson's disease and other synucleinopathies. To define the operating procedures useful for ensuring the reliability of these measurements, we analyzed several pre-analytical factors that may influence the activity of beta-glucocerebrosidase, alpha-mannosidase, beta-mannosidase, beta-galactosidase, alpha-fucosidase, beta-hexosaminidase, cathepsin D and cathepsin E in cerebrospinal fluid. Lysosomal enzyme activities were measured by well-established fluorimetric assays in a consecutive series of patients (n = 28) with different neurological conditions, including Parkinson's disease. The precision, pre-storage and storage conditions, and freeze/thaw cycles were evaluated. All of the assays showed within-and between-run variabilities below 10%. At -20 degrees C, only cathepsin D was stable up to 40 weeks. At 280 degrees C, the cathepsin D, cathepsin E, and beta-mannosidase activities did not change significantly up to 40 weeks, while beta-glucocerebrosidase activity was stable up to 32 weeks. The beta-galactosidase and alpha-fucosidase activities significantly increased (+54.9 +/- 38.08% after 4 weeks and + 88.94 +/- 36.19% after 16 weeks, respectively). Up to four freeze/thaw cycles did not significantly affect the activities of cathepsins D and E. The beta-glucocerebrosidase activity showed a slight decrease (-14.6%) after two freeze/thaw cycles. The measurement of lysosomal enzyme activities in cerebrospinal fluid is reliable and reproducible if pre-analytical factors are accurately taken into consideration. Therefore, the analytical recommendations that ensue from this study may contribute to the establishment of actual values for the activities of cerebrospinal fluid lysosomal enzymes as putative biomarkers for Parkinson's disease and other neurodegenerative disorders.

Research Title:	Female sexual dysfunction in patients with spinal cord injury: a study from Iran
Source:	Spinal Cord Nature Publishing Group Volume 52, Issue 8, page 646-649
ISSN:	1362-4393
Date and Year of Publication:	2014-AUG
Impact Factor:	1.699
Affiliated Department(s):	Medicine
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ABSTRACT

Objectives: We assess the prevalence of sexual dysfunction in patients with spinal cord injury (SCI), compare sexual function and sexual distress between female patients with SCI and gender-matched healthy controls, and address risk factors associated with sexual dysfunction among Iranian female patients with SCI.
Setting: Brain and Spinal Cord Injury Research Center, Neuroscience Institute, Tehran University of Medical Sciences, Tehran, Iran.
Methods: Eligible Iranian female patients with SCI were included in this cross-sectional study. They were asked to provide sociodemographic information, and complete the Female Sexual Function Index, Hospital Anxiety and Depression Scale and Female Sexual Distress Scale-Revised questionnaire.
Results: Of the 105 patients participated in this study, the average age was 41.0 (s.d.=10.1) years. Women with SCI reported significantly higher levels of sexual dysfunction compared with normal controls. Approximately, 88% of SCI patients reported at least one type of sexual dysfunction, whereas only 37% of healthy controls reported sexual dysfunction. Lack of vaginal lubrication was reported more frequent in SCI patients compared with controls. Women with SCI reported a significantly higher level of sexual distress compared with healthy women. Sexual dysfunction was observed to be significantly higher in older patients, those with less education, patients with complete lesions, those with sexual distress and patients who were anxious and depressed.
Conclusion: Sexual dysfunction is highly prevalent among Iranian women with SCI. Sexual dysfunction is associated with age, education, symptoms of depression and anxiety and level of injury. Sexual counseling during the rehabilitation period may help to prevent sexual dysfunction following SCI.

Research Title:	Five Years MIQE Guidelines: The Case of the Arabian Countries
Source:	PLOS One Public Library of Science Volume 9, Issue 2, page 1-6
ISSN:	1932-6203
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Impact Factor:	3.534
Affiliated Department(s):	Medicine
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ABSTRACT

The quantitative real time polymerase chain reaction (qPCR) has become a key molecular enabling technology with an immense range of research, clinical, forensic as well as diagnostic applications. Its relatively moderate instrumentation and reagent requirements have led to its adoption by numerous laboratories, including those located in the Arabian world, where qPCR, which targets DNA, and reverse transcription qPCR (RT-qPCR), which targets RNA, are widely used for region-specific biotechnology, agricultural and human genetic studies. However, it has become increasingly apparent that there are significant problems with both the quality of qPCR-based data as well as the transparency of reporting. This realisation led to the publication of the Minimum Information for Publication of Quantitative Real-Time PCR Experiments (MIQE) guidelines in 2009 and their more widespread adoption in the last couple of years. An analysis of the performance of biomedical research in the Arabian world between 2001–2005 suggests that the Arabian world is producing fewer biomedical publications of lower quality than other Middle Eastern countries. Hence we have analysed specifically the quality of RT-qPCR-based peer-reviewed papers published since 2009 from Arabian researchers using a bespoke iOS/Android app developed by one of the authors. Our results show that compliance with 15 essential MIQE criteria was low (median of 40%, range 0–93%) and few details on RNA quality controls (22% compliance), assays design (12%), RT strategies (32%), amplification efficiencies (30%) and the normalisation process (3%). These data indicate that one of the reasons for the poor performance of Arabian world biomedical research may be the low standard of any supporting qPCR experiments and identify which aspects of qPCR experiments require significant improvements.

Research Title:	Frequency and risk factors of musculoskeletal pain in nurses at a tertiary centre in Jeddah, Saudi Arabia: a cross sectional study
Source:	BMC Research Notes BioMed Central Ltd. Volume 7, Issue 1, page 1-6
ISSN:	1756-0500
Date and Year of Publication:	2014-JAN
Impact Factor:	0
Affiliated Department(s):	Medicine
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ABSTRACT

Background: Musculoskeletal complaints are an important occupational problem; nevertheless, few studies have targeted nurses in Saudi Arabia. The aim of this study was to determine the frequency and risk factors of work-related musculoskeletal disorders (WMSDs) among nursing personnel at a tertiary centre in Jeddah.

Methods: A comparative cross-sectional study was performed in which full-time registered nurses from four different departments (n = 200) were selected for analysis between September 1, 2011 and February 29, 2012. Musculoskeletal symptoms over the past year were assessed using the Nordic Standardised Musculoskeletal Questionnaire. In addition to demographic questions, the researcher evaluated employment history, physical risk factors at work, and general health status.

Results: In this study, approximately 85% of the nurses reported experiencing at least one musculoskeletal symptom. Musculoskeletal symptoms occurred most commonly in the lower back (65.7%), ankles and feet (41.5%), and shoulders (29%). Prolonged working hours and being underweight were significantly associated with the development of these symptoms (OR 3.66, 95% CI 1.24-10.79, P = 0.018, and OR 2.66, 95% CI 1.37-5.93, P = 0.004, respectively). Working in the surgical department was a greater risk factor for low back pain compared with working in other departments.

Conclusions: WMSDs are common among our nurses, and back pain is the most common symptom. As prolonged working hours and being underweight were factors that contributed most to WMSDs, decreasing shift durations or offering nutrition educational programmes may be suitable solutions. However, further studies are required to examine the best modality for decreasing the occurrence of WMSDs.

Research Title:	Generalized Myoclonus and Spasticity Induced by Lamotrigine Toxicity: A Case Report and Literature Review
Source:	Clinical Neuropharmacology Lippincott Williams & Wilkins Volume 37, Issue 2, page 52-54
ISSN:	0362-5664
Date and Year of Publication:	2014-APR
Impact Factor:	1.836
Affiliated Department(s):	Medicine
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ABSTRACT

Lamotrigine (LTG) is a well-tolerated broad-spectrum antiepileptic drug, which is chemically unrelated to other existing antiepileptic medications. The drug has also some mood-stabilizing properties and, according to some studies, modest antidepressant effects. The exact mechanism of action is unknown, but some animal studies suggest the inhibition of neuronal glutamate release. Despite being relatively safe, LTG has been demonstrated to have proconvulsant effect especially in certain types of epilepsies like myoclonic status epilepticus. Myoclonic status epilepticus and its variations including generalized myoclonic status epilepticus, status myoclonus, and prolonged myoclonus describe a variety of clinical states, which have continuous, unremitting seizures lasting longer than 5 minutes. It is not a commonly reported treatment-emergent neurological complication, but the treatment is always a medical emergency. We report a case of a 46-year-old man who developed generalized myoclonus status epilepticus a few hours after suicidal ingestion of LTG. He remained hemodynamically stable throughout hospitalization and started to recover and achieved complete recovery 3 days later. This is the first reported case of this de novo complication induced by LTG toxicity. We proposed a subcortical mechanism for this complication induced by the toxic doses of LTG.

Research Title:	Gene Therapy: A Promising Approach to Treating Spinal Muscular Atrophy
Source:	Human Gene Therapy Mary Ann Liebert, Inc Volume 25, Issue 7, page 575-586
ISSN:	1043-0342
Date and Year of Publication:	2014-JUL
Impact Factor:	3.623
Affiliated Department(s):	Medicine
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ABSTRACT

Spinal muscular atrophy (SMA) is a severe autosomal recessive disease caused by a genetic defect in the survival motor neuron 1 (SMN1) gene, which encodes SMN, a protein widely expressed in all eukaryotic cells. Depletion of the SMN protein causes muscle weakness and progressive loss of movement in SMA patients. The field of gene therapy has made major advances over the past decade, and gene delivery to the central nervous system (CNS) by in vivo or ex vivo techniques is a rapidly emerging field in neuroscience. Despite Parkinson's disease, Alzheimer's disease, and amyotrophic lateral sclerosis being among the most common neurodegenerative diseases in humans and attractive targets for treatment development, their multifactorial origin and complicated genetics make them less amenable to gene therapy. Monogenic disorders resulting from modifications in a single gene, such as SMA, prove more favorable and have been at the fore of this evolution of potential gene therapies, and results to date have been promising at least. With the estimated number of monogenic diseases standing in the thousands, elucidating a therapeutic target for one could have major implications for many more. Recent progress has brought about the commercialization of the first gene therapies for diseases, such as pancreatitis in the form of Glybera, with the potential for other monogenic disease therapies to follow suit. While much research has been carried out, there are many limiting factors that can halt or impede translation of therapies from the bench to the clinic. This review will look at both recent advances and encountered impediments in terms of SMA and endeavor to highlight the promising results that may be applicable to various associated diseases and also discuss the potential to overcome present limitations.

Research Title:	High Expression of Matrix Metalloproteinases (MMPs); MMP-2 and MMP-9 Predicts Poor Outcome in Colorectal Carcinoma
Source:	Modern Pathology Nature Publishing Group Volume 27, Issue 1, page 162-163
ISSN:	1530-0285
Date and Year of Publication:	2014-FEB
Impact Factor:	6.364
Affiliated Department(s):	Clinical Biochemistry, Medicine, Pathology
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ABSTRACT/POSTER

The current staging system along the conventional prognostic factors is the gold standard for prognosis of colorectal cancer (CRC). In spite of that, it is unable to distinguish those patients who might carry high risk of recurrence and poor outcome, which highlights the need for new molecular factors that could stratify patients into different risk categories. This study is aimed to assess the expression of selected group of matrix metalloproteinases (MMPs); MMP-2, MM-7 and MMP-9 in a subset of primary CRC and determine its relation to different clinico-pathological factors and survival. Paraffin blocks of 127 CRC patients were retrieved. Antigen expressions of MMP-2 and -9 were analyzed by immunohistochemistry (IHC) and their cytoplasmic and stromal staining was evaluated. The results showed that overexpressions of both MMP-2 and MMP-9 were a significant sign of poor outcome and recurrence as evaluated by univariate Kaplan–Meier for disease-free survival (DFS) (p= 0.012, p= 0.001) and disease-specific survival (DSS) (p= 0.012, p= 0.038). In multivariate survival (Cox) analysis, MMP-2 and -9 also were significant independent predictors of DFS (p= 0.006, p=0.018) and DSS as well (p= 0.004, p=0.049). These results implicate the usefulness of MMP-2 and -9 expressions in predicting outcome of patients with CRC.

Research Title:	Il-4Rα, TNF-α,TNF-α Receptor, and CD4 Enhancer Genes Polymorphisms in Rheumatoid Arthritis Saudi Female Patients
Source:	IOSR Journal of Dental and Medical Sciences iosrjournals.org Volume 13, Issue 8, page 71-82
ISSN:	2279-0853
Date and Year of Publication:	2014-AUG
Impact Factor:	1.576
Affiliated Department(s):	Medicine
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ABSTRACT

We aimed to investigate the role of IL-4Rα, TNF-α, its receptor, and CD4 enhancer gene polymorphisms in susceptibility and severity of rheumatoid arthritis (RA).One hundred and fifty RA patients and 100 controls were enrolled in the study. Genotyping of IL-4Rα I50V (rs1805010) and IL-4Rα Q576R (rs1801275), TNF-α -308 G/A polymorphism in the promoter region of the TNF-α gene and −196M/R polymorphism of TNFRII gene, CD4-11743 and CD4-10845 gene polymorphismwas determined by PCRRFLP.IL-4Rα 50IV genotype was significantly more frequent in patients with RA than in controls (OR: 1.97, 95% CI: 1–3.7, P: 0.035). Subjects with IL-4Rα 50V/V genotype were significantly more likely to have erosive arthropathy (OR: 2.6, 95% CI: 1.1–6.1, P: 0.02). The frequencies of IL-4Rα Q576R genotype were significantly decreased in patients with erosive RA compared to patients with non erosive RA (31.6%versus 48.2%, OR: 2.7, 95% CI: 1–7.7, P: 0.04).Our findings suggested that the A allele of TNF-α and TNFRII 196M/R polymorphism were associated with RA susceptibility. Subjects with the CC genotype of CD4-11743 were significantly more likely to develop RA (OR = 2.7, P = 0.03) and more likely to have severe RA (OR = 2.7, P = 0.024). Carrier of A allele of CD4-10845 was significantly more likely to develop severe RA (OR = 3.7, P =0.000).In conclusion,IL-4Rα,TNF-α and its receptor, CD4 enhancer gene polymorphisms were associated with susceptibility to RA and may be helpful in early detection of erosive RA.

Research Title:	Idiopathic pulmonary fibrosis in Saudi Arabia: Demographic, clinical, and survival data from two tertiary care hospitals
Source:	Annals of Thoracic Medicine Saudi Thoracic Society Volume 9, Issue 3, page 168-172
ISSN:	1998-3557
Date and Year of Publication:	2014-JUL
Impact Factor:	1.338
Affiliated Department(s):	Medicine
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ABSTRACT

Background: Idiopathic pulmonary fibrosis (IPF) is rare and can be challenging to diagnose. Limited data is available from the Middle Eastern region, especially Saudi Arabia.
Methods: This was a retrospective study that looked at all the patients diagnosed with IPF between 2007 and 2012 at two tertiary care hospitals in Saudi Arabia. We collected the demographical, clinical, laboratory and radiological data from the patients' medical records. Medications administered and 1 year survival was also assessed.
Results: Between 2007 and 2012, 134 IPF patients were identified. Their baseline characteristics (Mean +/- SD) included: age 64 +/- 13 years, body mass index 29 +/- 8 kg/m(2), FEV1 56 +/- 15 percent of predicted, FVC 53 +/- 13 percent of predicted, FEV1/FVC 0.81 +/- 0.09, total lung capacity 75 +/- 13 percent of predicted, diffusing capacity of the lung for carbon monoxide 57 +/- 15 percent of predicted, on home oxygen at presentation 71 (53%), mean ejection fraction 0.50 +/- 0.07, mean pulmonary artery systolic pressure (via echocardiogram) 40 + 22 mmHg, presentation mean S-pO2 92 +/- 7%, presentation 6-min walk distance 338 +/- 64 m and lowest S-pO2 during 6-min walk test 88 +/- 5%. Patients were predominantly female (56%), and 42% of patients had diabetes and were active smokers. The IPF patients' frequency of hospital admission (n = 99) was 2.4 +/- 1.7 per year and duration of hospital stay (n = 99) was 17.4 +/- 23.8 days. Overall 1 year survival in all IPF patients was good, 93% (124) patients remained alive after 1 year.
Conclusions: In Saudi Arabia, IPF patients tended to be slightly older and the disease progression was somewhat slower than reported IPF cohorts in other populations. They had frequent hospital admissions and a long hospital length of stay. The influence of genetics and co-morbid diseases on the incidence and outcome of IPF should be explored further.

Research Title:	Impact of Age and Baseline NIHSS Scores on Clinical Outcomes in the Mechanical Thrombectomy Using Solitaire FR in Acute Ischemic Stroke Study.
Source:	American Journal of Neuroradiology American Society of Neuroradiology Volume 1, Issue 1, page 1-2
ISSN:	0195-6108
Date and Year of Publication:	2014-JUL
Impact Factor:	3.675
Affiliated Department(s):	Medicine
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ABSTRACT

Background And Purpose: Age and stroke severity are inversely correlated with the odds of favorable outcome after ischemic stroke. A previously proposed score for Stroke Prognostication Using Age and NIHSS Stroke Scale (SPAN) indicated that SPAN-100-positive patients (ie, age + NIHSS score = 100 or more) do not benefit from IV-tPA. If this finding holds true for endovascular therapy, this score can impact patient selection for such interventions. This study investigated whether a score combining age and NIHSS score can improve patients' selection for endovascular stroke therapy.
Materials And Methods: The SPAN index was calculated for patients in the prospective Solitaire FR Thrombectomy for Acute Revascularization study: an international single-arm multicenter cohort for anterior circulation stroke treatment by using the Solitaire FR. The proportion with favorable outcome (90-day mRS score ≤2) was compared between SPAN-100-positive versus-negative patients.
Results: Of the 202 patients enrolled, 196 had baseline NIHSS scores. Fifteen (7.7%) patients were SPAN-100-positive. There was no difference in the rate of successful reperfusion (Thrombolysis In Cerebral Infarction 2b or 3) between SPAN-100-positive versus -negative groups (93.3% versus 82.8%, respectively; P = .3). Stroke SPAN-100-positive patients had a significantly lower proportion of favorable clinical outcomes (26.7% versus 60.8% in SPAN-100-negative, P = .01). In a multivariable analysis, SPAN-100-positive status was associated with lower odds of favorable outcome (OR, 0.3; 95% CI, 0.1-0.9; P = .04). A higher baseline Alberta Stroke Program Early CT Score and a short onset to revascularization time also predicted favorable outcome in the multivariable analysis.
Conclusions: A significantly lower proportion of patients with a positive SPAN-100 achieved favorable outcome in this cohort. SPAN-100 was an independent predictor of favorable outcome after adjusting for time to treatment and the extent of preintervention tissue damage according to the Alberta Stroke Program Early CT Score.

Research Title:	Immunomodulatory Effect of Red Onion (Allium cepa Linn) Scale Extract on Experimentally Induced Atypical Prostatic Hyperplasia in Wistar Rats.
Source:	Mediators of Inflammation Hindawi Publishing Corporation Volume 2014, Issue 2014, page 1-13
ISSN:	1466-1861
Date and Year of Publication:	2014-APR
Impact Factor:	2.417
Affiliated Department(s):	Pathology, Urology
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ABSTRACT

Red onion scales (ROS) contain large amounts of flavonoids that are responsible for the reported antioxidant activity, immune enhancement, and anticancer property. Atypical prostatic hyperplasia (APH) was induced in adult castrated Wistar rats by both s.c. injection of testosterone (0.5 mg/rat/day) and by smearing citral on shaved skin once every 3 days for 30 days. Saw palmetto (100 mg/kg) as a positive control and ROS suspension at doses of 75, 150, and 300 mg/kg/day were given orally every day for 30 days. All medications were started 7 days after castration and along with testosterone and citral. The HPLC profile of ROS methanolic extract displayed two major peaks identified as quercetin and quercetin-4'- β -O-D-glucoside. Histopathological examination of APH-induced prostatic rats revealed evidence of hyperplasia and inflammation with cellular proliferation and reduced apoptosis Immunohistochemistry showed increased tissue expressions of IL-6, IL-8, TNF- α , IGF-1, and clusterin, while TGF- β 1 was decreased, which correlates with the presence of inflammation. Both saw palmetto and RO scale treatment have ameliorated these changes. These ameliorative effects were more evident in RO scale groups and were dose dependent. In conclusion, methanolic extract of ROS showed a protective effect against APH induced rats that may be attributed to potential anti-inflammatory and immunomodulatory effects.

Research Title:	Impact of demographic and comorbid conditions on quality of life of hemodialysis patients: A cross-sectional study
Source:	Saudi Journal of Kidney Diseases and Transplantation Medknow Publications Volume 25, Issue 2, page 432-437
ISSN:	2320-3838
Date and Year of Publication:	2014-MAR
Impact Factor:	0
Affiliated Department(s):	Medicine
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ABSTRACT

To assess the quality of life (QOL) of Saudi Arabian patients undergoing hemo-dialysis (HD) and to determine the impact of gender, age, education and comorbidities on the QOL of these patients, we conducted a cross-sectional study and used the short form-36 (SF-36) questionnaire, a generic instrument for measuring QOL. This questionnaire is composed of eight scales that summarize the physical component scale (PCS) and mental component scale (MCS) of health status. We calculated the PCS and MCS scores for each patient. We studied 205 HD patients (123 men; ages 18-75 years) from the King Fahd General Hospital, Jeddah, Saudi Arabia. The mean SF-36 score was 59.4 ± 21.7 in men and 41.9 ± 20.9 in women (P <0.0001). Patients older than 60 years had the worst score (41.5 ± 21.2), followed by patients aged 40-59 years (53.6 ± 22.8); patients aged 18-39 years had the best SF-36 score (57.5 ± 22.5; P <0.0001). Education had a positive impact on QOL (P <0.0001), whereas comorbid conditions had a nega-tive impact. Peripheral vascular disease was associated with the worst outcome (SF-36 score, 40.4 ± 23.0; P <0.0001), followed by dyslipidemia (42.9 ± 22.4; P = 0.001) and diabetes mellitus (45.0 ± 22.0; P = 0.012). Among the comorbid conditions, hypertension was associated with the best SF-36 score (50.6 ± 22.7; P = 0.034). We conclude that old age, female gender, poor education and comorbid conditions have a negative impact on the QOL of HD patients in Saudi Arabia. These findings indicate a general need for social support for female patients on HD and early diagnosis and management of comorbid conditions.

Research Title:	Impact of maternal breast cancer on school-aged children in Saudi Arabia
Source:	BMC Research Notes BioMed Central Ltd Volume 7, Issue 1, page 261
ISSN:	1756-0500
Date and Year of Publication:	2014-APR
Impact Factor:	0
Affiliated Department(s):	Medicine, Ob-Gyne, Family Medicine
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ABSTRACT

Background: We examine whether mothers with breast cancer told their children about the diagnosis, explore mothers' perceptions of the impact of doing so on the mother-child relationship, and assess perceptions of how this affected the children.
Methods: A convenience sample of 28 women with breast cancer ages 35 to 60 was interviewed using a 39-item close-ended questionnaire at the Al-Amoudi Breast Cancer Center of Excellence, King Abdulaziz University, Jeddah, Saudi Arabia. Inclusion criteria were having a diagnosis of breast cancer and having school-aged children (ages 5 to 16 years). Questions were asked concerning each child (n = 99).
Results: The majority of women (75%) told their children about the diagnosis, and explained the treatment (61%). In most cases, telling the children had a positive effect on how the children treated their mothers (84%), on the maternal-child relationship (80%), and on the personality and behavior of the child (90%). The most common negative reaction by children was increased clinging behavior to the mother (15%). Despite the perceived positive impact on the mother-child relationship and on the child's overall behavior towards the mother, school performance suffered as a result (77%).
Conclusions: These preliminary results suggest that when a mother with breast cancer tells a child about the diagnosis and discusses it with them, this often results in an improvement in the maternal-child relationship. However, the knowing the mother's diagnosis may adversely affect the child's school performance, which will need to be anticipated and addressed with formal counseling if it persists.

Research Title:	Infection prevention and control guidelines for patients with Middle East Respiratory Syndrome Coronavirus (MERS-CoV) infection
Source:	Saudi Medical Journal Saudi Medical Journal Volume 35, Issue 8, page 897-913
ISSN:	0379-5284
Date and Year of Publication:	2014-AUG
Impact Factor:	0.554
Affiliated Department(s):	Medicine
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ABSTRACT

Beginning in mid-March 2014, a sharp increase in reported cases of Middle East Respiratory Syndrome Coronavirus (MERS-CoV) in Saudi Arabia heightened international concern and raised fears of the potential for global transmission. At that point, a new Minister of Health, Engineer Adel Fakeih, was appointed on 21 April 2014. The MERS-CoV was obviously the top challenge and priority to address. He formed a Scientific Advisory Council to draw the roadmap for investigating and controlling the outbreak, and for preventing further transmission. Investigation of the outbreak by the Scientific Advisory Council confirmed that the vast majority of cases were healthcare-associated [unpublished data]. The Infectious Diseases and Control subcommittee of the Advisory Council subsequently reviewed the previous infection prevention and control guidelines, and developed the following revised guidelines to meet the urgent need for up-to-date information and evidencebased recommendations for the safe care of patients with suspected, probable, or confirmed MERS-CoV infection. The main bulk of these guidelines have been adapted from previous guidelines produced by the World Health Organization (WHO),1 and the Centers for Disease Control and Prevention (CDC).2 Council members have revised these 2 documents and made important modifications based on the current epidemiological evidence and the members' clinical experience. These guidelines were posted on the Ministry of Health (MoH) website on 24 June 2014 to replace the previous guidelines.3 In the current guidelines, a new case definition was developed based on the latest epidemiological and clinical features observed in patients reported in Jeddah, Saudi Arabia. The current guidelines have emphasized the importance of following standard, contact, and droplet precautions to prevent cross infection in the healthcare settings. It has also emphasized the importance of adhering to airborne precautions when performing procedures that may generate aerosols, or when caring for patients who are critically ill (such as, pneumonia with respiratory distress, or hypoxemia) due to the high likelihood of requiring aerosol-generating procedures, such as endotracheal intubation and/or frequent suctioning. When a negative pressure isolation room is not available, the use of portable high-efficiency particulate air (HEPA) filters for patients who should be in airborne precautions is recommended in the current guidelines. Management algorithm of patients with suspected MERS-CoV infection was added. The importance of avoiding overcrowdness was also emphasized. A section on triaging in the emergency room for rapid identification of patients with acute respiratory illness was added. Guidance on indications for admission, home isolation, when to discontinue isolation and discharge patients, and collection and handling of laboratory specimens was also added. It is hoped that the current guidelines will be strictly followed by all healthcare workers and implemented in all healthcare facilities in Saudi Arabia to prevent transmission and control the current outbreak of MERS-CoV that was confirmed to be primarily healthcareassociated. As information becomes

available, these guidelines will be re-evaluated and updated as needed.

Research Title:	Insulin resistance in Saudi postmenopausal women with and without metabolic syndrome and its association with vitamin D deficiency
Source:	Journal of Clinical & Translational Endocrinology Elsevier B.V Volume 2014, page 1-6
ISSN:	2214-6237
Date and Year of Publication:	2014-SEPT
Impact Factor:	0
Affiliated Department(s):	Medicine
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ABSTRACT

Background: There is increasing interest in the non-skeletal effects of vitamin D and the relationship between vitamin D deficiency and chronic conditions such as diabetes mellitus. We aimed to investigate the relationship between surrogate indices of insulin resistance (IR), and vitamin D deficiency/insufficiency in postmenopausal Saudi women with and without metabolic syndrome.
Methods: The study population consisted of 300 postmenopausal women aged 46–88 years enrolled consecutively from women attending the Outpatient Clinics of King Abdulaziz University Hospital. Demographic, anthropometric, and biochemical parameters were recorded. Data were analyzed for women with and without metabolic syndrome.
Results: Abdominal obesity, IR, and hypovitaminosis D were highly prevalent within our population sample. Of the components used to define metabolic syndrome; waist circumference, serum triglycerides (TG), high density lipoprotein-cholesterol, and fasting blood glucose (FBG) were significantly related with all surrogate measures of IR. Significant inverse correlations were found between serum vitamin D and serum TG, FBG, and diastolic blood pressure, within the study cohort.
Conclusions: These observations suggest that hypovitaminosis D may be associated with the risk of developing metabolic syndrome. Interrelationships between IR, metabolic syndrome, and hypovitaminosis D are of particular interest in Saudi population, given the high prevalence of these conditions in this region.

Research Title:	Knowledge, Perception, and Attitudes About Cancer and its Treatment Among Healthy Relatives of Cancer Patients: Single Institution Hospital-Based Study in Saudi Arabia
Source:	Journal of Cancer Education Springer Volume 29, Issue 4, page 772-780
ISSN:	0885-8195
Date and Year of Publication:	2014-DEC
Impact Factor:	1.054
Affiliated Department(s):	OB-Gyne, Medicine, Medical Education
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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:	Levels of cerebrospinal fluid α-synuclein oligomers are increased in Parkinson's disease with dementia and dementia with Lewy bodies compared to Alzheimer's disease
Source:	Alzheimer's Research & Therapy Biomed Central Ltd Volume 6, Issue 3, page 25
ISSN:	1758-9193
Date and Year of Publication:	2014-MAY
Impact Factor:	3.5
Affiliated Department(s):	Anatomy, Medicine
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ABSTRACT

Introduction: The objective was to study whether α-synuclein oligomers are altered in the cerebrospinal fluid (CSF) of patients with dementia, including Parkinson disease with dementia (PDD), dementia with Lewy bodies (DLB), and Alzheimer disease (AD), compared with age-matched controls.

Methods: In total, 247 CSF samples were assessed in this study, including 71 patients with DLB, 30 patients with PDD, 48 patients with AD, and 98 healthy age-matched controls. Both total and oligomeric α-synuclein levels were evaluated by using well-established immunoassays.

Results: The levels of α-synuclein oligomers in the CSF were increased in patients with PDD compared with thecontrols ($P < 0.05$), but not in patients with DLB compared with controls. Interestingly, the levels of α-synuclein oligomers in the CSF were also significantly higher in patients with PDD ($P < 0.01$) and DLB ($P < 0.05$) compared with patients with AD. The levels of CSF α-synuclein oligomers and the ratio of oligomeric/total-α-synuclein could distinguish DLB or PDD patients from AD patients, with areas under the curves (AUCs) of 0.64 and 0.75, respectively. In addition, total-α-synuclein alone could distinguish DLB or PDD patients from AD patients, with an AUC of 0.80.

Conclusions: The levels of α-synuclein oligomers were increased in the CSF from α-synucleinopathy patients with dementia compared with AD cases.

Research Title:	Long-Term Mortality Rates in Acute De Novo Versus Acute-on-Chronic Heart Failure: From the Heart Function Assessment Registry Trial in Saudi Arabia
Source:	Angiology SAGE Publications Volume 2014, page 1-8
ISSN:	0003-3197
Date and Year of Publication:	2014-DEC
Impact Factor:	2.37
Affiliated Department(s):	Medicine
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ABSTRACT

Aim: The heart function assessment registry trial in Saudi Arabia (HEARTS) is a national multicenter project that compared de novo versus acute-on-chronic heart failure (ACHF).
Methods and Results: This is a prospective registry in 18 hospitals in Saudi Arabia between October 2009 and December 2010. The study enrolled 2610 patients: 940 (36%) de novo and 1670 (64%) ACHF. Patients with ACHF were significantly older (62.2 vs 60 years), less likely to be males (64% vs 69%) or smokers (31.6% vs 36.7%), and more likely to have history of diabetes mellitus (65.7% vs 61.3%), hypertension (74% vs 65%), and severe left ventricular dysfunction (52% vs 40%). The ACHF group had a higher adjusted 3-year mortality rate (hazard ratio, 1.6; 95% confidence interval [CI] 1.3-2.0; $P < .001$).
Conclusion: Patients with ACHF had significantly higher long-term mortality rates than those with de novo acute heart failure (HF). Multidisciplinary HF disease management programs are highly needed for such high-risk populations.

Research Title:	Medical Students' Knowledge of Smoking and Cessation Interventions at King Abdulaziz University
Source:	Global Advanced Research Journal of Medicine and Medical Science (GARJMMS) Global Advanced Research Journals Volume 3, Issue 12, page 422-429
ISSN:	2315-5159
Date and Year of Publication:	2014-DEC
Impact Factor:	1.185
Affiliated Department(s):	Medicine
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ABSTRACT

The purpose of this study was to assess medical students' knowledge of smoking and cessation interventions as well as their preparedness to counsel patients. This was a cross-sectional survey conducted between October 2012 and May 2013 among sixth year medical students at King Abdulaziz University, Jeddah. We administered a self-filled questionnaire that comprised 59 questions that assessed students' characteristics and smoking status, their knowledge of smoking epidemiology, benefits of smoking cessation, smoking risks, and cessation interventions. Data were analyzed using the Statistical Package for the Social Sciences. We recruited 238 students; 22 (9%) were current smokers. Although most students reported being prepared to help their future patients quit, their knowledge of smoking epidemiology in Saudi Arabia was below average with mean score (SD) of 45.8 (16.3). Similarly, students had poor understanding of cessation interventions with mean score (SD) of 29.42 (17.94). Male and female students had a similar level of knowledge of the risks of smoking (p=0.409) and pregnancy related hazards (p=0.071), but females were more knowledgeable about the risks of second hand smoking (p=0.009). Smokers and former smokers were less knowledgeable than never smokers about smoking risks (p=0.015). Final year students at King Abdulaziz University have a poor knowledge of the health consequences of tobacco and the current available cessation methods, suggesting that they need further information on smoking and training in cessation techniques.

Research Title:	Managing a Rivaroxaban Bleed: Understanding the Difficulties in Acute Reversal of the New Oral Anticoagulants through a Case Report
Source:	Case Reports in Hematology Hindawi Publishing Corporation Volume 2014, Article ID 548272, page 1-3
ISSN:	2090-6579
Date and Year of Publication:	2014-NOV
Impact Factor:	0
Affiliated Department(s):	Medicine
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CASE REPORT / ABSTRACT

With the arrival of a new generation of oral anticoagulants significant burdens associated with warfarin's use on both the patient and the healthcare system have been alleviated. Nevertheless, a shortfall exists in regard to an agent or protocol for reversal of these new anticoagulants in the setting of an acute bleed. Our case of a patient presenting to the hospital with a vaginal bleed while on rivaroxaban highlights the difficulty in management without a clear protocol or agent for reversal of anticoagulation.

Research Title:	Mental Health Care in Saudi Arabia: Past, Present and Future
Source:	Open Journal of Psychiatry Scientific Research Publishing Volume 4, Issue 2, page 1-9
ISSN:	2161-7333
Date and Year of Publication:	2014-JUN
Impact Factor:	0.8
Affiliated Department(s):	Medicine
Author(s):	Harold G Koenig, Faten Al Zaben, Mohammad Gamal Sehlo, Doaa Ahmed Khalifa, Mahmoud Shaheen Al Ahwal, Naseem Akhtar Qureshi, Abdulhameed Abdullah Al-Habeeb
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ABSTRACT

We review the past, present and future state of mental health care in the Kingdom of Saudi Arabia (KSA). The past is reviewed prior to the modern era, discussing early explanations and treatments for mental health illness up through the establishment of the first mental hospital in the 1950s, tracking advances in mental health care over the past 60 years. The present is explored in terms of the current need for mental health care based on the prevalence of mental health problems in KSA. We also discuss the role of the family in caring for the needs of the mentally ill today. Finally, we look forward into the future, discuss the current education system that will produce the next generation of mental health professionals, examine areas of mental health care that need improvement, and provide a research agenda to guide the continued development of the mental health care system in KSA. Our goal is to present a blue print for the development of a state-of-the-art mental health that may serve as a model for other countries in the Middle East, while taking into account the political, cultural and religious factors that are unique to this region of the world.

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
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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:	Modulatory effect of silymarin on inflammatory mediators in experimentally induced benign prostatic hyperplasia: emphasis on PTEN, HIF-1 alpha, and NF-kappa B
Source:	Naunyn-Schmiedebergs Archives of Pharmacology Springer Volume 387, Issue 12, page 1131-1140
ISSN:	0028-1298
Date and Year of Publication:	2014-DEC
Impact Factor:	2.36
Affiliated Department(s):	Medicine, Urology
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ABSTRACT

The current study aimed to investigate the potential role of the anti-inflammatory effects of silymarin (SIL) in inhibiting experimentally induced benign prostatic hyperplasia (BPH) in rats. Rats were injected testosterone (3 mg/kg/day, subcutaneously (s.c.)) for 2 weeks. In the treatment group, SIL (50 mg/kg, per orally (p.o.)) was administered daily to rats concomitantly with testosterone. Rats were killed 72 h after the last testosterone injection. Then, prostate tissues were dissected out, weighed, and subjected to histological, immunohistochemical, and biochemical examinations. Rats treated with testosterone showed marked increase in prostate weight and prostate weight/body weight with histopathological picture of inflammation and hyperplasia as well as increased collagen deposition. Co-treatment with SIL significantly alleviated these pathological changes. Further, SIL attenuated testosterone-induced nuclear factor-kappa B (NF-kappa B), cyclooxygenase-II (COX-II), and inducible nitric oxide synthase (iNOS) upregulation, and blunted testosterone-mediated increase in nitric oxide level and messenger RNA (mRNA) expression of interleukin-6 (IL-6) and IL-8. Testosterone-induced downregulation of phosphatase and tensin homolog (PTEN) and upregulation of hypoxia-inducible factor 1 alpha (HIF-1 alpha) were alleviated by SIL. Our findings highlight the anti-inflammatory properties of SIL as a crucial mechanism of its preventive actions against experimental BPH. This can be attributed to, at least partly, attenuating the expression of NF-kB and the subsequent inflammatory cascade, ameliorating the expression of PTEN, and mitigating that of HIF-1 alpha. These data warrant further investigations for the potential use of SIL in the management of BPH.

Research Title:	Molecular characterization and identification of predictors of disease outcome in Saudi colorectal carcinoma
Source:	BMC Genomics BioMed Central Ltd Volume 15, Supplement 2, page 1
ISSN:	1471-2164
Date and Year of Publication:	2014-APR
Impact Factor:	4.041
Affiliated Department(s):	Pathology, Medicine, Surgery
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ABSTRACT

Colorectal Carcinoma (CRC) is a heterogeneous disease with different molecular characteristics associated with the sites from which, the tumours originate. Such heterogeneity is compounded by the multitude of genetic and epigenetic variations acting as passengers or drivers of the tumour. Majority of CRC develops via chromosomal instability (CIN) pathway. CIN is often exacerbated by inactivation of the Wnt signalling pathway "master regulator" APC gene, activating mutations of KRAS or BRAF oncogenes, or deletions of the 18q, and 17p chromosomal regions with deleterious effects on the tumour suppressor genes TP53 and DCC. Defective Mismatch Repair (MMR) pathway results in a subtler form of genomic instability, namely Microsatellite Instability (MSI). High levels of MSI (or MSI-H) in sporadic CRC are usually caused by hypermethylation of the MLH1 promoter. In terms of methylation, the CpG island methylator phenotype (CIMP) pathway is the second most common pathway in sporadic CRC. CIMP-positive (CIMPp) CRC tumours are usually associated with the proximal colon of older females. CIMPp CRC tumours have better prognosis if the tumours are also MSI-H. However, CIMPp CRC tumours that are Microsatellite Stable (MSS) have poor clinical outcome. To gain insight into the molecular mechanisms underpinning CRC in Saudi Arabian patients, we profiled the DNA methylation frequency of key genes (MLH1, MSH2, RASSF1A, SLIT2, HIC1, MGMT, SFRP1, MYOD1, APC, CDKN2A, and other five CIMP markers) in 120 sporadic CRC cases. CRC tumours originating from the rectum, left, and right colons are represented in this cohort. Expression patterns of different proteins playing important role in CRC carcinogenesis also studied by using Immunohistochemistry (IHC) technique and their impact as CRC prognosticators was evaluated.

Research Title:	Non contiguous-finished genome sequence and description of Clostridium jeddahense sp nov.
Source:	Standards in Genomic Sciences BioMed Central Volume 9, Issue 3, page 1003-1019
ISSN:	1944-3277
Date and Year of Publication:	2014-MAY
Impact Factor:	3.167
Affiliated Department(s):	Microbiology and Parasitology, Medicine
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ABSTRACT

Clostridium jeddahense strain JCD(T) (= CSUR P693 = DSM 27834) is the type strain of C. jeddahense sp. nov. This strain, whose genome is described here, was isolated from the fecal flora of an obese 24 year-old Saudian male (BMI=52 kg/m(2)). Clostridium jeddahense strain JCD(T) is an obligate Gram-positive bacillus. Here we describe the features of this organism, together with the complete genome sequence and annotation. The 3,613,503 bp long genome (1 chromosome, no plasmid) exhibits a G+C content of 51.95% and contains 3,462 protein-coding and 53 RNA genes, including 4 rRNA genes.

Research Title:	Non-contiguous finished genome sequence and description of Corynebacterium jeddahense sp nov.
Source:	Standards in Genomic Sciences BioMed Central Volume 9, Issue 3
ISSN:	1944-3277
Date and Year of Publication:	2014-APR
Impact Factor:	3.167
Affiliated Department(s):	Microbiology and Parasitology, Medicine
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ABSTRACT

Corynebacterium jeddahense sp. nov., strain JCB(T), is the type strain of Corynebacterium jeddahense sp. nov., a new species within the genus Corynebacterium. This strain, whose genome is described here, was isolated from fecal flora of a 24-year-old Saudi male suffering from morbid obesity. Corynebacterium jeddahense is a Gram-positive, facultative anaerobic, nonsporulating bacillus. Here, we describe the features of this bacterium, together with the complete genome sequencing and annotation, and compare it to other member of the genus Corynebacterium. The 2,472,125 bp-long genome (1 chromosome but not plasmid) contains 2,359 protein-coding and 53 RNA genes, including 1 rRNA operon.

Research Title:	Not All "Successful" Angiographic Reperfusion Patients Are an Equal Validation of a Modified TICI Scoring System
Source:	Interventional Neuroradiology Europe PubMed Central Volume 20, Issue 1, page 21-27
ISSN:	2385-2011
Date and Year of Publication:	2014-JAN
Impact Factor:	0.73
Affiliated Department(s):	Medicine
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ABSTRACT

Rapid reperfusion of the entire territory distal to vascular occlusions is the aim of stroke interventions. Recent studies defined successful reperfusion as establishing some perfusion with distal branch filling of <50% of territory visualized (Thrombolysis In Cerebral Infarction "TICI" 2a) or more. We investigate the importance of the quality of final reperfusion and whether a revision of the successful reperfusion definition is warranted. We retrospectively evaluated a prospective database of anterior circulation strokes treated using stentrievers to assess the quality of final reperfusion using two scores: the traditional TICI score and a modified TICI score. The modified TICI score includes an additional category (TICI 2c): near complete perfusion except for slow flow or distal emboli in a few distal cortical vessels. We compared different cut-off definitions of reperfusion (TICI 2a - 3 vs. TICI-2b-3 vs. TICI 2c-3) using the area under the curve to identify their correlation with a favorable 90-day outcome (mRS≤2). In our cohort of 110 patients, 90% achieved TICI 2a-3 reperfusion with 80% achieving TICI 2b-3 and 55.5% achieving TICI 2c-3. The proportion of patients with a favorable 90-day outcome was higher in the TICI 2c (62.5%) compared to TICI 2b (44.4%) or TICI 2a (45.5%) but similar to the TICI 3 group (75.9%). A TICI 2c-3 reperfusion had a better predictive value than TICI 2b-3 for 90-day mRS 0-1. Defining successful reperfusion as TICI 2c/3 has merits. In this cohort, there was evidence toward faster recovery and better outcomes in patients with the TICI 2c vs. the traditional TICI 2b grade.

Research Title:	Nurses' Knowledge and Attitudes Regarding Pain in Saudi Arabia
Source:	Pain Management Nursing Elsevier Science Inc Volume 15, Issue 4, page 26-36
ISSN:	1524-9042
Date and Year of Publication:	2014-DEC
Impact Factor:	1.787
Affiliated Department(s):	Medicine
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ABSTRACT

Unrelieved pain is a worldwide health care problem that can lead to unnecessary complications and increased health care expenditure. The aim of this study was to examine nurses' knowledge and attitudes toward pain in Saudi Arabia. A descriptive design was employed using the Nurses' Knowledge and Attitudes Survey regarding pain. The study took place in a tertiary teaching hospital in Saudi Arabia. All nurses employed in the hospital were eligible to participate. A total of 775 questionnaires were distributed to nurses working in acute care, intensive care, and nursing education and administration settings. In all, 593 respondents completed the questionnaires, representing a response rate of 76.5%. Data were analyzed using descriptive and inferential statistics. Most participants were from overseas (97.5%), speaking 23 different languages; 36.5% of nurses held a bachelors of science degree in nursing or the equivalent. The mean score of correctly answered items in was 16.9 (95% confidence interval, 16.6-17.31) out of a total possible score of 40. Nurses demonstrated some misconceived attitudes such as not giving the required dose of morphine to a smiling patient despite the patient being in pain. It is of concern that the findings identified problems of inadequate knowledge and inappropriate attitudes regarding pain assessment and management in Saudi Arabia. Considering these problems, the development of pain programs and policies affecting national and international nurses is highly imperative.

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 asses 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:	Optimal Workflow and Process-Based Performance Measures for Endovascular Therapy in Acute Ischemic Stroke Analysis of the Solitaire FR Thrombectomy for Acute Revascularization Study
Source:	Stroke Lippincott Williams & Wilkins Volume 45, Issue 7, page 2024-2029
ISSN:	1524-4628
Date and Year of Publication:	2014-JUL
Impact Factor:	6.018
Affiliated Department(s):	Medicine
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ABSTRACT

Background and Purpose: We report on workflow and process-based performance measures and their effect on clinical outcome in Solitaire FR Thrombectomy for Acute Revascularization (STAR), a multicenter, prospective, single-arm study of Solitaire FR thrombectomy in large vessel anterior circulation stroke patients.
Methods: Two hundred two patients were enrolled across 14 centers in Europe, Canada, and Australia. The following time intervals were measured: stroke onset to hospital arrival, hospital arrival to baseline imaging, baseline imaging to groin puncture, groin puncture to first stent deployment, and first stent deployment to reperfusion. Effects of time of day, general anesthesia use, and multimodal imaging on workflow were evaluated. Patient characteristics and workflow processes associated with prolonged interval times and good clinical outcome (90-day modified Rankin score, 0-2) were analyzed.
Results: Median times were onset of stroke to hospital arrival, 123 minutes (interquartile range, 163 minutes); hospital arrival to thrombolysis in cerebral infarction (TICI) 2b/3 or final digital subtraction angiography, 133 minutes (interquartile range, 99 minutes); and baseline imaging to groin puncture, 86 minutes (interquartile range, 24 minutes). Time from baseline imaging to puncture was prolonged in patients receiving intravenous tissue-type plasminogen activator (32-minute mean delay) and when magnetic resonance-based imaging at baseline was used (18-minute mean delay). Extracranial carotid disease delayed puncture to first stent deployment time on average by 25 minutes. For each 1-hour increase in stroke onset to final digital subtraction angiography (or TICI 2b/3) time, odds of good clinical outcome decreased by 38%.
Conclusions: Interval times in the STAR study reflect current intra-arterial therapy for patients with acute ischemic stroke. Improving workflow metrics can further improve clinical outcome.

Research Title:	Outcome of Systemic Lupus Erythematosus in Hospitalized Patients: A 2-year retrospective analysis
Source:	Life Science Journal Marsland Press Volume 11, Issue 4, page 207-211
ISSN:	1097-8135
Date and Year of Publication:	2014-APR
Impact Factor:	2.296
Affiliated Department(s):	Medicine
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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.

Research Title:	Pattern of drug overdose and chemical poisoning among patients attending an emergency department, western Saudi Arabia
Source:	Journal of Community Health Springer US Volume 40, Issue 1, page 57-61
ISSN:	1573-3610
Date and Year of Publication:	2014-JUN
Impact Factor:	0.65
Affiliated Department(s):	Medicine
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ABSTRACT

Poisoning is a medical emergency that represent a major health problem all over the world. Studies on drug overdose and chemical poisoning are very limited in Saudi Arabia (SA). We aimed to describe the current pattern and assess risk factors of drug overdose and chemical poisoning in King Khalid National Guard hospital, Jeddah, SA. Medical records of patients attended emergency department in King Khalid National Guard hospital during the period from January 2008 to December 2012 due to drug overdose and chemical poisoning were reviewed. A total of 129 cases were included in the study. The majority of the population was Saudi (97.7 %), and almost half of them were females (54.3 %). Children under 12 years were the most affected age group (44.2 %). Drug overdose was the most common cause of poisoning (92.2 %). Analgesics and non-steroidal anti-inflammatory drugs represented the highest percentage of used medications (20.4 %). The most commonly reported symptoms were symptoms of the central nervous system (57.4 %) followed by GIT symptoms (41.9 %). Intentional poisoning was reported in 34 cases (26.4 %). Female patients were significantly more likely to attempt suicide than male patients (OR = 7.22, 95 % CI = 1.70, 30.62). Children continue to be at high risk for medication and chemical poisoning. Accessibility to medications at homes encountered for most of poisoning cases among children. Implementing methods to raise public awareness and minimize children access to medications would significantly contribute to reducing burden of this problem on the community.

Research Title:	Perception of Patients with Cancer towards Support Management Services and Use of Complementary Alternative Medicine - a Single Institution Hospital-Based Study in Saudi Arabia
Source:	Asian Pacific Journal of Cancer Prevention Head Office, Korean Natl Cancer Center Volume 15, Issue 6, page 2547-2554
ISSN:	1513-7368
Date and Year of Publication:	2014-JUN
Impact Factor:	1.5
Affiliated Department(s):	Ob-Gyne, Medical Education, Familiy Medicine, Medicine
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ABSTRACT

Background: To evaluate the perception of cancer patients toward treatment services and influencing factors and to inquire about the use of complementary alternative medicine (CAM).

Materials and Methods: Information was obtained through pre-tested structured questionnaires completed by cancer patients during treatment at King Abdulaziz University Hospital, Jeddah, Saudi Arabia.

Results: Of 242 patients, 137 (64.6%) accepted to enter this study. Most were Saudi (n=93, 68%), female (n=80, 58%), educated at university (n=71, 52%), married (n=97, 72%) and with breast cancer (n=36, 26%). One-hundred (73%) patients were satisfied with the services provided; 61% were Saudi. Ninety-four (68%) respondents were satisfied with the explanation of their cancer. Twenty-eight (21.6%) patients received CAM, of them 54.0% received herbal followed by rakia (21.0%), nutritional supplements/vitamins (7.0%) and Zamam water (18.0%), with significant differences among them (p =0.004). Seven (5%) patients believed this therapy could be used alone; 34 (25%) patients believed it could be used with other treatments, regardless of whether they themselves used this therapy. Fifty-three (53%) satisfied patients felt they received enough support; 31 (58%) patients received support from family and friends; 22 (41.6%) patients received support from the health-care team. Patients who received information about their disease from their physicians and those who felt they had enough support were more satisfied. The patients who took alternative treatment were older age, mostly female and highly educated but values did not reach significance.

Conclusions: We stress enhancing the educational and supportive aspects of cancer-patient services to improve their treatment satisfaction and emphasize the need for increasing the educational and awareness programs offered to these patients.

Research Title:	Potential Use of C-60/2-Hydroxypropyl-beta-cyclodextrin Nanoparticles as a New Photosensitizer in the Treatment of Cancer
Source:	International Journal of Photoenergy Hindawi Publishing Corporation Volume 2014, Article 570506, page 1-8
ISSN:	1687-529X
Date and Year of Publication:	2014-FEB
Impact Factor:	0
Affiliated Department(s):	Medicine
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ABSTRACT

The photosensitizing ability of C-60/2-hydroxypropyl-beta-cyclodextrin (HP-beta-CyD) nanoparticles under visible light irradiation was studied by electron spin resonance (ESR) and phototoxicity on cancer cells. In addition, the photoinduced antitumor effect to the tumor-bearing mice was evaluated. C-60 nanoparticles were prepared by grinding a mixture of HP-beta-CyD. The resulting C-60/HP-beta-CyD nanoparticles were highly-sensitive to visible light and generated higher levels of O-1(2) than protoporphyrin IX (PpIX). C-60/HP-beta-CyD reduced the viability of cancer cells (HeLa cells and A549 cells) in response to irradiation by visible light in a dose-dependent manner. The IC50 values of the C-60/HP-beta-CyD nanoparticles was 10 mu M for HeLa cells and 60 mu M for A549 cells at an irradiation level of 35mW/cm(2). The photodynamic effect of C-60/HP-beta-CyD nanoparticles on the in vivo growth of mouse sarcoma S-180 cells was evaluated after intratumor injection. The outcome of PDT by C-60/HP-beta-CyD was directly dependent on the dose of irradiated light. Treatment with C-60/HP-beta-CyD nanoparticles at a C-60 dose of 2.0mg/kg under visible light irradiation at 350mW/cm(2) (63 J/cm(2)) markedly suppressed tumor growth, whereas that at 30 J/cm(2) was less effective. These findings suggest that C-60/HP-beta-CyD nanoparticles represent a promising candidate for use in cancer treatment by PDT.

Research Title:	Prevalence and Awareness of Sexually Transmitted Infections among Inmates of a Drug Rehabilitation Center in Saudi Arabia: A Cross-Sectional Study
Source:	Epidemiology OMICS Publishing Group Volume 4, Issue 3, page 1-6
ISSN:	2161-1165
Date and Year of Publication:	2014-APR
Impact Factor:	6.178
Affiliated Department(s):	Medicine
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ABSTRACT

Background: Drug addicts constitute a high-risk group for the transmission of HIV and other Sexually Transmitted Infections (STIs). The aim of the study was to screen inmates at a drug rehabilitation center for the presence of commonly occurring STIs. We also aimed to correlate the prevalence of STIs with injecting and non injecting drug use and awareness about the prevention of STIs.

Methods: This cross-sectional study was conducted on a convenience sample of 115 inpatients at Al Amal Hospital for the Treatment of Addiction and Rehabilitation between September 1, 2011 and November 1, 2012. Demographic data, use of intravenous and other addictive drugs, and awareness about condom use for protection against STIs were documented. Blood samples were collected, and serum and DNA were extracted to test for HIV and Hepatitis B Virus (HBV) using enzyme-linked immunosorbent assay and for syphilis using polymerase chain reaction. The data were analyzed using the Statistical Package for the Social Sciences.

Results: Of the total participants, 18 had one or more STIs, including syphilis (n=11), HIV (n=5), HBV (n=5) and combined HBV and syphilis (n=3). The prevalence of STIs was higher among injecting drug users than among non injecting drug users. Compared to the group that did not have STIs, very few participants who were positive for STIs were aware that condoms provided protection against STIs.

Conclusions: The prevalence of HIV, HBV and syphilis among male drug addicts in Saudi Arabia is very high. Healthcare providers should focus on raising awareness and providing treatment and counseling to this high-risk population

Research Title:	Prevalence And Outcome Of Neurological Referral To The General Intensive Care Unit
Source:	International Journal of Neuro & Psychological Disorders Mc Med International Volume 1, Issue 1, page 6-12
ISSN:	
Date and Year of Publication:	2014-JAN
Impact Factor:	0.884
Affiliated Department(s):	Medicine
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ABSTRACT

The impact of specialty ICU is not well known which raised question about the real need of a specialized neuro-critical and their impact on patient outcome. To determine the prevalence of neurological referrals to general ICU in comparison to other subspecialties and the mortality rate of neuro-critical patients managed at general ICU. A retrospective study was commenced through reviewing the patients' records. Data were collected on all patients admitted to ICUs of King Abdul-Aziz University hospital, Jeddah (kAUH) from 1st June 2011- May 31st2012.We include all neurological cases aged over 12 years admitted to the ICU with primary neurologic diagnosis. The following variables were recorded; age, sex , nationality, source of cases, diagnosis on admission, Glasgow comma scale (GCS) on admission to ICU, reason of referral to ICU, ICU length of stay, co-morbidities and need for mechanical ventilation. The outcome was categorized as death and discharged either improved or with ongoing illness). A total 560 patient were referred to general intensive care unit during the period June 1st 2011 to May 31st 2012. Out of them 89 patients were neuro-critical referrals representing 16% of all ICU admissions. Males represent 62.9% of them whereas Saudi patients constitute 22.5% of neurological referred cases. Most of them (74.7%) were referred from emergency department (ER) whereas 14.9% and 9.2% were referred from other hospital wards and operating room (OR), respectively. Length of ICU stay ranged between one and 310 days with a mean of 17.4 days and SD of 37.7 days. Death was reported among 25 cases (28.1%) whereas the remaining 64 (71.9%) patients were discharged. Out of them, 18 patients (28.1%) were improved while the remaining 46 patients (71.9%) expressed ongoing illness. Multivariate logistic regression analysis revealed that Patients aged between 36 and 65 years were at almost six-folded risk for death (Adjusted OR=6.02; 95% CI: 1.61-22.58) and those admitted from other wards were at higher significant risk for death (Adjusted OR=5.50; 95% CI: 1.38-21.86). Neurological patients need a specialized neuro-critical care to improve the patient care, but to reach a better conclusion we should compare the mortality to a neuro-critical care which not available in our medical centre.

Research Title:	Prevalence of chronic obstructive pulmonary disease in Saudi Arabia
Source:	Saudi Medical Journal Saudi Medical Journal Volume 35, Issue 7, page 684-690
ISSN:	0379-5284
Date and Year of Publication:	2014-JUL
Impact Factor:	0.554
Affiliated Department(s):	Medicine
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ABSTRACT

Objectives: To assess the prevalence of epidemiologically defined chronic obstructive pulmonary disease (COPD) in Saudi Arabia.
Methods: This cross-sectional, observational, population-based survey of COPD was conducted between June 2010 and December 2011 across the country of Saudi Arabia. A total of 56,000 randomly selected telephone numbers were called, which identified 10,001 eligible subjects; of whom 9,779 agreed to participate. A screening questionnaire included 6 questions related to cigarette consumption and water-pipe use was administered to each participant. Subjects with positive screening results were invited to provide input for a detailed COPD questionnaire.
Results: The adjusted proportion of subjects who reported a current, or past smoking history was 27.9%. Gender-specific smoking rates adjusted by age were 38.7% (95% confidence interval [CI]: 37.5-39.9%) in men, and 7.4% (95% CI: 6.58.3%) in women. The epidemiological definition of symptomatic COPD was met by a total of 249 subjects. The age and gender-adjusted prevalence of COPD was 2.4% (95% CI: 2.1-2.7%). Overall, COPD was more frequently documented ($p<0.0001$) in men (3.5% [95% CI: 3-4%]) than in women (1% [95% CI: 0.7-1.3%]).
Conclusion: The prevalence of epidemiologically defined COPD in the general population of Saudi Arabia is 2.4%, which is lower than that reported in industrialized countries.

Research Title:	Prognostic significance of VEGFR1/Flt-1 immunoexpression in colorectal carcinoma
Source:	Tumor Biology Springer Volume 35, Issue 9, page 9045-9051
ISSN:	1423-0380
Date and Year of Publication:	2014-SEPT
Impact Factor:	2.84
Affiliated Department(s):	Medicine, Pathology
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ABSTRACT

Colorectal carcinoma (CRC) is a major cause of morbidity and mortality. Vascular endothelial growth factor 1/Fms-like tyrosine kinase 1 (VEGFR1/Flt-1) regulates monocyte migration, recruits endothelial cell progenitors, increases the adhesive properties of natural killer cells and induces of growth factors. Flt-1 is expressed on tumour cells and has been implicated in tumour growth and progression. The objective of this study is to address the relation of Flt-1 expression to tumour prognostication. Paraffin blocks from 143 primary CRC and 48 regional nodal metastases were retrieved from the archives of the Department of Pathology at King Abdulaziz University. Tissue microarrays were designed and constructed. Immunohistochemistry for Flt-1 was performed. Staining intensity and extent of staining were assessed and combined. Results were dichotomised as low expression and high expression. Flt-1 was overexpressed in primary tumours and nodal metastasis ($p < 0.001$ and 0.001) with no difference between primary and nodal metastasis ($p = 0.690$). Flt-1 immunoexpression was not associated with the clinicopathological parameters. Flt-1 overexpression was an independent predictor of positive margin status, positive lymphovascular invasion and local disease recurrence ($p < 0.001$, $p < 0.001$ and $p = 0.003$, respectively). Flt-1 was not associated with survival (log-rank = 0.003, $p = 0.959$). Flt-1 was overexpressed in primary CRC and their nodal metastases. Flt-1 expression was an independent predictor of margin status, lymphovascular invasion and local disease recurrence. Therefore, expression profiling of Flt-1 seems to have a prognostic potential in CRC. However, to elucidate the association of overexpression of Flt-1 with tumour characteristics and prognostication, more in vivo and in vitro molecular investigations are recommended.

Research Title:	Propagation and titration of Alkhumra hemorrhagic fever virus in the brains of newborn Wistar rats.
Source:	Journal of Virological Methods Elsevier B.V. Volume 199, Issue 1, page 39-45
ISSN:	0166-0934
Date and Year of Publication:	2014-APR
Impact Factor:	1.883
Affiliated Department(s):	Family Medicine, Medicine, Pathology
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ABSTRACT

Alkhumra hemorrhagic fever virus (AHFV) is a novel flavivirus identified first in Saudi Arabia. In this study, successful propagation of AHFV in the brains of newborn Wistar rats is described and the median rat lethal dose (RLD50) is determined. AHFV-RNA-positive human sera diluted 1:10 were injected intracerebrally into 16, ≤24h old rats. Post-inoculation, the rats were observed daily for 30 days. Brains of moribund rats were tested for AHFV-RNA using RT-PCR and cultured in LLC-MK2 cells. The titer of the isolated virus was determined and expressed in median tissue culture infectious dose (TCID50). To determine the RLD50, AHFV brain suspension was 10-fold diluted serially and each dilution was inoculated in the cerebral hemispheres of 10 rats for a total of 90 rats. Three days post-inoculation, the rats developed tremor, irritability, convulsion, opisthotonus, and spastic paresis starting in the hind limbs and ascending to involve the whole body. All infected rats died within 3-7 days with histopathologically confirmed meningoencephalitis. AHFV-RNA was detected in the brains of all infected rats and the virus titer was 10(9.4) RLD50/ml. The virus titer in LLC-MK2 was 10(8.2) TCID50/ml. In conclusion, AHFV was propagated successfully to high titers in the brains of newborn Wistar rats.

Research Title:	PTEN Depletion Decreases Disease Severity and Modestly Prolongs Survival in a Mouse Model of Spinal Muscular Atrophy
Source:	Molecular Therapy Nature Publishing Group Volume 2014, page 1-30
ISSN:	1525-0016
Date and Year of Publication:	2014-NOV
Impact Factor:	6.425
Affiliated Department(s):	Medicine
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ABSTRACT

Spinal muscular atrophy (SMA) is the second most common genetic cause of death in childhood. However, no effective treatment is available to halt disease progression. SMA is caused by mutations in the survival motor neuron 1 (SMN1) gene. We previously reported that PTEN depletion leads to an increase in survival of SMN-deficient motor neurons. Here, we aimed to establish the impact of PTEN modulation in an SMA mouse model in vivo. Initial experiments using intramuscular delivery of adeno-associated vector serotype 6 (AAV6) expressing shRNA against PTEN in an established mouse model of severe SMA (SMNΔ7) demonstrated the ability to ameliorate the severity of neuromuscular junction pathology. Subsequently, we developed self-complementary AAV9 expressing siPTEN (scAAV9-siPTEN) to allow evaluation of the effect of systemic suppression of PTEN on the disease course of SMA in vivo. Treatment with a single injection of scAAV9-siPTEN at post-natal day 1 resulted in a modest 3-fold extension of the life span of SMNΔ7 mice, increasing mean survival to 30 days, compared to 10 days in untreated mice. Our data revealed that systemic PTEN depletion is an important disease-modifier in SMNΔ7 mice, and therapies aimed at lowering PTEN expression may therefore offer a potential therapeutic strategy for SMA.

Research Title:	Punishment for bedwetting is associated with child depression and reduced quality of life
Source:	Child Abuse & Neglect Elsevier B.V. Volume 2014, page 1-8
ISSN:	0145-2134
Date and Year of Publication:	2014-NOV
Impact Factor:	2.135
Affiliated Department(s):	Medicine
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ABSTRACT

This study assessed the relationship between parental punishment and depression as well as quality of life in children with primary monosymptomatic nocturnal enuresis (PMNE). A consecutive sample of 65 children (7-13 years) with PMNE and 40 healthy children, selected as controls (Group III), were included in the study. The children with PMNE were further sub-classified into two groups: Group I, which included children who received parental punishment for enuresis and Group II, which comprised children who were not punished for bedwetting. Depression and health-related quality of life (HRQL) were assessed among the three groups. The number of wet nights per week was significantly increased in Group I compared with Group II (P<.001). In addition, the severity of depressive symptoms increased in Group I as compared to the other two groups (P<.001). Similarly, the psychosocial HRQL lower in Group compared to the control group (Group III) (P<.001). Prior parental discipline, including corporal punishment (B=0.55, P=.008), as well as the frequency (B=0.73, P<.001) and duration of punishment (B=0.33, P=.02) were strong predictors of increased depressive symptom severity. It was also found that prior punishment (B=-0.42, P=.01) and the frequency (B=-0.62, P<.001) and duration of punishment (B=-0.34, P=.02) were strong predictors for poor psychosocial HRQL. Overall, parental punishment has a poor outcome in children with PMNE.

Research Title:	Quality of life assessment using the World Health Organization quality questionnaire pre- and post-otolaryngological surgery among patients in western Saudi Arabia
Source:	Saudi Medical Journal Saudi Medical Journal Volume 35, Issue 8, page 827-831
ISSN:	0379-5284
Date and Year of Publication:	2014-AUG
Impact Factor:	0.554
Affiliated Department(s):	ORL, Medicine
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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.

Research Title:	Rate of Infection in Rheumatoid Arthritis Patients
Source:	Saudi Journal of Internal Medicine Saudi Society of Internal Medicine Volume 4, Issue 1, page 15-21
ISSN:	1658-5763
Date and Year of Publication:	2014-JAN
Impact Factor:	1
Affiliated Department(s):	Medicine
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ABSTRACT

Objectives: Rheumatoid arthritis is an autoimmune inflammatory disorder associated with increased risk of infection. The aim of this study was to evaluate infections frequency in rheumatoid arthritis patients and to report the independent associated risk factors.
Methods: Rheumatoid arthritis patients (n = 200) were retrospectively reviewed at King Abdulaziz University Hospital Jeddah, Kingdom of Saudi Arabia from January 2008 to December 2010. The rate and predictors of infection were evaluated.
Results: The frequency of infection in rheumatoid arthritis patients was (36%). The most common infections were pneumonia, bacteremia and urinary tract infection occurring in 18%, 12%, and 10%, respectively. The strongest and significant predictors for infection were cardiovascular disease (OR = 8.87), renal impairment (OR = 7.12), and steroid use (OR = 1.67).
Conclusions: Infection rate in rheumatoid arthritis patients was high but lower than other studies. Comorbid illnesses (renal and cardiovascular diseases) and steroids in rheumatoid arthritis patients predisposed them to develop infections that may necessitate hospitalization. Comorbid illnesses should be managed early and steroids to be used cautiously in order to reduce infection risk among rheumatoid arthritis patients.

Research Title:	Relationship Between Nutritional Profile, Measures of Adiposity, and Bone Mineral Density in Postmenopausal Saudi Women
Source:	Journal of the American College of Nutrition Routledge Journals, Taylor & Francis Ltd Volume 33, Issue 3, page 206-214
ISSN:	1541-1087
Date and Year of Publication:	2014-MAY
Impact Factor:	1.676
Affiliated Department(s):	Medicine
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ABSTRACT

Background: Osteoporosis remains a major health problem in all developed countries and is a condition in which several dietary factors have been implicated.
Objective: To assess the nutritional status and levels of adiposity of postmenopausal women in relation to bone mineral density.
Design: A cross-sectional study in which dietary intake was estimated by a food frequency questionnaire in 300 Saudi postmenopausal women aged 46-88 years. Bone profile biochemistry (serum calcium, phosphate, parathyroid hormone [PTH], vitamin D) and bone mineral density (BMD) in 3 skeletal sites were determined for all participants.
Results: Overweight and obesity were highly prevalent among the study population. No significant correlation was found between dietary calcium and vitamin D and bone mass at any site. Dietary intake of calcium and vitamin D was significantly less than the recommended levels for a large proportion of the cohort. Energy-adjusted intakes of carbohydrates, fat, protein, and unsaturated fatty acids were associated with BMD in the postmenopausal women. Age, body weight, and residency type were predictors of BMD at all sites. Serum-intact PTH was a predictor of BMD at lumbar spine and femoral neck. Waist: hip ratio (WHR) was a predictor for BMD at femoral neck.
Conclusions: These results suggest that BMD is influenced by dietary factors other than calcium and vitamin D. However, nondietary factors such as age, WHR, PTH, and body weight may be important determinants of BMD in postmenopausal women.

Research Title:	Religious Involvement, Inflammatory Markers and Stress Hormones in Major Depression and Chronic Medical Illness
Source:	Open Journal of Psychiatry Scientific Research Publishing Inc. Volume 4, Issue 4, page 335-352
ISSN:	2161-7325
Date and Year of Publication:	2014-OCT
Impact Factor:	0.8
Affiliated Department(s):	Medicine
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ABSTRACT

Background: Religious practices/experiences (RPE) may produce positive physiological changes in patients with major depressive disorder (MDD) and chronic medical illness. Here, we report cross-sectional relationships between depressive symptoms, RPE and stress biomarkers (pro-/ anti-inflammatory measures and stress hormones), hypothesizing positive associations between depressive symptoms and stress biomarkers and inverse associations between RPE and stress biomarkers.
Methods: We recruited 132 individuals with both MDD and chronic illness into a randomized clinical trial. First, stress biomarkers in the baseline sample were compared to biomarker levels from a community sample. Second, relationships between depressive symptoms and biomarkers were examined, and, finally, relationships between RPE and biomarkers were analyzed, controlling for demographics, depressive symptoms, and physical functioning.
Results: As expected, inflammatory markers and stress hormones were higher in our sample with MDD compared to community participants. In the current sample, however, depressive symptoms were largely unrelated to stress biomarkers, and were unexpectedly inversely related to proinflam- matory cytokine levels (TNF-α, IL-1β). Likewise, while RPE were largely unrelated to stress biomarkers, they were related to the anti-inflammatory cytokine IL-1RA and the stress hormone norepinephrine in expected directions. Unexpectedly, RPE were also positively related to the pro- inflammatory cytokine IFN-γ and to IFN-γ/IL-4 and IFN-γ/IL-10 ratios.
Conclusions: Little evidence was found for a consistent pattern of relationships between depressive symptoms or religiosity and stress biomarkers. Of the few significant relationships, unexpected findings predominated. Future research is needed to determine whether religious interventions can alter stress biomarkers over time in MDD.

Research Title:	Religious Involvement and Health in Dialysis Patients in Saudi Arabia
Source:	Journal of Religion and Health Springer US Volume 54, Issue 2 , page 713-730
ISSN:	1573-6571
Date and Year of Publication:	2014-OCT
Impact Factor:	0.945
Affiliated Department(s):	Medicine, Radiology
Author(s):	Faten Al Zaben, Doaa Ahmed Khalifa, Mohammad Gamal Sehlo, Saad Al Shohaib, Salma Awad Binzaqr, Alae Magdi Badreg, Rawan Ali Alsaadi, Harold G Koenig
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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.

Research Title:	Religious involvement is associated with greater purpose, optimism, generosity and gratitude in persons with major depression and chronic medical illness
Source:	Journal of Psychosomatic Research Pergamon-Elsevier Science Ltd Volume 77, Issue 2, page 135-143
ISSN:	0022-3999
Date and Year of Publication:	2014-AUG
Impact Factor:	2.839
Affiliated Department(s):	Medicine
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ABSTRACT

Objective: Religious involvement may help individuals with chronic medical illness cope better with physical disability and other life changes. We examine the relationships between religiosity, depressive symptoms, and positive emotions in persons with major depression and chronic illness.
Methods: 129 persons who were at least somewhat religious/spiritual were recruited into a clinical trial to evaluate the effectiveness of religious vs. secular cognitive behavioral therapy. Reported here are the relationships at baseline between religious involvement and depressive symptoms, purpose in life, optimism, generosity, and gratefulness using standard measures.
Results: Although religiosity was unrelated to depressive symptoms ($F = 0.96$, $p = 0.43$) and did not buffer the disability-depression relationship ($B = -1.56$, SE 2.90, $p = 0.59$), strong relationships were found between religious indicators and greater purpose, optimism, generosity, and gratefulness ($F = 7.08$, $p < 0.0001$).
Conclusions: Although unrelated to depressive symptoms in the setting of major depression and chronic medical illness, higher religious involvement is associated with positive emotions, a finding which may influence the course of depression over time.

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
ISSN:	1471-2458
Date and Year of Publication:	2014-APR
Impact Factor:	2.321
Affiliated Department(s):	Family Medicine, Medicine,
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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:	Self and Peer Assessment at Problem-Based Learning (PBL) Sessions at the Faculty of Medicine, King Abdulaziz University (FOM-KAU), KSA: Students Perception
Source:	Intellectual Property Rights Volume 2, issue 3, page 1-5
ISSN:	IPR an open access journal
Date and Year of Publication:	2014-MAY
Impact Factor:	0
Affiliated Department(s):	Medicine
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ABSTRACT

Introduction: In 2007, the Faculty of Medicine, King Abdulaziz University (FOM-KAU) has introduced PBL into its integrated, systems-based curriculum to encourage the development of important skills. Among such skills are problem-solving skills, verbal and written communication skills, leadership skills, teamwork skills, and self- and peer assessment skills.

Purpose: The purpose of this research work was to investigate whether self- and peer-assessment are done or neglected in PBL sessions at FOM-KAU, and how students perceive them in terms of their benefit.

Material and Methods: This is a descriptive study that has been performed at the FOM-KAU on a random sample of students in Year 3 (n=60). A self-administered questionnaire (survey) was developed and administered to the students at the end of the debriefing session of a PBL case to investigate their perception of self- and peer-assessment and whether they are done or not. Descriptive statistics were used, as frequency distribution and comparisons.

Results: Nearly all of the students in our sample positively perceive the importance and merits of self- and peer assessment. Also, most of the students (83%) said they do self-assessment after PBL sessions, while only 55% of them said they do peer-assessment after PBL sessions.

Conclusion: Self- and peer-assessment are done in FOM-KAU with different percentages, where self assessment is done more frequently. Based on their importance, they are positively perceived by the majority of the students in our sample, which provides a good ground for implementing and monitoring a sound strategy for self and
peer-assessment based on pre-determined criteria.

Research Title:	Serum osteocalcin is associated with dietary vitamin D, body weight and serum magnesium in postmenopausal women with and without significant coronary artery disease
Source:	Asia Pacific Journal of Clinical Nutrition H E C Press, Healthy Eating Club Pty Ltd Volume 23, issue 2, page 246-255
ISSN:	0964-7058
Date and Year of Publication:	2014-FEB
Impact Factor:	1.36
Affiliated Department(s):	Medicine
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ABSTRACT

Osteoporosis and atherosclerosis often present atypically in postmenopausal women, making clinical recognition difficult. Prospective studies suggest independent associations between bone mass and vascular calcification through vitamin D deficiency as an established predictor of both conditions. We aimed to examine the relationship between serum osteocalcin and vitamin D status in postmenopausal women with and without angiographic evidence of coronary artery disease (CAD). One hundred and eighty postmenopausal women undergoing coronary angiography were selected sequentially from the Catheterization unit of King Abdulaziz University Hospital. Socio-demographic, anthropometric parameters and dietary habits were measured. Biochemical variables were estimated in blood samples. Half of the postmenopausal women did not have significant CAD, 24% had significant CAD in a single and/or double coronary vessels, 26% had significant CAD in three coronary vessels. Mean serum vitamin D concentrations showed that vitamin D deficiency was a common finding in the whole population. Vitamin D and calcium intakes were uniformly low in the study cohort. Serum osteocalcin was significantly correlated with dietary vitamin D in all subgroups ($r=-0.172$, $p<0.05$) and positively correlated among the patients ($r=0.269$, $p=0.01$). Serum magnesium, alkaline phosphatase, dietary vitamin D, and body weight were independent variables of serum osteocalcin level. In conclusion, elevated levels of serum C reactive protein and vitamin D were associated with low serum osteocalcin levels. Therefore, osteocalcin may be a potential cardiovascular risk marker. However, further studies are needed to clarify the pathophysiological processes underlying the relationship between serum osteocalcin level and atherosclerosis parameters.

Research Title:	Severe Vitamin D Deficiency A Significant Predictor of Early Hypocalcemia after Total Thyroidectomy
Source:	Otolaryngology -- Head and Neck Surgery American Academy of Otolaryngology-Head and Neck Surgery Foundation Volume 2014, Issue n/a, page 1-8
ISSN:	0194-5998
Date and Year of Publication:	2014-DEC
Impact Factor:	1.721
Affiliated Department(s):	Medicine, ORL
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ABSTRACT

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.

Research Title:	Short-term and long-term adverse cardiovascular events across the glycaemic spectrum in patients with acute coronary syndrome: the Gulf Registry of Acute Coronary Events-2
Source:	Coronary Artery Disease Lippincott Williams & Wilkins Volume 25, Issue 4, page 330-338
ISSN:	0954-6928
Date and Year of Publication:	2014-JUN
Impact Factor:	1.302
Affiliated Department(s):	Medicine
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ABSTRACT

Background: Limited data exist on the prognostic impacts of diabetes mellitus (DM) and new-onset hyperglycaemia (NOH) on cardiovascular outcomes in Middle Eastern patients with acute coronary syndrome (ACS). Here, we explored this relationship in a large contemporary Middle Eastern ACS registry: the second Gulf Registry of Acute Coronary Events (Gulf RACE-2).

Patients and methods: Our analysis included 6362 consecutive ACS patients enrolled from October 2008 to June 2009, with or without a known DM diagnosis, and with an available fasting blood sugar measurement from the index hospitalization. Baseline demographics, risk factors for atherosclerosis, medical history, investigations and therapies were registered. Adverse hospital outcomes, as well as short-term and long-term mortalities were compared. Comparisons for categorical data were performed using [chi]2 or Fisher's exact tests, whereas analysis of variance or the Kruskal–Wallis test was used for continuous variables. Multiple logistic regression models were used to estimate the odds ratio.

Results: Almost half of the ACS cohort had been diagnosed previously with DM, and 8.8% had NOH. DM patients were more frequently older, female and Arab Gulf nationals. Compared with nondiabetic patients, DM patients had higher rates of adverse in-hospital clinical events, and 30-day and 1-year mortality. NOH was an independent predictor of in-hospital mortality, major bleeding and cardiogenic shock. Patients with NOH had higher in-hospital mortality (8.29 vs. 5.37%, P=0.035), ventricular arrhythmia (4.97 vs. 1.91%, P<0.001) and cardiogenic shock rates (6.45 vs. 4.12%, P=0.019) compared with DM patients not requiring insulin.

Conclusion: DM was very common among ACS patients in the Arab Gulf area, and ACS patients with NOH were at a higher risk compared with euglycaemic patients and diabetic patients not requiring insulin. Further studies are needed to examine the clinical impact of in-hospital intensive glycaemic control in these patients and to explore the long-term glycaemic status of ACS patients with NOH.

Research Title:	Sleep habits in adolescents of Saudi Arabia; distinct patterns and extreme sleep schedules
Source:	Sleep Medicine Elsevier Science Bv Volume 15, Issue 11, page 1370-1378
ISSN:	1878-5506
Date and Year of Publication:	2014-NOV
Impact Factor:	3.1
Affiliated Department(s):	Family Medicine, Medicine
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ABSTRACT

Background and Study Objectives: There is a need for comprehensive studies on adolescents' sleep habits in the Middle Eastern region. The aim of this study was to investigate the sleep-wake patterns, prevalence of excessive daytime sleepiness (EDS), and disturbed sleep among adolescents in Saudi Arabia and to identify the associated factors.
Methods: The study was a cross-sectional survey done on a random sample of 1035 high school students, ages 14-23 years, in Jeddah, Saudi Arabia. The response rate was 91%. Students filled a self-reported questionnaire that included sleep-wake questions, Pittsburgh Sleep Quality Index, Epworth Sleepiness Scale, Perceived Stress Scale, academic performance, and personal data.
Results: Students slept an average of 7.0 hours on school nights, with an average delay of 2.8 and 6.0 hours in weekend sleep and rise times, respectively. Around 1 in 10 students stayed up all night and slept after returning from school (exhibiting a reversed sleep cycle) on weeknights. This pattern was more prevalent among boys and students with lower grade point averages. The prevalence of sleep disturbance was 65%, and EDS was found in 37% of the students. Predictors of EDS were school type, stress, napping and caffeine use, while gender was a predictor of disturbed sleep.
Conclusions: Adolescents in Saudi Arabia showed a high percentage of poor sleep quality. Compared with adolescents from other countries, they had a larger delay in weekend sleep and rise times. An alarming reversed sleep cycle on weekdays is present and highlights the need for further assessment.

Research Title:	Soul Anatomy: A virtual cadaver
Source:	Journal of Health Specialties Wolters Kluwer Health – Medknow Volume 2, Issue 2, page 75-77
ISSN:	2321-6298
Date and Year of Publication:	2014-APR
Impact Factor:	0
Affiliated Department(s):	Medicine
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ABSTRACT

In the traditional science of medicine and medical education, teaching human anatomy in the class has always been done using human cadavers. Not only does this violate human sanctity, but according to our research, it is not adequate to provide students with the alleged educational value that it is supposed to deliver. It is very cumbersome to organise all the aspects of cadaver care. Cadavers are also very limited when it comes to controlling their structures and any benefit is almost completely altered the first time the cadaver is used (dissected), and ironically, it is very weak at delivering actual real-life scenarios of a human body to students. Virtual anatomy has been a promising solution that many are counting on. But even today, we have not found a complete solution that combines all the benefits of using human cadavers and those introduced by its technical counterparts. "Soul Anatomy" aims to do just that. It brings the best of all worlds, from a natural intuitive control system, life-like feel of organs, precise accuracy in moving and controlling bodily structures, to the smallest details of being able to show medical information overlays from various medical databases connected to the internet; thus making use of technology in teaching human anatomy by providing a modern learning experience.

Research Title:	Spirituality and Health
Source:	Evidence-based Complementary and Alternative Medicine Hindawi Publishing Corporation Volume 2014 Article 682817, page 1-2
ISSN:	1741-4288
Date and Year of Publication:	2014-MAR
Impact Factor:	0
Affiliated Department(s):	Medicine
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ABSTRACT

Research in the field of mind-body medicine focuses on the complex interaction of psychoemotional, social, spiritual, experiential, and behavioral elements and their impact on health and the handling of disease. Specific approaches intend to investigate and promote patients' own abilities and resources to manage their respective stressors, that is, coping strategies, relaxation techniques, mindfulness meditation, yoga, rituals, prayer, spirituality, and religiosity. An increasing number of published studies have examined the connection between spirituality/religiosity, health, and quality of life. However, the impact of a person's religiosity/spirituality on health is multifaceted and is fraught with methodological controversy since one has to deal with cognitive approaches (specific attitudes and beliefs), emotions, practices (spiritual/religious and secular forms), specific behaviors, reactive strategies to deal with illness (coping), and spirituality/religiosity-based interventions (i.e., meditation, mindfulness, and prayer). Because of this complexity, an interdisciplinary perspective is required for research as well as clinical care. We would broadly define spirituality as all attempts to find meaning, purpose, and hope in relation to the sacred or significant (which may have a secular, religious, philosophical, humanist or personal dimension). In particular, spirituality and spiritual practices have commitment to values, beliefs, practices, or philosophies which may have an impact on patients' cognition, emotion, and behavior. Thus, personal spirituality in this sense may influence patients' sense of coherence and their ability to cope with stress, loss, and illness. Spirituality can also have an influence on patients' health behaviors and healthcare decision making, and it can be critically enabling people to reframe their situation. Spirituality can also affect how people relate to meaningful others (i.e., friends, family, and health professionals) who may be significant in their lives. Spirituality can also include people's understanding of the role and importance of transcendence in their lives; however, they may define the term. This special issue enlisted experts from different disciplines to contribute to new research on the growing body of evidence that spirituality/religiosity impacts health and illness. However, we are aware of the fact that many questions still remain unaddressed and encourage future research.

Research Title:	Structure activity relationship of phenolic acid inhibitors of alpha-synuclein fibril formation and toxicity
Source:	Frontiers in Aging Neuroscience Frontiers Research Foundation Volume 6, Article 197
ISSN:	1663-4365
Date and Year of Publication:	2014-AUG
Impact Factor:	5.2
Affiliated Department(s):	Anatomy, Medicine
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ABSTRACT

The aggregation of alpha-synuclein (alpha-syn) is considered the key pathogenic event in many neurological disorders such as Parkinson's disease (PD), dementia with Lewy bodies and multiple system atrophy, giving rise to a whole category of neurodegenerative diseases known as synucleinopathies. Although the molecular basis of alpha-syn toxicity has not been precisely elucidated, a great deal of effort has been put into identifying compounds that could inhibit or even reverse the aggregation process. Previous reports indicated that many phenolic compounds are potent inhibitors of a-syn aggregation. The aim of the present study was to assess the anti-aggregating effect of gallic acid (GA) (3,4,5-trihydroxybenzoic acid), a benzoic acid derivative that belongs to a group of phenolic compounds known as phenolic acids. By employing an array of biophysical and biochemical techniques and a cell-viability assay, GA was shown not only to inhibit alpha-syn fibrillation and toxicity but also to disaggregate preformed alpha-syn amyloid fibrils. Interestingly, GA was found to bind to soluble, non-toxic oligomers with no beta-sheet content, and to stabilize their structure. The binding of GA to the oligomers may represent a potential mechanism of action. Additionally, by using structure activity relationship data obtained from fourteen structurally similar benzoic acid derivatives, it was determined that the inhibition of alpha-syn fibrillation by GA is related to the number of hydroxyl moieties and their position on the phenyl ring. GA may represent the starting point for designing new molecules that could be used for the treatment of PD and related disorders.

Research Title:	Surgical Decompressive Hemicraniectomy for a Massive Hemispheric Ischemic Stroke: A Case Report and an Update
Source:	Life Science Journal Marsland Press Volume 11, Issue 11, page 1066-1069
ISSN:	1097-8135
Date and Year of Publication:	2014-NOV
Impact Factor:	2.296
Affiliated Department(s):	Medicine
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ABSTRACT

The significant space-occupying effect resulting from a complete middle cerebral artery (MCA) infarction leads to a dramatic increase in intracranial pressure, and impairment of level of consciousness ending in coma and brain death within few days in almost 80% of patients treated with medical therapy alone. Survivors are severely disabled with poor quality of life. Decompressive surgery is back on stage as a means of dropping the massive increase in intracranial pressure, and is gaining a momentum after the rekindled interest in this old procedure over the last few years. I am reporting here a patient who had a massive middle cerebral artery ischemic stroke that underwent decompressive hemicraniectomy followed by a review of recent updates.

Research Title:	The effect of vitamin D supplements on the severity of restless legs syndrome
Source:	Sleep and Breathing Springer Berlin Heidelberg 23 Aug 2014
ISSN:	1522-1709
Date and Year of Publication:	2014-AUG
Impact Factor:	2.869
Affiliated Department(s):	Medicine
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ABSTRACT

Purpose: 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.
Methods: 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.
Results: 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 ($P = 0.002$).
Conclusion: This study indicates that vitamin D supplementation improves the severity of RLS symptoms and advocates that vitamin D deficiency is conceivably associated with RLS.

Research Title:	The Impact of Prostatic Calculi on Chronic Pelvic Pain, Voiding and Sexual Functions
Source:	Advanced Studies in Medical Sciences, Hikari Ltd. Volume 2, Issue 1, page 17-30
ISSN:	2367-4806
Date and Year of Publication:	2014-FEB
Impact Factor:	0
Affiliated Department(s):	Urology, Medicine
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ABSTRACT

Purpose: To examine the clinical implications of prostatic calculi in terms of links to chronic pelvic pain, voiding and sexual functions.
Methods: 60 adult males were recruited for this study. The parameters recorded were: age, weight, height, Body Mass Index (BMI) calculated as the weight in kilograms divided by the square of the height in meters, Waist Circumference (WC), Lower Urinary Tract Symptoms (LUTS), Sexual dysfunction [both Erectile Dysfunction (ED) and Premature Ejaculation (PE)] , and symptoms suggestive of chronic prostatitis(CP); Diabetes Mellitus type 2 (D.M. 2) in addition to urine analysis and microbiological culture, serum Prostatic Specific Antigen (PSA), serum total testosterone(TT), maximum flow rate (Q-max), Prostatic ultra-sonographic evidence of prostate calculi and Prostate Volume (PV) as measured by ultrasonography. Those calculi were categorized according to severity into minimal, moderate, severe and extensive calculi. Statistical analysis: This study used IBM SPSS version 20, used descriptive statistics, used independent t-test for comparing group means, and chi-square test for establishing relationship between categorical variables. With p-value < 0.05 accepted as significant and with a 95% confidence interval.
Results: Among all the test comparison that has been done in this study, only the degree (severity of amount) of calculi showed significant results between the two groups described (p=< 0.0001). All other parameters did not show any significant differences.
Conclusions: This study found no significant differences in chronic pelvic pain, voiding and sexual dysfunctions (ED and PE) between middle-aged men with prostatic calculi as compared to those without them.

Research Title:	The protective role of AMP-activated protein kinase in alpha-synuclein neurotoxicity in vitro.
Source:	Neurobiology of Disease Elsevier Inc. Volume 63, Issue 1, page 1-11
ISSN:	0969-9961
Date and Year of Publication:	2014-MAR
Impact Factor:	5.202
Affiliated Department(s):	Medicine
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ABSTRACT

In the present study, we investigated the role of the main intracellular energy sensor, AMP-activated protein kinase (AMPK), in the in vitro neurotoxicity of α-synuclein (ASYN), one of the key culprits in the pathogenesis of Parkinson's disease. The loss of viability in retinoic acid-differentiated SH-SY5Y human neuroblastoma cells inducibly overexpressing wild-type ASYN was associated with the reduced activation of AMPK and its activator LKB1, as well as AMPK target Raptor. ASYN-overexpressing rat primary neurons also displayed lower activity of LKB1/AMPK/Raptor pathway. Restoration of AMPK activity by metformin or AICAR reduced the in vitro neurotoxicity of ASYN overexpression, acting independently of the prosurvival kinase Akt or the induction of autophagic response. The conditioned medium from ASYN-overexpressing cells, containing secreted ASYN, as well as dopamine-modified or nitrated recombinant ASYN oligomers, all inhibited AMPK activation in differentiated SH-SY5Y cells and reduced their viability, but not in the presence of metformin or AICAR. The RNA interference-mediated knockdown of AMPK increased the sensitivity of SH-SY5Y cells to the harmful effects of secreted ASYN. AMPK-dependent protection from extracellular ASYN was also observed in rat neuron-like pheochromocytoma cell line PC12. These data demonstrate the protective role of AMPK against the toxicity of both intracellular and extracellular ASYN, suggesting that modulation of AMPK activity may be a promising therapeutic strategy in Parkinson's disease.

Research Title:	The relative validity and repeatability of an FFQ for estimating intake of zinc and its absorption modifiers in young and older Saudi adults
Source:	Public Health Nutrition Cambridge University Press page 1-9
ISSN:	1368-9800
Date and Year of Publication:	2014-AUG
Impact Factor:	2.483
Affiliated Department(s):	Medicine
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ABSTRACT

Objective: To assess the relative validity and repeatability of a sixty-four-item FFQ for estimating dietary intake of Zn and its absorption modifiers in Saudi adults. In addition, we used the FFQ to investigate the effect of age and gender on these intakes.
Design: To assess validity, all participants completed the FFQ (FFQ1) and a 3 d food record. After 1 month, the FFQ was administered for a second time (FFQ2) to assess repeatability.
Setting Jeddah, Saudi Arabia.
Subjects: One hundred males and females aged 20–30 years and 60–70 years participated.
Results: Mean intakes of Zn and protein from FFQ1 were significantly higher than those from the food record while there were no detectable differences between tools for measurement of phytic acid intake. Estimated intakes of Zn, protein and phytate by both approaches were strongly correlated ($P<0{\cdot}001$). Bland–Altman analysis showed for protein that the difference in intake as measured by the two methods was similar across the range of intakes while for Zn and phytic acid, the difference increased with increasing mean intake. Zn and protein intakes from FFQ1 and FFQ2 were highly correlated ($r>0{\cdot}68$, $P<0{\cdot}001$) but were significantly lower at the second measurement (FFQ2). Older adults consumed less Zn and protein compared with young adults. Intakes of all dietary components were lower in females than in males.
Conclusions: The FFQ developed and tested in the current study demonstrated reasonable relative validity and high repeatability and was capable of detecting differences in intakes between age and gender groups.

Research Title:	The safety and efficacy of adalimumab in patients with Crohn's disease: the experience of a single Canadian tertiary care centre
Source:	Scandinavian Journal of Gastroenterology Informa Healthcare Volume 49, Issue 3, page 280-286
ISSN:	1502-7708
Date and Year of Publication:	2014-MAR
Impact Factor:	2.329
Affiliated Department(s):	Medicine
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ABSTRACT

Background: Adalimumab (ADA), an antitumor necrosis factor (anti-TNF) monoclonal antibody, is effective in treating moderate-to-severely active Crohn's disease (CD). ADA has been associated with a variety of adverse events (AE). The purpose of this study is to determine the safety and efficacy of ADA in CD patients in clinical practice.
Methods: A retrospective analysis was performed on CD patients treated with ADA. Data extracted and analyzed included patient and CD demographics, remission and response rates with ADA, and safety and tolerability of ADA.
Results: A total of 149 ADA-treated CD patients were included. The mean duration of therapy with ADA was 20 months with 32% of patients discontinuing treatment. Anti-TNF-naïve and anti-TNF-exposed patients on ADA achieved clinical remission in 45% and 32%, had a clinical response in 23% and 23%, and had no clinical response in 32% and 45%, respectively. Anti-TNF-naïve and anti-TNF-exposed patients maintained remission in 82% and 67%, respectively. Fistulas healed in 19% and improved in 19%. AE occurred in 38% of patients with infection being the most common (20%). Serious infections lead to death in one (<1%). Logistic regression of AE did not identify statistically significant predictors except for colonic disease location (odds ratio [OR] = 0.31, 95% CI = 0.12–0.82, p = 0.018) and the rate of ADA discontinuation (OR = 3.24, 95% CI = 1.58–6.64, p = 0.0013).
Conclusion: ADA is an effective treatment for CD. AE can occur commonly leading to discontinuation of medication and may be influenced by disease location. Although serious complications are rare, close monitoring of all patients on ADA is needed.

Research Title:	The Spiritual Care Team: Enabling the Practice of Whole Person Medicine
Source:	Religions MDPI AG Volume 5, Issue 4, page 1161-1174
ISSN:	2077-1444
Date and Year of Publication:	2014-DEC
Impact Factor:	0
Affiliated Department(s):	Medicine
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ABSTRACT

We will soon be piloting a project titled "Integrating Spirituality into Patient Care" that will form "spiritual care teams" to assess and address patients' spiritual needs in physician outpatient practices within Adventist Health System, the largest Protestant healthcare system in the United States. This paper describes the goals, the rationale, and the structure of the spiritual care teams that will soon be implemented, and discusses the barriers to providing spiritual care that health professionals are likely to encounter. Spiritual care teams may operate in an outpatient or an inpatient setting, and their purpose is to provide health professionals with resources necessary to practice whole person healthcare that includes spiritual care. We believe that this project will serve as a model for faith-based health systems seeking to visibly demonstrate their mission in a way that makes them unique and expresses their values. Not only does this model have the potential to be cost-effective, but also the capacity to increase the quality of patient care and the satisfaction that health professionals derive from providing care. If successful, this model could spread beyond faith-based systems to secular systems as well both in the U.S. and worldwide.

Research Title:	The survival of influenza A(H1N1)pdm09 virus on 4 household surfaces
Source:	American Journal of Infection Control Mosby-Elsevier Volume 42, Issue 4, page 423-425
ISSN:	0196-6553
Date and Year of Publication:	2014-APR
Impact Factor:	2.326
Affiliated Department(s):	Medicine
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ABSTRACT

We investigated the survival of a pandemic strain of influenza A H1N1 on a variety of common household surfaces where multiple samples were taken from 4 types of common household fomite at 7 time points. Results showed that influenza A H1N1sw virus particles remained infectious for 48 hours on a wooden surface, for 24 hours on stainless steel and plastic surfaces, and for 8 hours on a cloth surface, although virus recovery from the cloth may have been suboptimal. Our results suggest that pandemic influenza A H1N1 can survive on common household fomites for extended periods of time, and that good hand hygiene and regular disinfection of commonly touched surfaces should be practiced during the influenza season to help reduce transmission.

Research Title:	The Utility of Electroencephalogram in Intensive Care Unit Patients at King Abdul-Aziz University Hospital
Source:	Medical Science discovery publication Volume 6, Issue 19, page 22-26
ISSN:	2321-7359
Date and Year of Publication:	2014-MAR
Impact Factor:	0
Affiliated Department(s):	Medicine
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ABSTRACT

EEG is a diagnostic tool that is commonly ordered in ICU, it is argued that EEG role is overestimated in critically ill patient, our study included 141 patients from ICU who had an EEG during their admission. The most common reason for ordering EEG is an unexplained impairment of consciousness. The majority of the patients EEG are reported as abnormal, and they represented about (90.8%) out of total patients, while the study showed that the most important specific EEG abnormality are diffuse slowing in 36.9%. However EEG neither helps in changing patient management nor it improves patients outcome.

Research Title:	Therapeutic effects of mesenchymal stem cells on hepatocellular carcinma: tracking of cells using iron oxide nanoparticles
Source:	The FASEB Journal Federation of American Societies for Experimental Biology Volume 28, Issue 1 Supplement, page 87.3
ISSN:	0892-6638
Date and Year of Publication:	2014-APR
Impact Factor:	5.48
Affiliated Department(s):	Clinical Biochemistry, Pediatrics, Medicine
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ABSTRACT

Recently, a significant increase in the incidence of hepatocellular carcinoma (HCC) has been reported. However, early detection of the disease can help in selecting from various available therapies. Unfortunately, in advanced liver cancer cases, treatment options are very limited. In the present study, we point to the need to identify a new effective, less aggressive treatment approach. Advances in stem cell research, led us to consider cell-based therapy for treating liver cancer. It was previously reported that bone marrow derived mesenchymal stem cells (MSCs) have the tumor suppressive effects in an experimental HCC model in rats. In this work, we investigated the possible role of Wnt signaling in hepatic carcinogenesis and how it is influenced by by MSCs labeled with iron oxide nanoparticles. Forty rats were used and were divided equally into four groups: a normal control group and 3 groups that received diethylnitroseamine and CCl4 to induce HCC. Then after induction, one group was treated with MSCs only, the second group with PBS (vehicle) only, and the third group with labeled MSCs with iron-oxide nanoparticles. Gene expression of Wnt signaling target genes by reverse transcription-polymerase chain reaction (RT-PCR), in rat liver tissue, was measured. In addition, serum levels of liver function parameters and alpha fetoprotein were performed in all groups. Histopathological examination of the liver and organ samples from all groups was performed. Magnetic resonance imaging (MRI) was used to visualize MSCs loaded with iron oxide nanoparticles in the affected liver. We detected a significant tumor-mass reduction in the group which received MSCs compared to the control groups. The results of this work confirm the previous finding of a possible therapeutic effect of MSCs on HCC. In addition, the use of iron oxide nanoparticles may prove to be successful in tracking and localizing MSCs to the site of the lesion, which may provide a documentation of their therapeutic effect.

Research Title:	Thermal inactivation of Alkhumra hemorrhagic fever virus
Source:	Archives of Virology Springer Vienna Volume 159, issue 10, page 2687-2691
ISSN:	1432-8798
Date and Year of Publication:	2014-OCT
Impact Factor:	2.282
Affiliated Department(s):	Medicine, Family Medicine
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ABSTRACT

The physico-chemical and biological characteristics of Alkhumra hemorrhagic fever virus (AHFV) are not yet known. The present study describes the thermal stability of this virus at different temperatures for different periods. The kinetics of thermal inactivation were studied, linear regressions were plotted, the Arrhenius equation was applied, and the activation energy was calculated accordingly. Titers of the residual virus were determined in median tissue culture infective dose (TCID50), and the rate of destruction of infectivity at various temperatures was determined. Infectivity of AHFV was completely lost upon heating for 3 minutes at 60 A degrees C and for 30 min at 56 A degrees C. However, the virus could maintain 33.2 % of its titer after heating for 60 min at 45 A degrees C and 32 % of its titer after heating for 60 min at 50 A degrees C. In conclusion, AHFV is thermo-labile, and its inactivation follows first-order kinetics.

Research Title:	Tongue Squamous Cell Carcinoma in a Young Patient Free of Risk Factors: A Case Report
Source:	Saudi Journal of Internal Medicine Saudi Society of Internal Medicine Volume 4, Issue 1, page 43-47
ISSN:	1658-5763
Date and Year of Publication:	2014-JAN
Impact Factor:	2
Affiliated Department(s):	Medicine
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ABSTRACT

Tongue squamous cell carcinoma progresses from an oral premalignant lesion to invasive squamous cell carcinoma. The incidence of tongue carcinoma has been increasing markedly even in patients free of risk factors as the reporting case of a 22-years-old female complaining of small tender whitish discoloration over the left side of the tongue. First there was a dilemma in the diagnosis taking in consideration that she is young and free of risk factor, but the magnetic resonance imaging of the head and neck showed a heterogenous mass in the tongue with deep muscular invasion. After the result of positron emission tomography–computed tomography, the patient underwent left hemiglossectomy with left supraomohyoid neck dissection and histopathology report showed invasive squamous cell carcinoma. Thus, she was referred for adjuvant radiotherapy. At this point, it emphasized that early recognition is essential; as an extensive history should be obtained from the patient that includes the symptoms emerged and risk factors.

Research Title:	Ultrasound Findings in Systemic Lupus Erythematosus Patients in Saudi Arabia
Source:	Life Science Journal Marsland Press Volume 11, Issue 1, page 156-159
ISSN:	1097-8135
Date and Year of Publication:	2014-JAN
Impact Factor:	2.296
Affiliated Department(s):	Medicine
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ABSTRACT

Systemic lupus erythematosus (SLE) is a systemic inflammatory disease, which can affect multiple organs including liver, kidney, blood vessels, heart, and lungs. Early detection of organ damage is essential to optimise treatment of SLE and reduce the risk of irreversible organ damage. The objective of this study was to examine the frequency of ultrasound-detectable pathology in SLE population to determine the potential utility of routine ultrasound screening for SLE patients. the study samples were for the Patients who presented to the rheumatology clinic in King Abdulaziz University during January, 2011 to September, 2011 with SLE but with no abdominal symptoms. Associations between blood and urine biochemical markers and ultrasound-detectable pathologies were examined. the study illustrated that seventy-five patients were included in the analysis, mean age 32.75 ± 11.97. Of the total, 92% were female and 30.7% of the total studied samples were of Saudi nationality. Evidence of an enlarged liver was detected in 43% of the population, 22% had an enlarged spleen, and 30% had evidence of kidney disease. Ascites was present in the majority (88%) of patients, gallstones were detected in 8% of patients and thickening of the gall bladder wall in a further 7%. Moreover, 5% had evidence of enlarged lymph nodes. No significant correlations were detected between blood biochemical analyses and ultrasound-detectable pathologies. the study concluded that the multi-organ pathology is a major cause of morbidity and mortality in SLE. Presence of ultrasound-detectable pathology is high in patients with SLE suggesting that this may be a useful screening tool for early detection of systemic multi-organ disease.

Research Title:	Urgineaglyceride A: a new monoacylglycerol from the Egyptian Drimia maritima bulbs
Source:	Natural Product Research Taylor & Francis Ltd Volume 28, Issue 19, page 1583-1590
ISSN:	1478-6427
Date and Year of Publication:	2014-JUN
Impact Factor:	1.225
Affiliated Department(s):	Medicine
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ABSTRACT

One new compound, (2S)-1-O-(Z)-tetracos-6-enoate glycerol (1) named urgineaglyceride A, along with six known compounds, 3,5,7,3',5'-pentahydroxydihydroflavonol (2), stigmasterol (3), (25S)-5 beta-furostane-3 beta-22 alpha-26-triol (4), scillaridin A (5), (2S)(+)-2-hydroxynaringenin-4'-O-beta-D-glucopyranoside (6) and quercetin-3'-O-beta-D-glucopyranoside (7), were isolated from the EtOAc fraction of Drimia maritima (L.) Stearn bulbs. Their structures were secured based on their IR, UV, 1D and 2D NMR data, in addition to HR-MS data and comparison with the literature data. The isolated compounds were evaluated for their in vitro growth inhibitory activity against A549 non-small cell lung cancer (NSCLC), U373 glioblastoma (GBM) and PC-3 prostate cancer cell lines. Compounds 2 and 3 displayed variable activities against the tested cancer cell lines. Compound 2 was a selective inhibitor of the NSCLC cell line with an IC50 of 2.3 mu M, whereas 3 was selective against GBM with IC50 of 0.5 mu M and against PC-3 with 2.0 mu M.

Research Title:	Uterine sarcoma Clinico-pathological characteristics and outcome
Source:	Saudi Medical Journal Saudi Medical Journal Volume 35, Issue 10, page 1215-1222
ISSN:	0379-5284
Date and Year of Publication:	2014-OCT
Impact Factor:	0.554
Affiliated Department(s):	Ob-Gyne, Medicine, Pathology
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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.

Research Title:	Vitamin D receptor gene polymorphism as possible risk factor in rheumatoid arthritis and rheumatoid related osteoporosis
Source:	Human Immunology Elsevier Science Inc Volume 75, Issue 5, page 452-461
ISSN:	1879-1166
Date and Year of Publication:	2014-MAY
Impact Factor:	2.281
Affiliated Department(s):	Medicine
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ABSTRACT

Objective: To study the role of VDR polymorphisms as risk factor for RA and osteoporosis, and whether osteoporosis complicating RA is due to RA or VDR polymorphisms.
Methods: VDR gene polymorphisms Apar, TaqI, BsmI and FokI were typed by RFLP for 128 RA patients, 30 postmenopausal osteoporotic females and 150 healthy controls.
Results: Significant differences were found between patients and healthy controls in the frequency of BsmI and TaqI ($Pc < 0.05$) but no significant associations were found for Fold and Apar polymorphisms except for aa genotype ($Pc < 0.001$). Titers of RF were higher with aa and bb genotypes. Anti-CCP and CRP levels were higher with aa genotype and more bone loss was associated with Bb genotype. Ff genotype frequency was higher in RA patients with osteoporosis than those without osteoporosis.
Conclusions: The Apar, BsrnI and TaqI polymorphisms may be a susceptibility risk factors for RA and the Ff genotype may be responsible for development of osteoporosis in RA Egyptian patients. However, the present study needs to be replicated in a large number of patients from allover the Egypt and also in multi-ethnic populations.

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Research Title:	A universal monoclonal antibody protects against all influenza A and B viruses by targeting a highly conserved epitope in the viral neuraminidase
Source:	BMC Genomics BioMed Central Ltd Volume 15, Supplement 2, page 8
ISSN:	1471-2164
Date and Year of Publication:	2014-APR
Impact Factor:	4.041
Affiliated Department(s):	Microbiology and Medical Parasitology
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ABSTRACT

Background: Hemagglutinin (HA) and neuraminidase (NA) are the two major surface glycoproteins of influenza viruses and the main targets of vaccine-induced antibodies (Abs). While several broadly neutralizing Abs targeting conserved epitopes in diverse HA subtypes have been isolated, NA-specific Abs could only cross-protect partially against homologous and heterologous strains from the same subtype.
Materials and methods: Comprehensive bioinformatics analyses of all publicly available full-length NA sequences using multiple alignments and Shannon entropy were conducted to identify conserved sequences in all influenza A and B viral NA [1]. Growth kinetics of wild-type or recombinant viruses with single alanine substitutions within the identified regions was then analyzed in MDCK cells. A rabbit monoclonal Ab (mAb), denoted as HCA-2, raised against one of the characterized sequences was then examined for its in vitro inhibitory effects and in vivo prophylactic efficacy against several influenza A and B strains.
Results: Bioinformatics analyses uncovered a universally conserved 9-mer peptide amongst all influenza NA proteins (amino acids 222-230 and comprised of "ILRTQESEC"). Substitutions within this universal epitope underscored its crucial roles in viral fitness and replication [2]. Importantly, the HCA-2 mAb showed broad in vitro inhibition against multiple strains from all influenza A NA subtypes (N1-N9) and influenza B viruses from both Victoria and Yamagata genetic lineages [3,4]. It also provided heterosubtypic protection in mice against lethal doses of H1N1 and H3N2 strains. Finally, amino acid residues I222 and E227, located in close proximity to the active site, were found to be indispensable for inhibition by this mAb [3,4].
Conclusions: These findings reveal the essential role of this unique highly-conserved sequence in NA function and viral replication and indicate that it is sufficiently exposed to allow access by inhibitory antibody during the course of infection. Thus, it could represent a potential target for novel antivirals or targeted-vaccines against diverse strains of influenza A and B viruses.

Research Title:	Anti-cyclic citrullinated peptide antibodies and paraoxonase-1 polymorphism in rheumatoid arthritis
Source:	BMC Musculoskeletal Disorders BioMed Central Ltd Volume 15, Issue 379, page 1-7
ISSN:	1471-2474
Date and Year of Publication:	2014-NOV
Impact Factor:	1.898
Affiliated Department(s):	Microbiology and Medical Parasitology
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ABSTRACT

Background: Rheumatoid arthritis (RA) is the most common chronic inflammatory joint disease, with a worldwide prevalence of 0.5% to 1%. Anti-cyclic citrullinated peptide antibody (anti-CCP-2 Ab) is a marker of choice for diagnosing early and late RA. Anti-oxidant enzymes activity decreases in RA patients. Till now, the relationship between the rheumatoid factor (RF) and anti-CCP-2 Ab, anti-oxidant activity and polymorphism of paraoxenase-1 (PON-1) 192 Q/R in patients with RA has not been investigated. In this study, we aimed to determine the serum level of RF and anti-CCP-2 Ab, PON-1 activity and 192 Q/R polymorphism and arylesterase (ARE) activity in patients with RA. Also, we studied RA markers in different genotypes of PON-1 of RA patients.

Methods: A total of 120 RA patients and 90 healthy persons were subjected to full clinical examinations and routine laboratory tests. PON-1 and ARE activities were determined using an enzymatic spectrophotometric method. PON-1 192 gene polymorphism was determined using polymerase chain reaction based restriction fragment analysis. RF was measured by immunoturbidimetry method and anti-CCP-2 Ab was assayed by enzyme-linked immunosorbent assay (ELISA). Statistical analysis was performed using SPSS for windows 20.0.

Results: The sensitivity and specificity of anti-CCP-2 Ab for the diagnosis of RA were 76.2% and 100% respectively. PON-1 and ARE activities were statistically lower ($P < 0.001$) in the RA group compared to the control group. A negative correlation between RF and anti-CCP-2 Ab levels and PON-1 and ARE activities was found. No significant difference in the genotype distribution between RA patients and healthy persons was detected. RF and anti-CCP-2 Ab levels were higher in RA patients carried RR genotype than in those carried QQ genotype.

Conclusion: High RF and anti-CCP-2 antibody serum levels were found to be associated with decreased PON-1 and ARE activities with no correlation between PON-1 polymorphism and serum levels of RF and anti-CCP-2 Ab in patients with RA. These results may indicate an implication between antioxidant enzymes activity and serum levels of RF and anti-CCP-2 Ab.

Research Title:	Candida identification: a journey from conventional to molecular methods in medical mycology
Source:	World Journal of Microbiology & Biotechnology Springer Volume 30, Issue 5, page 1437-1451
ISSN:	1573-0972
Date and Year of Publication:	2014-MAY
Impact Factor:	1.353
Affiliated Department(s):	Hematology, Microbiology and Medical Parasitology
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ABSTRACT

The incidence of Candida infections have increased substantially in recent years due to aggressive use of immunosuppressants among patients. Use of broad-spectrum antibiotics and intravascular catheters in the intensive care unit have also attributed with high risks of candidiasis among immunocompromised patients. Among Candida species, C. albicans accounts for the majority of superficial and systemic infections, usually associated with high morbidity and mortality often caused due to increase in antimicrobial resistance and restricted number of antifungal drugs. Therefore, early detection of candidemia and correct identification of Candida species are indispensable pre-requisites for appropriate therapeutic intervention. Since blood culture based methods lack sensitivity, and species-specific identification by conventional method is time-consuming and often leads to misdiagnosis within closely related species, hence, molecular methods may provide alternative for accurate and rapid identification of Candida species. Although, several molecular approaches have been developed for accurate identification of Candida species but the internal transcribed spacer 1 and 2 (ITS1 and ITS2) regions of the rRNA gene are being used extensively in a variety of formats. Of note, ITS sequencing and PCR-RFLP analysis of ITS region seems to be promising as a rapid, easy, and cost-effective method for identification of Candida species. Here, we review a number of existing techniques ranging from conventional to molecular approaches currently in use for the identification of Candida species. Further, advantages and limitations of these methods are also discussed with respect to their discriminatory power, reproducibility, and ease of performance.

Research Title:	CD40-targeted nucleoprotein provides enhanced immune response and protection against influenza virus
Source:	The Journal of Immunology American Association of Immunologists Volume 192, Supplement 1, page 72.5-72.5
ISSN:	1550-6606
Date and Year of Publication:	2014-MAY
Impact Factor:	5.362
Affiliated Department(s):	Microbiology and Medical Parasitology
Author(s):	Anwar Hashem, Caroline Gravel, Monika Tocchi, Bozena Jaentschke, Xingliang Fan, Ze Chen, Changgui Li, Wang Junzhi, Xuguang Li
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ABSTRACT

Influenza nucleoprotein is a highly conserved antigen and a candidate universal vaccine against flu. However, NP-based vaccines can only afford weak protective immunity compared to HA. Using CD40 ligand (CD40L), a key regulator of the immune system, as both a targeting ligand and a molecular adjuvant, we show that single immunization with recombinant adenovirus carrying a fused gene encoding for secreted NP-CD40L fusion protein provided robust and long-lasting protection against influenza in normal mice. It enhanced B cell responses by inducing early and persistent B cell germinal center formation, accelerated immunoglobulin isotype-switching and TH1-skewed NP-specific immune response. Moreover, it significantly boosted primary and secondary NP-specific cytotoxic T-lymphocyte (CTL) activity and multiple cytokine producing-CD8+ T cells. Transfer of sera or CD8+ T cells from immunized to naïve mice showed that targeting NP to CD40-expressing cells augmented the role of both NP-specific antibodies and CTLs in protection compared to untargeted NP. Importantly, it afforded effective protection in CD40L and CD4 deficient mice, confirming that the induced protection is CD40L-mediated and CD4+ T cell-independent.

Research Title:	CD40 Ligand Preferentially Modulates Immune Response and Enhances Protection against Influenza Virus
Source:	Journal of Immunology Amer Assoc Immunologists Volume 193, Issue 2, page 722-734
ISSN:	1550-6606
Date and Year of Publication:	2014-JUL
Impact Factor:	5.362
Affiliated Department(s):	Microbiology and Medical Parasitology
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ABSTRACT

CD40L, a key regulator of the immune system, was studied as both a targeting ligand and a molecular adjuvant in nucleoprotein (NP)-based host defense against influenza in mouse models with different genetic backgrounds. Adenoviral vectors secreting NP-CD40L fusion protein (denoted as rAd-SNP40L) afforded full protection of immunocompetent and immunocompromised mice (CD40L(-/-) and CD4(-/-)) against lethal influenza infection. Mechanistically, rAd-SNP40L preferentially induced early and persistent B cell germinal center formation, and accelerated Ig isotype-switching and Th1-skewed, NP-specific Ab response. Moreover, it drastically augmented primary and memory NP-specific CTL activity and polyfunctional CD8(+) T cells. The markedly enhanced nonneutralizing Abs and CTLs significantly reduced viral burdens in the lungs of mice upon lethal virus challenge. Data generated from CD40L(-/-) and CD4(-/-) mice revealed that the protection was indeed CD40L mediated but CD4(+) T cell independent, demonstrating the viability of the fusion Ags in protecting immunodeficient hosts. Notably, a single dose of rAd-SNP40L completely protected mice from lethal viral challenge 4 mo after immunization, representing the first report, to our knowledge, on NP in conjunction with a molecular adjuvant inducing a robust and long-lasting memory immune response against influenza. This platform is characterized by an increased in vivo load of CD40-targeted Ag upon the secretion of the fusion protein from adenovirus-infected cells and may represent a promising strategy to enhance the breadth, durability, and potency of Ag-specific immune responses.

Research Title:	Comparative Study of the Eficacy of Brushles Surgical Hand Preparation Techniques Using Antiseptic Soap, Alcohol and Non-medicated Soap
Source:	British Journal of Medicine & Medical Research Science Domain International Volume 4, Issue 8, page 1663-1671
ISSN:	2231-0614
Date and Year of Publication:	2014-AUG
Impact Factor:	0
Affiliated Department(s):	Pediatrics, Medicine, Microbiology and Medical Parasitology,
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ABSTRACT

Background & Objectives: Preoperative hand preparation with a brush-les method is almost a common practice. The aim of this study was to compare the eficacy of brushles preoperative hand preparation using alcohol to antiseptic soap, and non-medicated soap in eliminating germs by standard proper pre-operative hand preparation.
Methods: Twenty volunters tried thre diferent ways of surgical hand preparation with antiseptic soap, alcohol, and non-medicated soap-based preoperative hand preparation.
Results: There was no positve bacterial growth sample in the alcohol-based scrubing group while it was 2% with positve bacterial growth in the antimicrobial soap and 5% with positve bacterial growth in the non-medicated soap group.
Conclusion: The alcohol-based pre-operative hand preparation was signifcantly more eficient han both the antimicrobial soap and the non-medicated soap

Research Title:	Crossed cerebro-cerebellar atrophy with Dyke Davidoff Masson syndrome
Source:	Neurosciences (Riyadh, Saudi Arabia) Riyadh Armed Forces Hospital Volume 19, Issue 1, page 52-55
ISSN:	1319-6138
Date and Year of Publication:	2014-JAN
Impact Factor:	0.392
Affiliated Department(s):	Microbiology and Medical Parasitology
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ABSTRACT

Dyke Davidoff Masson syndrome (DDMS) refers to atrophy or hypoplasia of one cerebral hemisphere following a prior fetal or childhood insult. It has characteristics of clinical and radiological changes. These changes include hemiparesis, seizures, facialasymmetry, and mental retardation. We present a 25-year-old man with crossed cerebrocerebellar atrophy and DDMS. His seizures were well controlled using a combination of antiepileptic drugs.

Research Title:	Detection of the Middle East Respiratory Syndrome Coronavirus Genome in an Air Sample Originating from a Camel Barn Owned by an Infected Patient
Source:	MBIO American Society for Microbiology Volume 5, Issue 4, page 1-5
ISSN:	2150-7511
Date and Year of Publication:	2014-AUG
Impact Factor:	6.875
Affiliated Department(s):	Microbiology and Medical Parasitology, Medicine
Author(s):	Esam I Azhar, Anwar M Hashem, Sherif A El-Kafrawy, Sayed Sartaj Sohrab, Asad S Aburizaiza, Suha A Farraj, Ahmed M Hassan, Muneera S Al-Saeed, Ghazi A Jamjoom, Tariq A Madani
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ABSTRACT

Middle East respiratory syndrome coronavirus (MERS-CoV) is a novel betacoronavirus that has been circulating in the Arabian Peninsula since 2012 and causing severe respiratory infections in humans. While bats were suggested to be involved in human MERS-CoV infections, a direct link between bats and MERS-CoV is uncertain. On the other hand, serological and virological data suggest dromedary camels as the potential animal reservoirs of MERS-CoV. Recently, we isolated MERS-CoV from a camel and its infected owner and provided evidence for the direct transmission of MERS-CoV from the infected camel to the patient. Here, we extend this work and show that identical MERS-CoV RNA fragments were detected in an air sample collected from the same barn that sheltered the infected camel in our previous study. These data indicate that the virus was circulating in this farm concurrently with its detection in the camel and in the patient, which warrants further investigations for the possible airborne transmission of MERS-CoV. IMPORTANCE This work clearly highlights the importance of continuous surveillance and infection control measures to control the global public threat of MERS-CoV. While current MERS-CoV transmission appears to be limited, we advise minimal contact with camels, especially for immunocompromised individuals, and the use of appropriate health, safety, and infection prevention and control measures when dealing with infected patients. Also, detailed clinical histories of any MERS-CoV cases with epidemiological and laboratory investigations carried out for any animal exposure must be considered to identify any animal source.

Research Title:	Effect of mefloquine on worm burden and tegumental changes in experimental Schistosoma mansoni infection
Source:	Journal of Microscopy and Ultrastructure Elsevier B.V. Volume 2, Issue 1, page 7-11
ISSN:	2213-879X
Date and Year of Publication:	2014-MAR
Impact Factor:	0
Affiliated Department(s):	Microbiology and Medical Parasitology
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ABSTRACT

There is an important need to develop alternative anti-schistosomal drugs, as current treatment depends mainly on praziquantel (PZQ). This work aimed to study the in vivo effect of mefloquine on worm burden and tegumental changes on both the juvenile and adult worms in experimental Schistosoma mansoni infection.

We studied the effect of this compound in mice infected with cercaria of Schistosoma manson then treated with a single oral dose of 400 mg/kg mefloquine, 3 and 7 weeks after infection and worms were recovered two, three and seven days following treatment. Worm burden was calculated and alterations on the tegumental surface of schistosomula were examined by electron microscopy. The total worm burden reduction in juvenile was 94.5% and in adults was 74.8%. The electron microscopy examination showed tegumental changes in the form of retracted ventral sucker and oral sucker, fusion of tegumental ridges, pitting of the tegument and corrugations with swelling of the tegument in parts and shrinkage in the other parts with formation of deep furrows, disruption and peeling of the tegument with loss of spines and blebbing. Mefloquine has a promising effect in treatment of schistosomiasis.

Research Title:	Evaluating staff skills and needs for conducting distance learning healthcare courses
Source:	icehtm.net
ISSN:	
Date and Year of Publication:	2014-JUN
Impact Factor:	0
Affiliated Department(s):	Clinical Biochemistry, Medical Education, Microbiology and Medical Parasitology, Medicine
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ABSTRACT

Introduction: The widespread utilization of technology in business and social environments offers a pedagogical shift. The era of technology has brought great expansion in the development and introduction of online courses and technology tools to teaching and learning strategies. The development of distance learning courses and programs should be based on sound pedagogical principals. Academic staff members and other healthcare professionals, who are responsible for teaching and physician training, should be aware of the principal of course design, development, implementation, and therefore, they need to follow one of the instructional design approaches such as the ADDIE Approach.
Aim: The aim of this study is to evaluate instructors' skills and needs for conducting distance learning healthcare courses, including the level of assistance they need to implement and use online and software tools in online courses. In addition, this study evaluates the level of helpfulness of different types of training and support.
Methods: This study applied the online faculty survey used by the Center for Teaching Excellence, University of South Carolina to assess the faculty's instructional technology needs for training and support. The survey asked faculty staff about a broad number of classroom and online technologies, with a helpful response scale that reveals not only what the faculty is already using, but also what the instructors want to use and what they need help with.
Results: The results of this study illustrated the significant need of faculty staff members for the training and development of their skills in almost all tools used for conducting online courses. Regarding the use of software, although the majority of participating staff members in this study use almost all software tools required for conducting online healthcare courses, they expressed a need for help in developing new ideas to use the software effectively
Conclusion: The results of this study showed that it is essential to organize comprehensive faculty development training courses to help staff members conduct their online courses or convert their face-to-face courses to blended courses effectively. These courses should include an introductory course and provide training on instructional design, the use of technology tools, and assessment techniques in online courses.

Research Title:	Prevalence and genotyping of Cryptosporidium in stool samples collected from children in Taif City (Saudi Arabia)
Source:	TROPICAL BIOMEDICINE Malaysian Soc Parasitology Tropical Medicine Volume 31, Issue 2, page 215-224
ISSN:	0127-5720
Date and Year of Publication:	2014-JUN
Impact Factor:	0.816
Affiliated Department(s):	Microbiology and Medical Parasitology
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ABSTRACT

This study was conducted to estimate the frequency of Cryptosporidium infections in Taif (Saudi Arabia). Stool samples from children under 10 years by modified Ziehl-Neelson staining and two PCR techniques were used for genotyping experiments. The microscopic examination showed that, eleven samples were positive for presence of Cryptosporidium. With 11 of 100 samples, DNA extraction and subsequent genotyping was successful. By means of RAPD technique, the genetic similarity among the collected isolates was 55%. The 18S rRNA gene sequences confirmed that all Cryptosporidium-isolates belonged to Cryptosporidium parvum. In comparison with reference strains from different species of Cryptosporidium species from GenBank, all collected isolates belonged to Cryptosporidium hominis and C. parvum clade. The fact that only human genotypes were detected suggests that cryptosporidiosis must primarily be considered as a non zoonotic disease in Taif region.

Research Title:	Identification of Microorganisms by FilmArray and Matrix-Assisted Laser Desorption Ionization-Time of Flight Mass Spectrometry Prior to Positivity in the Blood Culture System
Source:	Journal of Clinical Microbiology American Society of Microbiology Volume 52, issue 9, page 3230-3236
ISSN:	0095-1137
Date and Year of Publication:	2014-SEPT
Impact Factor:	4.232
Affiliated Department(s):	Microbiology and Medical Parasitology
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ABSTRACT

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.

Research Title:	Non contiguous-finished genome sequence and description of Clostridium jeddahense sp nov.
Source:	Standards in Genomic Sciences BioMed Central Volume 9, Issue 3, page 1003-1019
ISSN:	1944-3277
Date and Year of Publication:	2014-MAY
Impact Factor:	3.167
Affiliated Department(s):	Microbiology and Medical Parasitology, Medicine
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ABSTRACT

Clostridium jeddahense strain JCD(T) (= CSUR P693 = DSM 27834) is the type strain of C. jeddahense sp. nov. This strain, whose genome is described here, was isolated from the fecal flora of an obese 24 year-old Saudian male (BMI=52 kg/m(2)). Clostridium jeddahense strain JCD(T) is an obligate Gram-positive bacillus. Here we describe the features of this organism, together with the complete genome sequence and annotation. The 3,613,503 bp long genome (1 chromosome, no plasmid) exhibits a G+C content of 51.95% and contains 3,462 protein-coding and 53 RNA genes, including 4 rRNA genes.

Research Title:	Non-contiguous finished genome sequence and description of Corynebacterium jeddahense sp nov.
Source:	Standards in Genomic Sciences BioMed Central Volume 9, Issue 3
ISSN:	1944-3277
Date and Year of Publication:	2014-APR
Impact Factor:	3.167
Affiliated Department(s):	Microbiology and Medical Parasitology, Medicine
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ABSTRACT

Corynebacterium jeddahense sp. nov., strain JCB(T), is the type strain of Corynebacterium jeddahense sp. nov., a new species within the genus Corynebacterium. This strain, whose genome is described here, was isolated from fecal flora of a 24-year-old Saudi male suffering from morbid obesity. Corynebacterium jeddahense is a Gram-positive, facultative anaerobic, nonsporulating bacillus. Here, we describe the features of this bacterium, together with the complete genome sequencing and annotation, and compare it to other member of the genus Corynebacterium. The 2,472,125 bp-long genome (1 chromosome but not plasmid) contains 2,359 protein-coding and 53 RNA genes, including 1 rRNA operon.

Research Title:	Production, purification and characterization of cellulase from Streptomyces sp.
Source:	African Journal of Microbiology Research Academic Journals Volume 8, Issue 4, page 348-354
ISSN:	1996-0808
Date and Year of Publication:	2014-JAN
Impact Factor:	0
Affiliated Department(s):	Microbiology and Medical Parasitology
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ABSTRACT

High cellulase producing Streptomyces strain C188 was isolated from a Saudi Arabia soil sample and identified as Streptomyces longispororuber by 16S rDNA sequencing. Enzyme productivity by this strain in carboxymethyl cellulase liquid medium reached 8540 U/L after 96 h of incubation at 30°C. Cellulase productivity in tested strain was improved (25084 U/L) by supplementation of the carboxymethyl cellulose liquid medium with 1% corn steep liquor and pH 6.5 (maintained throughout the incubation period using 0.05M phosphate buffer). Purification of cellulose enzyme was carried out by ammonium sulphate precipitation, diethylaminoethyl cellulose and Sephadex G-75 gel filtration chromatography. The final preparation had 13.5% activity recovery and approximately 38.5-fold purification. The purified enzyme migrated in a single band with molecular weight of 42 kDa on SDS-PAGE. Maximum enzymatic activity was observed at pH 6- 6.5 and 50°C, while maximum stability was obtained at pH 6.5 and up to 60°C.

Research Title:	Targeting the HA2 subunit of influenza A virus hemagglutinin via CD40L provides universal protection against diverse subtypes.
Source:	Mucosal Immunology Nature Publishing Group Volume 8, Issue 1, 211-220
ISSN:	1933-0219
Date and Year of Publication:	2014-JUL
Impact Factor:	7.537
Affiliated Department(s):	Microbiology and Medical Parasitology
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ABSTRACT

The influenza viral hemagglutinin (HA) is comprised of two subunits. Current influenza vaccine predominantly induces neutralizing antibodies (Abs) against the HA1 subunit, which is constantly evolving in unpredictable fashion. The other subunit, HA2, however, is highly conserved but largely shielded by the HA head domain. Thus, enhancing immune response against HA2 could potentially elicit broadly inhibitory Abs. We generated a recombinant adenovirus (rAd) encoding secreted fusion protein, consisting of codon-optimized HA2 subunit of influenza A/California/7/2009(H1N1) virus fused to a trimerized form of murine CD40L, and determined its ability of inducing protective immunity upon intranasal administration. We found that mice immunized with this recombinant viral vaccine were completely protected against lethal challenge with divergent influenza A virus subtypes including H1N1, H3N2, and H9N2. Codon-optimization of HA2 as well as the use of CD40L as a targeting ligand/molecular adjuvant were indispensable to enhance HA2-specific mucosal IgA and serum IgG levels. Moreover, induction of HA2-specific T-cell responses was dependent on CD40L, as rAd secreting HA2 subunit without CD40L failed to induce any significant levels of T-cell cytokines. Finally, sera obtained from immunized mice were capable of inhibiting 13 subtypes of influenza A viruses in vitro. These results provide proof of concept for a prototype HA2-based universal influenza vaccine.

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Research Title:	Analysis of chromosomal and genetic disorders in patients with recurrent miscarriages in Saudi Arabia
Source:	BMC Genomics BioMed Central Volume 15, Supplement 2, page 73
ISSN:	1471-2164
Date and Year of Publication:	2014-APR
Impact Factor:	4.041
Affiliated Department(s):	Ob-Gyne
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ABSTRACT

Recurrent spontaneous abortion has been reported to occur in 15-20% of all clinically recognizable pregnancies. Numerous studies have reported a clear relationship between the chromosomal abnormalities in parents and recurrent miscarriages and infertility, however limited data is available from Arabian Peninsula. The main goal of this study was to determine the prevalence of chromosomal abnormalities and correlate them with clinical characteristics of couples with recurrent spontaneous abortions (RSA) in Saudi Arabia.

Research Title:	Antenatal diagnosis, prevalence and outcome of congenital anomalies of the kidney and urinary tract in Saudi Arabia
Source:	Urology Annals Medknow Volume 6, Issue 1, Page 36-40
ISSN:	0974-7834
Date and Year of Publication:	2014-JAN
Impact Factor:	0
Affiliated Department(s):	Ob-Gyne
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ABSTRACT

Objective: To study the prevalence, pattern of distribution, and the outcome of different types of kidney and urinary tract anomalies (CAKUT) diagnosed during the antenatal period. The second objective is to test the accuracy of antenatal diagnosis of CAKUT.

Materials And Methods: In a cross-sectional hospital-based study, all cases diagnosed antenatally with urinary tract anomalies at King Abdulaziz University Hospital (KAUH), Jeddah, Kingdom of Saudi Arabia, were studied. The prevalence, pattern of distribution, and immediate postnatal outcomes, in addition to the accuracy of antenatal diagnosis, of those cases are reported.

Results: One hundred and forty-one cases of urinary tract anomalies were antenatally diagnosed; postnatal diagnosis was confirmed in 128 cases (90.1%). The prevalence of CAKUT in our population is 3.26 per 1000 births. The most common abnormalities detected were hydronephrosis, polycystic kidney disease, multicystic dysplastic kidney, and renal agenesis, in descending order of frequency. The perinatal mortality rate among fetuses with CAKUT is 310 per 1000, the majority of these cases (90%) occurred in cases with renal parenchyma involvement.

Conclusions: The prevalence of different types of CAKUT is higher than that reported in developed countries. Urinary tract anomalies can be accurately diagnosed and classified in the antenatal period using ultrasonography imaging. Antenatal diagnosis is a helpful tool in planning immediate postnatal care and deciding the place for delivery. This might prevent or slow renal function deterioration and help in early identification of patients who need early surgical intervention.

Research Title:	Chlamydia trachomatis infection among female inmates at Briman prison in Saudi Arabia.
Source:	BMC Public Health BioMed Central Ltd Volume 14, Issue 1, page 1-6
ISSN:	1471-2458
Date and Year of Publication:	2014-MAR
Impact Factor:	2.321
Affiliated Department(s):	Ob-Gyne
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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:	Effects of pregnancy on sexual function Findings from a survey of Saudi women
Source:	Saudi Medical Journal Saudi Medical Journal Volume 35, Issue 5, page 482-487
ISSN:	0379-5284
Date and Year of Publication:	2014-MAY
Impact Factor:	0.554
Affiliated Department(s):	Ob-Gyne
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ABSTRACT

Objective: To assess sexual function during pregnancy in Saudi women.
Methods: We recruited 454 sexually active Saudi women (221 pregnant women, and 233 non-pregnant women) from the antenatal and gynecological clinics of King Abdulaziz University Hospital in Jeddah, Saudi Arabia, a tertiary referral university hospital, between May and October 2011. Participants were asked to complete an Arabic version of the Female Sexual Function Index (FSFI) questionnaire. This questionnaire assesses all the major domains of sexual dysfunction: desire, arousal, lubrication, orgasm, satisfaction, and pain. The overall FSFI scores, and those for each domain, were calculated for the pregnant and non-pregnant women. The scores were compared between pregnant and non-pregnant women, as well as among women in each trimester of the pregnancy.
Results: The pregnant and non-pregnant women did not differ significantly in any of the 6 domains of the FSFI or in the overall scores. However, among the pregnant group, FSFI scores in each domain and overall scores decreased progressively from each trimester of pregnancy to the next. In general, FSFI scores were lower in our sample, as compared with those found in other populations in previous studies.
Conclusion: There are no differences in indices of sexual function between pregnant and non-pregnant Saudi women. However, indices of sexual function show significant declines over time during pregnancy. A modified FSFI cutoff score for diagnosis of sexual dysfunction in Saudi women may be needed.

Research Title:	Efficacy of intra-cervical misoprostol in the management of early pregnancy failure
Source:	Scientific Reports Nature Publishing Group Volume 4, page 1-3
ISSN:	2045-2322
Date and Year of Publication:	2014-NOV
Impact Factor:	5.078
Affiliated Department(s):	Ob-Gyne
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ABSTRACT

The aim of this prospective study was to assess the efficacy of intra-cervical misoprostol in the management of early pregnancy failure. Twenty women with early pregnancy failure received intra-cervical misoprostol via an endometrial sampling cannula. The first dose was 50 mu g of misoprostol dissolved in 5 ml of normal saline. The administration was repeated after 12 h if there was no vaginal bleeding or pain. Nine (45%) women received 1 dose and 11 (55%) women received 2 doses of intra-cervical misoprostol. Abortion within 24 h occurred in 16 (80%) women, and complete abortion was achieved in 14 (70%) cases. Two women with incomplete abortion were managed with 600 mg of misoprostol orally (1 case) and surgical intervention (1 case). The mean time interval between the first dose and the abortion was 10.6 +/- 6.3 h. Two women did not respond within 24 h of treatment initiation, 1 woman withdrew consent after the first treatment, and 1 woman developed heavy vaginal bleeding after the first dose and underwent surgical management. Intra-cervical misoprostol is a promising method of medical treatment of early pregnancy failure. Further randomized clinical trials are needed to validate its safety and efficacy.

Research Title:	Endogenous controls in human umbilical vein endothelial cells under metabolic and oxidative stress
Source:	BMC Genomics Biomed Central Ltd Volume 15, Supplement 2, page 23
ISSN:	1471-2164
Date and Year of Publication:	2014-APR
Impact Factor:	4.041
Affiliated Department(s):	Ob-Gyne
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POSTER PRESENTATION / ABSTRACT

Background: Gene expression studies on the effect of hypoxia and hyperglycemia using human umbilical vein endothelial cell (HUVEC) cultures are of particular interest in cardiovascular disease and diabetes. Normalization of gene expression data refers to the comparison of expression values using endogenous control that is steady across independent experimental conditions, a crucial step for gene expression studies. The endogenous controls for experiments involving hyperglycemia, hypoxia and a combination of the two have not been identified before in HUVEC. Our objective was to identify endogenous controls that are stable under oxidative (hypoxia) and metabolic stress (hyperglycemia) in HUVEC.
Materials and methods: We applied human genome-wide expression array using Affymetrix® GeneChip® on mRNA obtained from 3 different primary HUVEC cultures incubated in euglycemic (5.5 mM) or hyperglycemic conditions (16.5 mM) and/or in chemical hypoxia induced by 150 µM Cobalt Chloride for 1, 3, 12 hours.
Results: Microarray data showed that 9560 genes were identified as potential endogenous controls under hypoxia, hyperglycemia, and hyperglycemia combined with hypoxia. Subsequently, the RNA expression level of 5 endogenous controls was validated by real-time quantitative PCR (qRT-PCR) to confirm the stability of the expression. The following endogenous controls were identified as the most stable: under hyperglycemia ribosomal protein, large, P0 (RPLP0), and transferrin receptor (TFRC), Glyceraldehyde-3-phosphate dehydrogenase (GAPDH), glucuronidase, beta (GUSB), and β-actin, under hypoxia alone RPLP0, and TFRC whereas under hyperglycemia combined with hypoxia RPLP0, TFRC, GUSB, and β-actin.
Conclusions: Our data demonstrate that RPLP0 and TFRC are the most suitable endogenous controls analyzed for expression studies utilizing HUVEC cultured under metabolic or oxidative stress at 1h, 3h, and 12h time points. The other genes were detected to be stable at the short-term but not after long-term exposure to hypoxia.

Research Title:	Factors associated with domestic violence: a cross-sectional survey among women in Jeddah, Saudi Arabia
Source:	BMJ Open BMJ Publishing Group Volume 4, Issue 2, page 1-9
ISSN:	2044-6055
Date and Year of Publication:	2014-FEB
Impact Factor:	2.063
Affiliated Department(s):	Ob-Gyne
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ABSTRACT

Objective: This study aims to identify the factors associated with domestic violence (DV) among women in Jeddah. Design Cross-sectional survey.
Setting: Outpatient departments of three tertiary hospitals in Jeddah.
Participants: Convenience sample of women, aged 15-70years, at the outpatient and inpatient clinics.
Interventions: Between 15 December 2011 and 30 May 2012, a psychologist and a professional health assistant explained the purpose of the research to participants, who were then asked to fill a 50-item questionnaire. The questionnaire was created based on questions from three questionnaires: the NorVold Domestic Abuse Questionnaire, the Pregnancy Risk Assessment Monitoring System and the Kansas Marital Satisfaction Scale. The questionnaire was used to assess the association between DV and family status, male partner attitudes, age, educational attainment, employment, financial and socioeconomic status.
Results: A total of 2301 women participated in the survey (81% response rate). The meanSD age of the participants was 34.4 +/- 10.9years. The lifetime prevalence of DV was 34%. Abused women had more children than non-abused women (p=0.001), and their spouses were significantly older than those of non-abused women (p<0.0001). Financially dependent women and those with a high educational status were significantly more likely to report abuse (p=0.003 and p<0.001, respectively). Abused women were also likely to report that their spouse was a smoker (p<0.0001) and had completed at least primary or secondary education (p<0.0001). A significantly lower proportion of abused women reported that their male partners were alcohol users (p=0.001). The results of logistic regression showed that women who were financially dependent had about 1.5-fold odds of being physically abused by a spouse.
Conclusions: Many factors are associated with DV against women, thereby highlighting the need to design effective DV prevention programmes.

Research Title:	Gestational trophoblastic disease in the western region of Saudi Arabia (single-institute experience)
Source:	European Journal of Obstetrics & Gynecology and Reproductive Biology Elsevier Science Bv Volume 180, Issue 2014, page 8-11
ISSN:	0301-2115
Date and Year of Publication:	2014-SEPT
Impact Factor:	1.627
Affiliated Department(s):	Ob-Gyne
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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:	Impact of maternal breast cancer on school-aged children in Saudi Arabia
Source:	BMC Research Notes BioMed Central Ltd Volume 7, Issue 1, page 261
ISSN:	1756-0500
Date and Year of Publication:	2014-APR
Impact Factor:	0
Affiliated Department(s):	Family Medicine, Medicine, Ob-Gyne
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ABSTRACT

Background: We examine whether mothers with breast cancer told their children about the diagnosis, explore mothers' perceptions of the impact of doing so on the mother-child relationship, and assess perceptions of how this affected the children.
Methods: A convenience sample of 28 women with breast cancer ages 35 to 60 was interviewed using a 39-item close-ended questionnaire at the Al-Amoudi Breast Cancer Center of Excellence, King Abdulaziz University, Jeddah, Saudi Arabia. Inclusion criteria were having a diagnosis of breast cancer and having school-aged children (ages 5 to 16 years). Questions were asked concerning each child (n = 99).
Results: The majority of women (75%) told their children about the diagnosis, and explained the treatment (61%). In most cases, telling the children had a positive effect on how the children treated their mothers (84%), on the maternal-child relationship (80%), and on the personality and behavior of the child (90%). The most common negative reaction by children was increased clinging behavior to the mother (15%). Despite the perceived positive impact on the mother-child relationship and on the child's overall behavior towards the mother, school performance suffered as a result (77%).
Conclusions: These preliminary results suggest that when a mother with breast cancer tells a child about the diagnosis and discusses it with them, this often results in an improvement in the maternal-child relationship. However, the knowing the mother's diagnosis may adversely affect the child's school performance, which will need to be anticipated and addressed with formal counseling if it persists.

Research Title:	Knowledge, Perception, and Attitudes About Cancer and its Treatment Among Healthy Relatives of Cancer Patients: Single Institution Hospital-Based Study in Saudi Arabia
Source:	Journal of Cancer Education Springer Volume 29, Issue 4, page 772-780
ISSN:	0885-8195
Date and Year of Publication:	2014-DEC
Impact Factor:	1.054
Affiliated Department(s):	OB-Gyne, Medicine, Medical Education
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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:	Medical Errors in the Private Sector where to?
Source:	Global Journal of Medical Research Global Journals Inc. (US) Volume 14, Issue 2, page 1-13
ISSN:	2249-4618
Date and Year of Publication:	2014-FEB
Impact Factor:	0
Affiliated Department(s):	Ob-Gyne
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ABSTRACT

To study the issues of medical errors in the private health sector and determine the conviction rate in the decisions by specialty on the defendants from health professions. The total number of decisions issued by the Health Authority within five years 331 resolution and the conviction rate (Number = 192, 58%) were distributed into the following health facilities: private hospitals (n = 248, 74.9%), private clinics (n = 56, 16.9%) and private dispensaries (n = 27, 8.2%). Total 252 out of 845 of defendants health professions were convicted, they are distributed as follows: Doctors (n = 236, 93.7%), nurses and midwives (n = 13, 5.2%), technicians (n = 2, 0.8%) and other professionals (n = 1, 0.4%). The conviction rate in five years is on the rise and thus this is reflected on the trend of medical errors into upward in the private health sector.

Research Title:	Pentalogy of Cantrell: first case reported in Saudi Arabia.
Source:	Annals of Saudi Medicine Annals of Saudi Medicine Volume 34, Issue 1, Page 75-77
ISSN:	0975-4466
Date and Year of Publication:	2014-FEB
Impact Factor:	0.705
Affiliated Department(s):	Ob-Gyne, Pediatrics
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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.

Research Title:	Perception of Patients with Cancer towards Support Management Services and Use of Complementary Alternative Medicine - a Single Institution Hospital-Based Study in Saudi Arabia
Source:	Asian Pacific Journal of Cancer Prevention Head Office, Korean Natl Cancer Center Volume 15, Issue 6, page 2547-2554
ISSN:	1513-7368
Date and Year of Publication:	2014-JUN
Impact Factor:	1.5
Affiliated Department(s):	Ob-Gyne, Medical Education, Familiy Medicine, Medicine
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ABSTRACT

Background: To evaluate the perception of cancer patients toward treatment services and influencing factors and to inquire about the use of complementary alternative medicine (CAM).

Materials and Methods: Information was obtained through pre-tested structured questionnaires completed by cancer patients during treatment at King Abdulaziz University Hospital, Jeddah, Saudi Arabia.

Results: Of 242 patients, 137 (64.6%) accepted to enter this study. Most were Saudi (n=93, 68%), female (n=80, 58%), educated at university (n=71, 52%), married (n=97, 72%) and with breast cancer (n=36, 26%). One-hundred (73%) patients were satisfied with the services provided; 61% were Saudi. Ninety-four (68%) respondents were satisfied with the explanation of their cancer. Twenty-eight (21.6%) patients received CAM, of them 54.0% received herbal followed by rakia (21.0%), nutritional supplements/vitamins (7.0%) and Zamam water (18.0%), with significant differences among them (p =0.004). Seven (5%) patients believed this therapy could be used alone; 34 (25%) patients believed it could be used with other treatments, regardless of whether they themselves used this therapy. Fifty-three (53%) satisfied patients felt they received enough support; 31 (58%) patients received support from family and friends; 22 (41.6%) patients received support from the health-care team. Patients who received information about their disease from their physicians and those who felt they had enough support were more satisfied. The patients who took alternative treatment were older age, mostly female and highly educated but values did not reach significance.

Conclusions: We stress enhancing the educational and supportive aspects of cancer-patient services to improve their treatment satisfaction and emphasize the need for increasing the educational and awareness programs offered to these patients.

Research Title:	Prediction of Perinatal Hypoxic Encephalopathy: Proximal Risk Factors and Short-Term Complications
Source:	Journal of Clinical Gynecology & Obstetrics Elmer Press Inc. Volume 3, Issue 3, page 97-104
ISSN:	1927-1271
Date and Year of Publication:	2014-SEPT
Impact Factor:	0
Affiliated Department(s):	Ob-Gyne, Pediatrics
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ABSTRACT

Background: To determine the proximal risk factors associated with perinatal hypoxic encephalopathy signs and its short-term complications.
Methods: This is a prospective study conducted in women in labor with medical and obstetrics risk factors at King Abdulaziz University Hospital, Jeddah, Saudi Arabia from May 1, 2010 to May 1, 2011. The abnormal umbilical arterial base deficit levels (≥ 12 mmol/L), compared with a normal base deficit level (< 12 mmol/L) and the neonatal outcomes were studied in both groups.
Results: The frequency of fetal acidosis with a cord pH ≤ 7 or a base deficit level of ≥ 12 mmol/L at birth was 31 (5.6%) versus 59 (10.7%), respectively. The intrapartum proximal risk factors were abnormal fetal heart rate patterns (n = 18, 30.5%); prolonged labor duration, vacuum delivery (n = 12, 20.3%); pregnancy-induced hypertension (n = 10, 17%); fetal growth restriction (n = 4, 6.8%); and abruptio placentae (n = 3, 5.1%). The neonatal encephalopathy signs with an abnormal base deficit and proximal risk factors were umbilical arterial cord blood pH (n = 24, 40.7%); low Apgar score at 5 minutes (n = 10, 17%); admission to the neonatal intensive care unit (n = 20, 33.9%); and intubation (n = 9, 15.3%).
Conclusion: Fetal metabolic acidemia may predict neonatal encephalopathy signs in association with intrapartum proximal risk factors.

Research Title:	Pregnant Woman with Fulminant Disseminated TB to the Omentum and Placenta
Source:	Gynecology & Obstetrics OMICS Publishing Group Volume 4, Issue 5, page 1-3
ISSN:	2161-0932
Date and Year of Publication:	2014-MAY
Impact Factor:	3.687
Affiliated Department(s):	Family Medicine, Ob-Gyne
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CASE REPORT / ABSTRACT

This is a case report of a young 24 year old Somali woman in her 27th week of gestation who was given Rifampicin, Ethambutol, INH, Pyridoxine and Pyrazinamide as a treatment for systemic TB. She did not respond to the treatment. She died because of brainstem infarction (brain death). According to MRI results, multiple brain tuberculomas were seen suggesting brain TB. Brain biopsy was not done and the treatment was initiated at her 27th week of gestation. Patient arrested and was transferred to ICU with GCS of 3-4/15. Cesarean section was done at the 29th week of gestation and the infant was not infected. There were query tuberculosis seeding scattered all over the patient's omentum and placenta. A specimen was taken for histopathology, which demonstrated that the placenta and omentum contained focal areas of microinfarctions and necrotizing granulomas consistent with tuberculosis. We emphasize that screening should be done during pregnancy to discover dormant infection, asymptomatic disease and to lower the incidence of congenital TB. The aggressive early treatment for dissemination of the disease, especially when associated with pregnancy, and the importance of early diagnosis and therapy will result in regression of the lesions.

Research Title:	Reference Genes for Expression Studies in Hypoxia and Hyperglycemia Models in Human Umbilical Vein Endothelial Cells
Source:	G3-Genes Genomes Genetics Genetics Society America Volume 4, Issue 11, page 2159-2165
ISSN:	2160-1836
Date and Year of Publication:	2014-NOV
Impact Factor:	2.511
Affiliated Department(s):	Ob-Gyne
Author(s):	Sherin Bakhashab, Sahira Lary, Farid Ahmed, Hans-Juergen Schulten, Ayat Bashir, Fahad W Ahmed, Abdulrahman L Al-Malki, Hasan S Jamal, Mamdooh A Gari, Jolanta U Weaver
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ABSTRACT

Human umbilical vein endothelial cell (HUVEC)-based gene expression studies performed under hypoxia and/or hyperglycemia show huge potential for modeling endothelial cell response in cardiovascular disease and diabetes. However, such studies require reference genes that are stable across the whole range of experimental conditions. These reference genes have not been comprehensively defined to date. We applied human genome-wide microarrays and quantitative real-time PCR (qRT-PCR) on RNA obtained from primary HUVEC cultures that were incubated for 24 hr either in euglycemic or in hyperglycemic conditions and then subjected to short-term CoCl2-induced hypoxia for 1, 3, or 12 hr. Using whole-transcript arrays, we selected 10 commonly used reference genes with no significant expression variation across eight different conditions. These genes were ranked using NormFinder software according to their stability values. Consequently, five genes were selected for validation by qRT-PCR. These were ribosomal protein large P0 (RPLP0), transferrin receptor (TFRC), glyceraldehyde-3-phosphate dehydrogenase (GAPDH), beta-glucuronidase (GUSB), and beta-actin (ACTB). All five genes displayed stable expression under hyperglycemia. However, only RPLP0 and TFRC genes were stable under hypoxia up to 12 hr. Under hyperglycemia combined with hypoxia up to 12 hr, the expression of RPLP0, TFRC, GUSB, and ACTB genes remained unchanged. Our findings strongly confirm that RPLP0 and TFRC are the most suitable reference genes for HUVEC gene expression experiments subjected to hypoxia and/or hyperglycemia for the given experimental conditions. We provide further evidence that even commonly known references genes require experimental validation for all conditions involved.

Research Title:	Rubella immunity among pregnant women in Jeddah, western region of Saudi Arabia
Source:	Obstetrics and Gynecology International Hindawi Publishing Corporation Volume 2014, Issue 2014, page 1-6
ISSN:	1687-9597
Date and Year of Publication:	2014-JUN
Impact Factor:	0
Affiliated Department(s):	Ob-Gyne
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ABSTRACT

To determine the presence of rubella immunity among pregnant women attending their first prenatal visit in Jeddah, Saudi Arabia, a retrospective, descriptive, cross-sectional, hospital-based study (prevalence study) was undertaken. A total of 10276 women attending prenatal clinics between January 1, 2008, and December 31, 2011 were included. Rubella screening tests (immunoglobulins: IgG and IgM), rubella antibody titer levels, patient age, gravidity, parity, and the number of previous abortions were analyzed. No patients tested IgM positive, and 9410 (91.6%) were immune (IgG positive); the remaining 866 (8.4%) were susceptible. There were no significant differences in gravidity, parity, or the number of previous abortions between immune and nonimmune groups. In contrast, the immunity rate decreased with increasing age, with a significant difference between the youngest age group (15-19 years) and the oldest age group (40-49 years) (P = 0.0005; odds ratio, 2.86; 95% confidence interval, 1.7-4.7). Rubella immunity among pregnant women was high (91.6%) but decreased significantly with increasing age. A possible explanation for this is the change in the rubella vaccination policy in Saudi Arabia in 2002, from 1 dose to 2 doses. In addition, antibody levels begin to decline after vaccination and natural infection.

Research Title:	Sexual behavior and knowledge of human immunodeficiency virus/aids and sexually transmitted infections among women inmates of Briman Prison, Jeddah, Saudi Arabia
Source:	BMC Infectious Diseases Biomed Central Ltd Volume 14, Issue 1, page 290
ISSN:	1471-2334
Date and Year of Publication:	2014-MAY
Impact Factor:	2.561
Affiliated Department(s):	Ob-Gyne
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ABSTRACT

Background: To reduce the incidence of HIV and sexually transmitted infections (STIs), it is necessary to target high-risk populations such as prison inmates. This study aims to explore the range of knowledge on HIV and STIs, sexual behaviors, and adoption of preventive measures among women inmates.

Methods: This was a survey conducted between July 1, 2012 and July 29, 2012 among women inmates at Briman Prison, Jeddah, Saudi Arabia. The author gave an educational lecture on STIs in a conference room at the prison. Educational material was distributed to the attendees after the lecture, and the survey was conducted one week later. All the participants were asked to complete an anonymous 40-item self-administered questionnaire in the presence of a professional health assistant and a translator, for non-Arabic speakers. Data collected included the personal data of the respondent, her alleged criminal background, penal status, accumulative time in prison, history of smoking, alcohol or drug addiction, knowledge about the seven most common STIs, symptoms, modes of transmission, prevention, sexual activity, addiction, and means of protection. Descriptive analysis was performed using Microsoft Excel.

Results: We interviewed 204 women aged 16-60 years (mean, 33.3 years). Most of the respondents ($n = 170$; $83 \cdot 0\%$) were not aware of STIs; 117 respondents ($57 \cdot 4\%$) did not undergo screening for STIs before marriage or intercourse, while only 59 ($28 \cdot 9\%$) did. Over half of the respondents ($n = 107$; 52.5%) thought they knew how to protect themselves from STIs. Nevertheless, 87 (42.6%) were uncertain about the role of condoms in protection from STIs and ($n = 41$; 20.1%) thought condoms provide 100% protection against STIs, while 72 respondents (35.3%) thought condoms did not confer 100% protection against STIs. Only 10 respondents (4.9%) used condoms to protect themselves from STIs. Saudi women ($P = 0.033$) and those with a higher level of education ($P < 0.01$) were significantly more likely to have better knowledge.

Conclusion: Women inmates at Briman Prison have poor knowledge of STIs as well as risky sexual behaviors. Campaigns aimed at increasing awareness of STIs should also target prison inmates, who in general constitute high-risk populations.

Research Title:	The Efficacy of Membrane Sweeping at Term and Effect on the Duration of Pregnancy: A Randomized Controlled Trial
Source:	Journal of Clinical Gynecology and Obstetrics Elmer Press Inc. Volume 3, Issue 1, page 30-34
ISSN:	1927-1271
Date and Year of Publication:	2014-JAN
Impact Factor:	0
Affiliated Department(s):	Ob-Gyne
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ABSTRACT

Background: This study aimed to determine the efficacy and safety of membrane sweeping on the duration of pregnancy at term and induction rate. The study design was a randomized controlled trial.

Method: The study conducted at the King Abdulaziz University Hospital, Jeddah, Saudi Arabia, from January 1, 2011 to January 1 2012. One hundred and sixty women with uncomplicated pregnancy attending the antenatal clinic and delivery room were randomized to membrane sweeping (study group, n = 80) or no sweeping (control group, n = 80) at 38 weeks of gestation.

Results: Most of the women who underwent membrane sweeping entered spontaneous labor (90 vs. 75%), with a significant difference in mean gestational age (39.5 ± 0.9 vs. 40.0 ± 1.2, P = 0.004). The overall incidence of pregnant women at 41 week gestation was 10 % in women who underwent membrane sweeping and 25% in the controls (OR 3.0, 95% CI 1.2 - 7.3, P = 0.01). The induction rate was less in study compared to control group (10 % vs. 25%; P = 0.01). There were no differences in the incidence of cesarean delivery, or maternal or fetal morbidity between the two groups.

Conclusion: Sweeping of the membranes at term is safe and reduces the incidence of post-date gestation. Most women required only a single cervical sweeping.

Research Title:	Type I Female Genital Mutilation: A Cause of Completely Closed Vagina
Source:	Journal of Sexual Medicine Wiley-Blackwell Volume 11, Issue 9, page 2351-2535
ISSN:	1743-6109
Date and Year of Publication:	2014-SEPT
Impact Factor:	3.15
Affiliated Department(s):	Ob-Gyne
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ABSTRACT

Introduction: Female genital mutilation (FGM) ranges in severity from a nick of the clitoris to partial or total removal of the external genitalia. Sexual complications after FGM include sexual dysfunction, difficult intercourse, and dyspareunia.
Aim: We report a case of Type I FGM presenting as complete vaginal closure and urinary retention.
Methods: A 16-year-old adolescent was referred for obliterated vagina and urinary retention. She had recurrent urinary tract infections, difficulty in voiding, and cyclic hematuria. At the age of 1 year she had been taken by her mother to a pediatric surgeon to have a Type I FGM procedure. On examination, the urethral meatus and vaginal orifices were completely closed by the FGM scar. She underwent uneventful surgical opening of the vagina.
Results: A normal vaginal orifice was created and normal flow of urine and menses occurred.
Conclusion: Type I FGM can present as complete vaginal closure and urinary retention. Proper diagnosis and treatment are of paramount importance.

Research Title:	Use of Misoprostol for Self-Induced Medical Abortions among Saudi Women: A Call for Attention
Source:	Gynecologic and Obstetric Investigation Karger Volume 78, Issue 2, page 88-93
ISSN:	0378-7346
Date and Year of Publication:	2014-AUG
Impact Factor:	1.251
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ABSTRACT

Aims: To investigate misoprostol use as a self-administered medical abortifacient and to explore the knowledge and availability of misoprostol and attitudes towards it among Saudi women.

Methods: A questionnaire-based cross-sectional study was conducted in obstetric and gynecological outpatient clinics at private and teaching institutions between January 1 and June 29, 2012.

Results: Of the 678 respondents, 40% (271/678) were aware of misoprostol use as an abortifacient and 7.4% (50/678) reported personal use of it as an abortifacient. Misoprostol users were more likely to have had previous abortions (96%, 48/50; $p < 0.01$), had a relative/friend working in the medical field (70%, 35/50; $p < 0.01$) and known someone else who had used the drug (82%, 41/50; $p < 0.01$). The majority responded incorrectly that higher misoprostol doses are required with more advanced gestational age (96%, 48/50) and that misoprostol use confers no fetal risks (100%, 50/50).

Conclusion: The proportion that reported personal use of misoprostol in the current study (7.4%) exceeded that in similar samples in Brazil (2.2%) and the USA (5%). One concerning finding was the users' poor knowledge about misoprostol. Increased awareness about the inherent risks associated with unsupervised misoprostol use as an abortifacient is needed.

Research Title:	Uterine sarcoma Clinico-pathological characteristics and outcome
Source:	Saudi Medical Journal Saudi Medical Journal Volume 35, Issue 10, page 1215-1222
ISSN:	0379-5284
Date and Year of Publication:	2014-OCT
Impact Factor:	0.554
Affiliated Department(s):	Ob-Gyne, Medicine, Pathology
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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.

Research Title:	Value of Histopathologic Examination of Uterine Products after First-Trimester Miscarriage
Source:	Biomed Research International Hindawi Publishing Corporation Volume 2014, Article 863482, page 1-5
ISSN:	2314-6141
Date and Year of Publication:	2014-JUN
Impact Factor:	0
Affiliated Department(s):	Ob-Gyne
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ABSTRACT

The main rationale of routine histopathologic examination of products after first-trimester miscarriages is to detect an ectopic pregnancy or a molar pregnancy, which require further management. An alternative approach is to examine the products only when there is a definite indication. As there is no agreement, we aimed to study whether routine histopathological examination of tissues obtained after first-trimester miscarriage is of any clinical value in our populations. Medical records of all (558) patients with a diagnosis of first-trimester miscarriage over 4 years (2007-2010) at King Abdulaziz University Hospital, Jeddah, Saudi Arabia, were reviewed. Histopathologic examination confirmed products of conception in 537 (96.2%) patients, no products of conception in 17 (3%) patients, molar pregnancy in 2 (0.4%) patients, and decidual tissues without chorionic villi (Arias-Stella reaction) in 2 (0.4%) patients. After clinical correlation, only one unsuspected partial molar pregnancy was diagnosed by histopathology examination. Conclusion is that it does not appear reasonable to perform histopathological examination routinely after all first-trimester miscarriages in our studied population. We recommend that histopathological examination be performed in select instances: when the diagnosis is uncertain, when fewer tissues have been obtained during surgery, when unexpected pathology was seen, when ultrasound suggests a molar pregnancy, or when patients are considered at high risk for trophoblastic disease.

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Research Title:	Age, Gender, and Interracial Variability of Normal Lacrimal Gland Volume Using MRI
Source:	Ophthalmic Plastic and Reconstructive Surgery Lippincott Williams & Wilkins Volume 30, Issue 5, page 388-391
ISSN:	1537-2677
Date and Year of Publication:	2014-SEPT
Impact Factor:	0.914
Affiliated Department(s):	Opthalmology, 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.

Research Title:	Ocular dimensions in relation to auxological data in a sample of Swedish children aged 4-15 years
Source:	Acta Ophthalmologica Wiley-Blackwell Volume 92, Issue 7, page 682-688
ISSN:	1755-3768
Date and Year of Publication:	2014-NOV
Impact Factor:	2.512
Affiliated Department(s):	Opthalmology
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ABSTRACT

Purpose: The purpose was to characterize normal growth patterns of ocular and optical components and to relate them to auxological data in a sample of Swedish children aged 4-15years.

Methods: A prospective cross-sectional study was carried out in 143 Swedish children with a mean age of 9.8years. Variables including gestational age (GA), weight, length and head circumference (HCF) at birth and at the time of assessment were registered. Visual acuity (VA), cycloplegic refraction and biometric measures were obtained. Palpebral fissure length and inner canthal distance were measured. Optic disc morphology as seen on fundus photographs was analysed.

Results: Children born more mature, with male predilection, were found to have deeper anterior and vitreous chamber depths, longer axial lengths and thinner crystalline lens thickness. No correlations were found between ocular biometric measurements and VA or refraction after adjustment for confounding variables. Inner canthal distance was significantly correlated with birth length (p=0.03), height, weight, BMI and HCF (p=0.0008, p=0.0007, p=0.037, and p=0.04, respectively) at time of assessment. Total axial length was found to be significantly correlated with GA (p=0.0226) and length at assessment in girls (p=0.0084). Right optic disc and rim areas decreased with increasing age (p=0.0078 and p=0.0107, respectively); however, optic disc parameters were not dependent on any other variable.

Conclusion: These normative values may serve as a basis for the ocular findings and their relationship to auxological data in Caucasian children aged 4-15years, as well as for future comparison in patients with paediatric ocular pathologies.

Research Title:	The clinical utility of eye exam simulator in enhancing the competency of family physician residents in screening for diabetic retinopathy
Source:	Saudi Medical Journal Saudi Medical Journal Volume 35, Issue 11, page 1361-1366
ISSN:	1658-3175
Date and Year of Publication:	2014-NOV
Impact Factor:	0.554
Affiliated Department(s):	Ophthalmology
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ABSTRACT

Objectives: To evaluate the utility of eye exam simulators in the training and assessment of family medicine residents for screening diabetic retinopathy (DR) utilizing direct ophthalmoscopy (DO).

Methods: This prospective, single arm, cross-sectional study was conducted at King AbdulAziz University Hospital, Jeddah, Kingdom of Saudi Arabia in April 2013, wherein the final year family medicine residents of the Saudi Board family medicine training program, underwent a practical session on DO using an eye exam simulator. The cognitive and motor skills of the participating family residents in performing DO, and their competency at diagnosing DR was assessed before, and after a practical session with the eye simulator.

Results: A total of 14 out of total 20 final year residents consented to join the study. Of these, 57.1% were females. A total of 42.9% (6/14) showed initial motor skill competency, and 35.7% showed cognitive skill competency to diagnose DR. Before the session on the eye simulator, merely 7.1% of the residents expressed confidence in performing DO. After the practical session, 78.6% (11/14) showed motor, and 64.3% (9/13) showed cognitive skill competency, in diagnosing DR. A total of 50% were adequately confident in performing DO. A total of 71.4% (10/14) of the residents preferred learning DO via simulation practical sessions than clinical rotation in ophthalmology clinics.

Conclusion: Eye exam simulators are good tools in learning and assessment of DO skills leading to significant improvement in the efficiency and confidence of family physicians in screening for DR.

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Research Title:	Current management of papillary thyroid microcarcinoma in Canada
Source:	Journal of Otolaryngology-Head & Neck Surgery Biomed Central Ltd Volume 43, Issue 1, page 1-8
ISSN:	1916-0216
Date and Year of Publication:	2014-AUG
Impact Factor:	0
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ABSTRACT

Introduction: The detection of papillary thyroid microcarcinoma (PTMC) is on the rise and its optimal management remains controversial. Our aim was to determine the current self-reported management of PTMC amongst Canadian otolaryngologist-head and neck surgeons (OHNS) and endocrinologists and to identify factors influencing their management decisions.
Methods: A nine item web-based questionnaire was distributed to Canadian OHNS and endocrinologists. The three main domains were demographics, current management of PTMC scenarios, and factors influencing the decisions.
Results: One hundred and thirteen OHNS and endocrinologists completed the survey. Respondents were closely divided between recommending hemithyroidectomy (47%) or total thyroidectomy (43%) for a newly diagnosed PTMC in a low risk patient. Observation was the preferred method for managing PTMC detected incidentally after hemithyroidectomy (76%). Respondents chose more aggressive treatment for male patients compared to female patients. A positive history of thyroid cancer or previous radiation exposure was the most important factor influencing the management of PTMC.
Conclusion: The current practices of Canadian OHNS and endocrinologist largely coincide with available guidelines. The slight variation in practice might be explained by the opposing evidence supporting different management options. Given the dramatic increase in the incidence of PTMC we suggest future guidelines address the management of PTMC independently.

Research Title:	Evaluation of the effect of Nigella sativa extract on human hepatocellular adenocarcinoma cell line (HepG2) in vitro
Source:	BMC Genomics BioMed Central Ltd Volume 15, Supplement 2, page 63
ISSN:	1471-2164
Date and Year of Publication:	2014-APR
Impact Factor:	4.041
Affiliated Department(s):	ORL
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ABSTRACT

Background: Cancer is a dreadful disease and remains a major cause of mortality world-wide. Plant derived compounds such as vincristine, vinblastine, etoposide, camptothecin etc. are widely used in cancer therapeutics. Nigella sativa (Figure 1) is claimed to have antihypertensive, analgesic, diuretic, anti-bacterial and liver protective effects; however, there are only very few scientific evidence. In the present study, we attempt to explore the anticancer cancer claims of Nigella sativa, on human hepatocellular adenocarcinoma (HepG2) cell line in vitro.

Materials and methods: The whole extract of Nigella sativa (generously donated by the ENT research group, KAUH) was filter sterilized using 0.2µm syringe filters. The HepG2 cells were seeded at 3 x 104 cells/well of a 24-well tissue culture plate and cultured overnight in DMEM low glucose medium supplemented with 10% fetal bovine serum, 200mM GlutaMax, 1% penicillin/streptomycin under standard culture conditions of 37°C in a 5% CO2 air atmosphere. Following addition of fresh medium, Nigella sativa extract was added at various concentrations namely 0.1%, 0.3%, 0.5, 0.7%, and 1%; and the cells cultured for 24 h and 48 h. Nigella sativa extract was not added to the control wells. Changes in cell morphology was imaged using inverted phase contrast optics and the cell viability was assessed by MTT assay.

Results: Control HepG2 cells maintained their typical morphology and formed a confluent monolayer. In contrast, the cells treated with Nigella sativa extract showed varying changes in morphology (cell shrinkage, membrane damage) resulting in cell death and gross decreases in cell numbers starting from 0.3% concentration at both 24 h and 48 h (Figure 1B). MTT assay demonstrated statistically significant decreases in cell proliferation with increasing concentrations of the drug at 24 h and 48 h. The mean decreases in cell proliferation were 18%, 42%, 54%, 56%, and 62% at 24hr; and 23%, 27%, 36%, 38% and 53% at 48hr for the concentrations 0.1%, 0.3%, 0.5%, 0.7% and 1% respectively

Conclusions: In the present study, the extract of Nigella sativa demonstrated inhibition of HepG2 cell line in vitro. Our results are in accordance with an earlier study where a different form of Nigella sativa extract was found to inhibit the growth and proliferation of the HepG2. We therefore conclude that Nigella sativa extract has anticancer properties which needs further exploration and as such we are currently involved in identifying the active ingredient of the extract as well as the underlying molecular mechanism leading to cell death.

Research Title:	Inflammatory myofibroblastic tumor of the larynx-a case report.
Source:	Journal of the Voice Mosby, Inc. Volume 28, Issue 2, page 258-261
ISSN:	0892-1997
Date and Year of Publication:	2014-MAR
Impact Factor:	0.944
Affiliated Department(s):	ORL
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ABSTRACT

Objectives: Inflammatory myofibroblastic tumor (IMT) is a borderline neoplasm with uncertain malignant potential. It is a rare disease also referred to as an inflammatory pseudotumor, a plasma cell granuloma, and an inflammatory fibrosarcoma. IMT rarely also involves the head and neck region with only 50 cases of laryngeal IMT reported in the literature, and this is the first case with reported magnetic resonance imaging (MRI) findings.
Methods: A 37-year-old man with a 1-year history of hoarseness, dysphagia, and fatigue presented with a right vocal fold submucosal mass and was treated conservatively.
Results: The MRI of the neck revealed a mildly spontaneously hyperintense right true vocal fold on GRE images and relative hyperintensity on fat-saturation T2-weighted images. A biopsy of the right-sided submucosal laryngeal mass was performed and the pathologic examination revealed a lesion consistent with an IMT.
Conclusion: IMT is a borderline neoplasm with uncertain malignant potential. There are many variants of IMT and its etiology is not truly understood. In general, IMT of the larynx has a benign clinical course with low rates of recurrence.

Research Title:	Management of embedded metallic stents used in the treatment of grades III and IV subglottic, and upper tracheal stenosis in adults
Source:	European Archives of Oto-Rhino-Laryngology Springer Volume 271, Issue 11, page 2991-2995
ISSN:	0937-4477
Date and Year of Publication:	2014-NOV
Impact Factor:	1.608
Affiliated Department(s):	ORL
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ABSTRACT

The aim of this study was to evaluate the postoperative complications of using balloon-expandable metallic stents in treatment of benign, major subglottic and tracheal stenosis in adult patients whom conventional therapy has failed and to demonstrate how to deal with these complications in the long run. A retrospective review of five cases; adlut patiets with benign, major subglottic and upper tracheal stenosis whom were treated with balloon expandable metallic stents at King Abdulaziz University Hospital, in the years between 2008 and 2013. Granulation tissue formed in five of the four cases and restenosis occurred. Other complications encountered were stent infection and dislodgment. The complications were managed by removing the stents surgically via a laryngofissure incision and required the placement of a Montgomery T-tube. Managing the restenosis due to granulation tissue formation around the metallic stents is best achieved by removing the embedded metallic stents surgically via open technique and then by placement of a Montgomery T-tube as a bridging option to successful decannulation. Open surgical procedures remain the mainstay treatment for advanced airway stenosis.

Research Title:	Otolaryngologicl 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
Date and Year of Publication:	2014-JAN
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 otolarygologic anomalies with complete examination and investigations for further proper intervention

Research Title:	Quality of life assessment using the World Health Organization quality questionnaire pre- and post-otolaryngological surgery among patients in western Saudi Arabia
Source:	Saudi Medical Journal Saudi Medical Journal Volume 35, Issue 8, page 827-831
ISSN:	0379-5284
Date and Year of Publication:	2014-AUG
Impact Factor:	0.554
Affiliated Department(s):	ORL, Medicine
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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.

Research Title:	Severe Vitamin D Deficiency A Significant Predictor of Early Hypocalcemia after Total Thyroidectomy
Source:	Otolaryngology -- Head and Neck Surgery American Academy of Otolaryngology-Head and Neck Surgery Foundation Volume 2014, Issue n/a, page 1-8
ISSN:	0194-5998
Date and Year of Publication:	2014-DEC
Impact Factor:	1.721
Affiliated Department(s):	Medicine, ORL
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ABSTRACT

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.

Research Title:	The Pattern of Otolaryngological Problems that Affect Syndromic Patients at King Abdulaziz University. A Retrospective Study.
Source:	Life Science Journal Elsevier B.V. Volume 11, issue 12, page 102-108
ISSN:	1097-8135
Date and Year of Publication:	2014-DEC
Impact Factor:	2.296
Affiliated Department(s):	Medical Education, Medical Genetics, ORL
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 individulas with a syndromic diagnosis known to have ORL problems or who sufferd from speech delay were refered 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 reffered 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.

Research Title:	The perception of otolaryngology-related diseases among parents of children with Down syndrome in Jeddah, Saudi Arabia
Source:	Saudi Medical Journal Saudi Medical Journal Volume 35, Issue 7, page 761-764
ISSN:	0379-5284
Date and Year of Publication:	2014-JUL
Impact Factor:	0.554
Affiliated Department(s):	ORL
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ABSTRACT

Objectives: To assess the perception of otolaryngology-related diseases among parents of children with Down syndrome (DS).
Methods: A cross-sectional survey design. A questionnaire was distributed to parents of children with DS. The parents were attending an event aiming to raise awareness that was organized on World Down Syndrome Day on the 21st of March 2013, organized by Princess Al-Jawhara Center of Excellence in Research of Hereditary Disorders, King Abdulaziz University, Jeddah, Saudi Arabia. The complete dates of study were March to May 2013.
Results: Questionnaires were completed and perceptions regarding 10 common otolaryngology-related diseases were obtained from 78 parents. The data shows that most of the parents were not familiar with these otolaryngology-related diseases.
Conclusion: Many parents were not aware of some of the otolaryngology related conditions affecting children with DS, and did not have regular follow-up. Perception was highly affected by the presence of the condition in the children. Awareness of otolaryngology-related diseases affecting children with DS should be raised.

Research Title:	The Potential Influence of Obstructive Airways and The Diagnosis of Attention Deficit Hyperactive Disorder in Children
Source:	Life Science Journal Marsland Press Volume 11, Issue 11, page 911-914
ISSN:	1097-8135
Date and Year of Publication:	2014-NOV
Impact Factor:	2.296
Affiliated Department(s):	ORL
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ABSTRACT

Objective: The aim of this review is to address the potential influence and relationship between Obstructive airway disease and Attention Deficit Hyperactivity Disorder (ADHD) in children.

Method: A review of the literature was conducted using PubMed from 1980 to 2014 for articles that discuss the relationship between Obstructive airway disease and ADHD in children and the management of each disorder.

Results and Conclusion: Although the relationship between obstructive airway diseases, behavioral disease and sleep disorders are yet to be fully understood, it is observed that addressing the airway disease improves both sleep and behavioral disorders. While further studies are anticipated to prove or refute the relationship, nonetheless, screening for airway disorders in ADHD children may well be advisable.

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Research Title:	Are Fassier-Duval Rods at Risk of Migration in Patients Undergoing Spine Magnetic Resonance Imaging?
Source:	Journal of Pediatric Orthopedics Wolters Kluwer Lippincott Williams & Wilkins. page 1-5
ISSN:	1539-2570
Date and Year of Publication:	2014-JUN
Impact Factor:	1.426
Affiliated Department(s):	Orthopaedic Surgery
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ABSTRACT

Background: The Fassier-Duval (FD) rod is a stainless-steel device widely used to correct bone deformities and reduce the risk of fractures in patients with osteogenesis imperfecta (OI). Since these are telescopic expandable rods, there has been a reluctance to perform magnetic resonance imaging (MRI) in patients with OI secondary to a theoretical risk of migration during the MRI scans. The primary aim of this study was to assess the risk of migration of FD rods in patients who underwent MRI of the spine. The secondary aims are to assess the heating effects and artifact of these implants.
Methods: We retrospectively reviewed our database for all patients with OI who had undergone FD rodding and subsequent MRI evaluation for craniofacial and spinal disorders. Ten patients were eligible to be included in the study. The MRI examination was performed in all patients using a1.5 T magnet. The radiographic images pre-MRI and post-MRI were evaluated and compared to assess whether or not migration of implants had occurred. Patients' charts and MRI logbooks were reviewed to assess the heating effects based on patient-reported events during or immediately after the MRI. In addition, the scans were reviewed to evaluate peri-implant soft tissues to assess for changes that might indicate such effect. Artifact was judged to be present if it interfered with the evaluation of any portion of spinal anatomy of clinical interest.
Results: Ten patients underwent 19 FD roddings. The indications for MRI in these patients were basilar invagination, basilar impression, platybasia, and complex scoliosis. None of the implants have shown any migration, heating effect, or artifact.
Conclusions: FD rods are safe and pose no risk of migration, heating effects, or artifact when undergoing an MRI of the spine using a 1.5 T magnet. With the introduction of magnet strengths higher than 1.5 T, further testing should be performed. LEVEL OF EVIDENCE:: Level IV.

Research Title:	Hip Joint Osteochondroma: Systematic Review of the Literature and Report of Three Further Cases
Source:	Advances in Orthopedics Hindawi Publishing Corporation Volume 2014, Article ID 180254, page 1-10
ISSN:	2090-3464
Date and Year of Publication:	2014-MAY
Impact Factor:	0
Affiliated Department(s):	Orthopaedic Surgery
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ABSTRACT

The aim of this study is to systematically review the literature with regards to surgical treatment of patients with hip joint osteochondromas, and to report our surgical management of three paediatric patients who had femoral neck or acetabular osteochondromas in association with acetabular dysplasia. We performed a systematic review using PubMed and Embase databases for all studies that reported surgical treatments for patients with peritrochanteric or acetabular osteochondroma with or without acetabular dysplasia. We also retrospectively reviewed three patients who were diagnosed with a hip osteochondroma in association with actetabular dysplasia.These patients were known to have hereditary multiple exostoses (HME).The systematic review revealed 21 studies that met our inclusion criteria. All studies were case reports and retrospective in nature and failed to conclude a uniform treatment plan.The three reported cases illustrate successful excision of hip osteochondromas and treatment of acetabular dysplasia. Early excision of hip osteochondromas might prevent acetabular dysplasia in HME patients. Routine radiographic pelvic survey at the time of diagnosis of HME is recommended for early detection of hip osteochondromas and acetabular dysplasia in these children.

Research Title:	The effect of systemic administration of sclerostin antibody in a mouse model of distraction osteogenesis
Source:	Journal of Musculoskeletal and Neuronal Interactions Hylonome Volume 14, Issue 1, page 124-130
ISSN:	1108-7161
Date and Year of Publication:	2014-MAR
Impact Factor:	2.4
Affiliated Department(s):	Orthopaedic Surgery
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ABSTRACT

Distraction osteogenesis (DO) is a successful technique for bone lengthening, but one problem is the need to keep an external fixator in place until bone completely regenerates. We hypothesized that the systemic administration of sclerostin antibodies (SclAb) can accelerate bone regeneration in a mouse model of DO. A total of 110 mice were randomized to receive one intravenous injection per week of either Scl-Ab (100 mg per kg body weight) or saline after DO surgery. Mice were sacrificed on day 11, 17, 34 or 51 post-surgery. Microcomputed tomography showed that bone volume per tissue volume of the Scl-Ab treated group was significantly higher on day 11 (P=0.009). Histological examinations indicated that chondrocytes and fibrocartilage predominated in the Scl-Ab group at day 11. The radiographic score of bone healing was also higher in Scl-Ab treated animals at day 11. There was a trend towards higher ultimate force and work to failure in Scl-Ab treated groups on day 34 and 51 (P>0.05). These data suggest the potential utility of Scl-Ab to reduce the time during DO when an external fixator is required.

Research Title:	The potential roles of nanobiomaterials in distraction osteogenesis
Source:	Nanomedicine: Nanotechnology, Biology and Medicine Elsevier B.V. Volume 11, Issue 1, page 1-18
ISSN:	1549-9634
Date and Year of Publication:	2014-JUN
Impact Factor:	5.978
Affiliated Department(s):	Orthopaedic Surgery
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ABSTRACT

Distraction osteogenesis (DO) technique is used worldwide to treat many orthopedic conditions. Although successful, one limitation of this technique is the extended period of fixators until the bone is consolidated. The application of growth factors (GFs) is one promising approach to accelerate bone regeneration during DO. Despite promising in vivo results, its use is still limited in the clinic. This is secondary to inherent limitations of these GFs. Therefore, a development of delivery systems that allow sustained sequential release is necessary. Nanoparticles and nanocomposites have prevailing properties that can overcome the limitations of the current delivery systems. In addition, their use can overcome the current challenges associated with the insufficient mechanical properties of scaffolds and suboptimal osteogenic differentiation of transplanted cells in the distraction gap. We discuss the clinical implications, and potential early applications of the nanoparticles and nanocomposites for developing new treatments to accelerate bone regeneration in DO.

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Research Title:	Adverse testicular effects of Botox® in mature rats.
Source:	Toxicology and Applied Pharmacology Elsevier B.V. Volume 275, Issue 2, page 182-188
ISSN:	0041-008X
Date and Year of Publication:	2014-MAR
Impact Factor:	3.63
Affiliated Department(s):	Pathology, Urology
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ABSTRACT

Botox® injections are taking a consistently increasing place in urology. Intracremasteric injections, particularly, have been applied for cryptorchidism and painful testicular spasms. Studies outlining their safety for this use are, however, scanty. Thus, the present study aimed at evaluating possible testicular toxicity of Botox® injections and their effect on male fertility. Mature rats were given intracremasteric Botox® injections (10, 20 and 40 U/kg) three times in a two-week interval. Changes in body and testes weights were examined and gonadosomatic index compared to control group. Semen quality, sperm parameters, fructose, protein, cholesterol and triglycerides contents were assessed. Effects on normal testicular function were investigated by measuring testosterone levels and changes in enzyme activities (lactate dehydrogenase-X and acid phosphatase). To draw a complete picture, changes in oxidative and inflammatory states were examined, in addition to the extent of connective tissue deposition between seminiferous tubules. In an attempt to have more accurate information about possible spermatotoxic effects of Botox®, flowcytometric analysis and histopathological examination were carried out. Botox®-injected rats showed altered testicular physiology and function. Seminiferous tubules were separated by dense fibers, especially with the highest dose. Flowcytometric analysis showed a decrease in mature sperms and histopathology confirmed the findings. The oxidative state was, however, comparable to control group. This study is the first to show that intracremasteric injections of Botox® induce adverse testicular effects evidenced by inhibited spermatogenesis and initiation of histopathological changes. In conclusion, decreased fertility may be a serious problem Botox® injections could cause.

Research Title:	Association of single nucleotide polymorphisms in FOXE1 and pre-MIR146A with papillary thyroid carcinoma
Source:	BMC Genomics BioMed Central Volume 15, Supplement 2, page 68
ISSN:	1471-2164
Date and Year of Publication:	2014-APR
Impact Factor:	4.041
Affiliated Department(s):	Surgery, Pathology
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ABSTRACT

Background: Papillary thyroid carcinoma (PTC) is one of the most common cancer types in the Middle East and North African (MENA) region and more abundant than in many other world regions suggesting that genetic susceptibility factors for this malignancy are likely to vary between the populations studied. We assessed in a population from the MENA region the allele frequencies of two SNPs which may bear the capacity to confer risk for developing PTC. SNP rs2910164 is a sequence polymorphism in the precursor microRNA (mir)146a. The heterozygous C/G state of rs2910164 was found to be associated with a reduced amount of mir146a which in turn had an effect on the efficiency to inhibit target genes as CCDC6. SNP rs1867277 is located 283 bp upstream of the translational start site of the developmental gene encoding forkhead box E1 (FOXE1) and identified as an associated risk factors for a number of solid tumors including PTC.
Materials and methods: SNPs rs2910164 and rs1867277 were investigated in patients with PTC and volunteers without a thyroid disease (case and control group each, N=207-234) using PCR, including a multiplex PCR step on genomic DNA, to amplify each SNP region. PCR products were directly sequenced. For Hardy-Weinberg (HW) equilibrium testing the Online Encyclopedia for Genetic Epidemiology studies was used. Odds ratios (ORs) and 95% confidence intervals (CI) were calculated using the online VassarStats website for statistical computation and considered to be statistically significant for a P-value < 0.05.
Results: Both SNPs rs2910164 (mir146a) and rs1867277 (FOXE1) were in HW disequilibrium in the patient group (X2 = 8.33 and X2 = 8.29, respectively) but in equilibrium in the control group (X2 = 0.87 and X2 = 1.56, respectively). For rs2910164 a trend association with PTC was found for the heterozygous C/G state when compared to the combined C/C+G/G states (OR = 0.51, CI 0.51-1.1, P = 0.11). For rs1867277 the risk allele A was significantly associated with PTC in comparison to allele G (OR = 1.94, CI 1.48-2.53, P < 0.0001).
Conclusions: The HW disequilibrium of SNP rs1867277 in the PTC group and its significant association of risk allele A with PTC let us suggest that this SNP in the developmental FOXE1 gene may represent an additive risk factor for developing PTC in the investigated population.

Research Title:	Brain and bone metastasis from malignant thyroid carcinomas originating in western Saudi Arabia
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Affiliated Department(s):	Pathology
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ABSTRACT

Background: We have previously investigated the frequency of gene mutations in RET and HRAS affecting medullary thyroid carcinomas (MTCs) and gene mutations in BRAF, HRAS, KRAS, and NRAS affecting non-medullary thyroid carcinomas (non-MTCs). Non-MTCs include follicular TCs (FTCs), anaplastic TCs (ATCs), and papillary TCs (PTCs) and its histological variants. In this study we surveyed the frequency of metastasis to the brain or bone in our case series of MTCs and non-MTCs.

Materials and methods: We surveyed histopathological reports from two main hospitals in the Western region of Saudi Arabia for the presence of brain and/or bone metastasis in a case series of malignant TCs comprising 13 MTCs and 238 nonMTCs.

Results: Our survey identified a small number of malignant TCs affected with bone and/or brain metastasis. Out of 115 PTCs, two cases were reported to have a metastasis to the bone and one case had a concurrent metastasis to the brain and to the skull bone. One case with a metastasis to the bone revealed in the mutational screening an uncommon K601E mutation in the BRAF gene whereas a rare insertion in BRAF codon 599 (insT599T) was identified in the case with the metastases to the brain and skull bone. This latter mutation was confined to the tumor. Out of 42 FVPTCs (follicular variants of PTCs), two cases were reported to have a metastasis to the bone. One of the FVPTCs displayed a HRAS Q61K mutation.

In addition, one patient presenting with a micro PTC (tumor size ≤1 cm) had a brain metastasis originating from a breast carcinoma.

Conclusions: Our survey reveals that especially, metastases to the brain are infrequent events in malignant TCs which is in concordance with other surveys [1]. The association of rare BRAF mutations with brain and bone metastasis from TC requires further investigations.

Research Title:	Brief assessment of supine heart rate variability in normal weight, overweight, and obese females.
Source:	Annals of Noninvasive Electrocardiology Wiley Periodicals, Inc. Volume 19, Issue 3, page 241-246
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Impact Factor:	1.44
Affiliated Department(s):	Pathology
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ABSTRACT

Background: Little research has been conducted on the heart rate variability (HRV) parameters in late adolescent females. The present study aimed to assess HRV time and frequency domain parameters in overweight and obese late adolescent females. Also to assess any possible correlation between HRV parameters and obesity indices in that particular age group.

Subjects And Methods: Fifteen-minute period of standardized ECG recording was implemented to record HRV time and frequency parameters in 42 normotensive euglycemic female medical students aged (18-21 years); lean (n = 13), overweight (n = 13), and obese (n = 16). For the analysis of results, 2.5-minute data were used.

Results: Root mean squares of successive differences between adjacent RR intervals (rMSSD) and high-frequency (HF) power were significantly decreased in overweight and obese late adolescent females. Parameters reflecting sympathetic activity which include low-frequency (LF) power and LF/HF ratio showed significant increase in overweight group. Interestingly, LF power was significantly reduced in obese group while the LF/HF ratio was insignificantly different. No significant correlations were observed between HRV indices and parameters of total or visceral obesity in the study groups.

Conclusion: HRV indices showed sympathetic hyperactivity in overweight late adolescent females and diminished sympathetic response in matching obese group. Both overweight and obese females showed decreased protective vagal influence on the heart.

Research Title:	Chromophobe Renal Cell Carcinoma in Renal Allograft: Case Report
Source:	Life Science Journal Marsland Press Volume 11, Issue 7, page 9-14
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Affiliated Department(s):	Pathology
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ABSTRACT

There is a great increase risk of developing renal cell carcinoma (RCC) in post-transplanted patients, mainly attributed to the immunosuppression. The majority of these RCC are developing in the native kidneys rather than the allograft of the renal transplant recipients, and the most common histological variant is clear cell carcinoma. Chromophobe renal cell carcinoma is a rare subtype of renal epithelial carcinoma with distinctive histological and immunohistochemical features and associated with good prognosis. Chromophobe renal cell carcinoma occurrence in allograft kidney in renal transplant recipients is extremely uncommon. One case of chromophobe renal cell carcinoma has been reported in 13.5-years-old boy who is a living-related kidney transplant recipient. We reported an exceptionally rare case of chromophobe renal cell carcinoma in allograft kidney in 52-years-old women, 15 years post living-unrelated renal transplant along with chronic hepatitis C infection. The tumor was discovered incidentally during routine ultrasound evaluation. The tumor revealed the typical histological and immunohistochemical features of chromophobe renal cell carcinoma.

Research Title:	Clinicopathological characteristics of lupus nephritis in Western region of Saudi Arabia: An experience from two tertiary medical centres
Source:	Journal of Microscopy and Ultrastructure Elsevier B.V Volume 2, Issue 1, page 12-19
ISSN:	2213-879X
Date and Year of Publication:	2014-MAR
Impact Factor:	0
Affiliated Department(s):	Medicine, Pathology
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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.

Research Title:	Congenital Posterior Mediastinal Teratoma with Intraspinal Extension
Source:	Journal of Pediatric Oncology Pharma Publisher Volume 2, page 3-9
ISSN:	2309-3021
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Impact Factor:	0.873
Affiliated Department(s):	Surgery, Pathology
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ABSTRACT

Congenital teratoma is the commonest tumors of the nervous system, which are predominantly midline located. However, their spinal location is extremely rare. We present a case of a female twin newborn with huge right side mediastinal tumor presented afterbirth with a chest infection. She underwent complete surgical resection via thoracotomy. Histopathological examination revealed immature teratoma. She had complete respiratory recovery but presented three months later with progressive paraparesis due to intrapinal tumor. She underwent thoracic laminectomy and complete excision for what turned out histopathologically to be mature teratoma. She recovered well from surgery and received adjuvant chemotherapy over one year. Her 5-year follow up revealed a healthy child with no recurrence of the mediastinal or intraspinal teratoma on regular imaging surveillance. We report herein a rare congenital posterior mediastinal teratoma with intraspinal extension and discuss the clinical features, imaging studies, histopathological examination, and management.

Research Title:	Cutaneous Melanoma in 1-Year-Old Child: An Insight on Infantile Melanoma
Source:	American Journal of Dermatopathology Lippincott Williams & Wilkins Volume 36, Issue 11, page 908-914
ISSN:	1533-0311
Date and Year of Publication:	2014-NOV
Impact Factor:	1.426
Affiliated Department(s):	Pathology, Surgery
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ABSTRACT

In the past, malignant melanoma (MM) is a diagnosis of unheard in children, but nowadays MM is a very rare malignancy in children. Its diagnosis requires careful interpretation of the pathological diagnostic criteria with clinical correlation of the findings. In this study, the authors are presenting a pigmented lesion in a 12-month-old girl, which was present since her birth with increase in size and shape. The authors discussed the difficulty that confronted them in making a diagnosis of MM and the differential diagnosis.

Research Title:	Detection of rare single nucleotide variants affecting genes in the DNA repair pathways in hereditary breast cancer
Source:	BMC Genomics BioMed Central Ltd Volume 15, Supplement 2, page 20
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Affiliated Department(s):	Surgery, Pathology, Medicine
Author(s):	Shireen Hussein, Adnan Merdad, Jaudah Al-Maghrabi, Mamdooh A Gari, Fatma Al-Thubaiti, Ibtessam R Hussein, Adeel G Chaudhary, Adel M Abuzenadah, Hanaa Tashkandi, Shadi Al-Khayyat, Taha Kumosani, Mohammed H Al-Qahtani, Ashraf Dallol
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ABSTRACT

Background: Patients with hereditary breast cancer constitute a considerable fraction of overall breast cancer sufferers. The contribution of genetic factors to the development of breast cancer in the admixed and highly consanguineous population of the western region of Saudi Arabia is thought to be significant as the disease is early onset [1]. The current protocols of continuous clinical follow-up of relatives of such patients are costly and cause a burden on the usually over-stretched medical resources. Discovering the significant contribution of BRCA1/2 mutations to breast cancer susceptibility allowed for the design of genetic tests that allows the medical practitioner to focus the care for those who need it most. However, BRCA1/2 mutations do not account for all breast cancer susceptibility genes and there are other genetic factors, known and unknown that may play a role in the development of such disease.

Materials and methods: We have performed whole-exome sequencing of seven cases of breast cancer patients with positive family history of the disease using the Agilent SureSelect™ Whole-Exome Enrichment kit and sequencing on the SOLiD™ platform.

Results: In addition to identifying two rare or novel mutations in BRCA2, we have identified several coding single nucleotide variations that affect genes controlling DNA repair in the BRCA1/2 pathway. The disruption of these pathways is very likely to contribute to breast cancer susceptibility.

Conclusions: Our findings suggest that whole exome sequencing is a powerful tool for identifying mutations associated with hereditary breast cancer that might be missed by using other classical genetic testing strategies. Moreover, this will guide the treatment of breast cancer patients who have failed to respond to first-line therapies, thus, it is a great leap towards applying personalized medicine in Saudi Arabia.

Research Title:	Frequent microdeletions in conventional papillary thyroid carcinoma detected by high-density oligonucleotide microarrays
Source:	BMC Genomics BioMed Central Ltd Volume 15, Supplement 2, page 62
ISSN:	1471-2164
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Impact Factor:	4.041
Affiliated Department(s):	Pathology
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ABSTRACT

Background: The valine to glutamate substitution at codon 600 in exon 15 of the BRAF gene (V600E) is the major driver mutation in papillary thyroid carcinomas (PTCs). Contribution of genomic gains and losses to onset and progression of PTC is far less known. We assessed genomic imbalances in PTCs by utilizing high-density oligonucleotide arrays.
Materials and methods: We used SurePrint G3 human CGH+SNP, 2×400K, microarrays to assess gains and losses in 47 PTCs in comparison to male and female human reference DNA. Interpretation of results was accomplished by using the HG19 version of the design file and the default analysis method of the Cytogenomics 2.7 research software. To compare BRAF mutant (BRAFmut) PTCs with BRAF wild type (BRAFwt) PTCs, the BRAF mutational status was established in 42 cases by direct sequencing the mutational hotspot region in exon 15.
Results: Whole chromosome/chromosome arm imbalances (e.g., -1p, -16q, -19) were only infrequently observed and one case was in the triploid stage. The predominant forms of imbalances were microdeletions that were in general more pronounced in both BRAFmut PTCs (N=27) and BRAFwt PTCs (N=15). These microdeletions, observed in ∽40% or more of the cases, include known and yet unknown thyroid cancer susceptibility genes, for example TAF12 & RCC1 (1p, 28.8~28.9 Mb) YY1AP1 (1q, 155.7 Mb), PRKCI (2q, 169.9 Mb), GSTM2P1 & RPF2 & GTF3C6 & CDK19 (8q, 110.9~111.1 Mb), RASSF3 & TBK1 (12q, 64,5~65.2 Mb), MDM2 & NUP107 & RAP1B (12q, ~69.0~69.2 Mb), BRCA1 & NAGLU (17q, 40.6~41.1 Mb), and CDH2 (18q, ~25.5 Mb). Microamplifications, observed in ∽30% or more of the cases, include genes as USH2A (1q, 216.5 Mb), CTNNA2 (2p, 79.9 Mb), CLSTN2 (2q, 139.9 Mb), MSR1 (8p, 16.0 Mb), and CASP12 (11q, 104.6 Mb). Number and extent of regions with SNP homozygosity varied widely between the cases.
Conclusions: This is one of the first studies using high-density oligonucleotide arrays to survey chromosomal imbalances in conventional BRAFmut and BRAFwt PTCs enabling to detect microdeletions/microamplifications (usually < 1 Mb) affecting known or yet unknown genes related to thyroid cancer. Further studies have to reveal how the affected genes contribute to onset and/or progression of PTC besides the known implication of the BRAF gain-of-function mutation in this disease.

Research Title:	Gastrointestinal Basidiobolomycosis, the experience of a tertiary care hospital in the western region of Saudi Arabia and a report of four new cases
Source:	Life Science Journal Marsland Press Volume 11, Issue 1, page 344-352
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Impact Factor:	2.296
Affiliated Department(s):	Pathology
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ABSTRACT

Background: Basidiobolomycosis is a rare disease that is caused by the fungus Basidiobolus ranarum (B. ranarum). Gastrointestinal Basidiobolomycosis (GIB) is very rare and, not uncommonly, overlooked or misdiagnosed as other lesions with inevitable adverse consequences to the patient. The aim of this study is to review the clinicopathological pattern of GIB in a tertiary medical centre in the western region of Saudi Arabia and compare our findings with previously reported cases in an attempt to increase awareness of this entity.
Methods: We retrospectively analyzed the pathological and clinical data of patients diagnosed with GIB in King Faisal specialist hospital and research center, Jeddah (KFSHRCJ) during a period from January 2001 to June 2012.
Results: Four cases were identified. The age range was 20-63 years. There were 2 males and 2 females patients. Three patients presented with abdominal pain and one presented with bleeding per rectum. All the patients were found to have abdominal masses on radiological investigation and had significant peripheral blood eosinophilia. All the lesions showed similar histological features that included acute and chronic granulomatous inflammation with a large number of eosinophils associated with the presence of the characteristic fungal hyphae. Three of the patients were treated with antifungal therapy in addition to surgery and showed excellent response.
Conclusion: The presence of intra-abdominal mass lesions accompanied by peripheral blood eosinophilia in an immune-competent patient should raise the suspicion of this infection clinically. The presence of granulomata, necrosis, and increased number of eosinophils in tissue sections should strongly raise the suspicion of this type of infection pathologically and every attempt should be made to identify the fungal hyphae microscopically. It is important for clinicians and pathologists to be aware with this entity to avoid misdiagnosis of this treatable disease.

Research Title:	High Expression of Matrix Metalloproteinases (MMPs); MMP-2 and MMP-9 Predicts Poor Outcome in Colorectal Carcinoma
Source:	Modern Pathology Nature Publishing Group Volume 27, Issue 1, page 162-163
ISSN:	1530-0285
Date and Year of Publication:	2014-FEB
Impact Factor:	6.364
Affiliated Department(s):	Clinical Biochemistry, Medicine, Pathology
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ABSTRACT/POSTER

The current staging system along the conventional prognostic factors is the gold standard for prognosis of colorectal cancer (CRC). In spite of that, it is unable to distinguish those patients who might carry high risk of recurrence and poor outcome, which highlights the need for new molecular factors that could stratify patients into different risk categories. This study is aimed to assess the expression of selected group of matrix metalloproteinases (MMPs); MMP-2, MM-7 and MMP-9 in a subset of primary CRC and determine its relation to different clinico-pathological factors and survival. Paraffin blocks of 127 CRC patients were retrieved. Antigen expressions of MMP-2 and -9 were analyzed by immunohistochemistry (IHC) and their cytoplasmic and stromal staining was evaluated. The results showed that overexpressions of both MMP-2 and MMP-9 were a significant sign of poor outcome and recurrence as evaluated by univariate Kaplan–Meier for disease-free survival (DFS) (p= 0.012, p= 0.001) and disease-specific survival (DSS) (p= 0.012, p= 0.038). In multivariate survival (Cox) analysis, MMP-2 and -9 also were significant independent predictors of DFS (p= 0.006, p=0.018) and DSS as well (p= 0.004, p=0.049). These results implicate the usefulness of MMP-2 and -9 expressions in predicting outcome of patients with CRC.

Research Title:	High-Density Expression Profiling in Follicular Variant of Papillary Thyroid Carcinomas and Follicular Adenomas of the Thyroid
Source:	Modern Pathology Nature Publishing Group Volume 27, Issue 1, page 151-151
ISSN:	530-0285
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Impact Factor:	6.364
Affiliated Department(s):	Pathology
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ABSTRACT/POSTER

Background: Differential diagnosis of follicular variant of papillary thyroid carcinoma (FVPTC) versus follicular adenoma (FA) remains challenging. RNA expression profiling is an established method to identify diagnostically relevant biomarkers.
Design: Affymetrix HuGene 1.0 ST arrays were used to generate whole transcript expression profiles in 6 FVPTCs, 7 FAs and 9 normal thyroid tissue samples. A p-value with a false discovery rate (FDR) 0.05 and a fold change > 2 was used as a threshold of significance for differential expression. Spearman's correlation as a similarity matrix was utilized for unsupervised two dimensional hierarchical clustering. Mutational status of BRAF in FVPTCs was established by direct sequencing the hotspot region of exon 15.
Results: We identified nearly 70 transcripts that were significantly differentially expressed between FVPTCs and FAs. Amongst the most significantly upregulated genes in FVPTCs were UDP-N-acetyl-alpha-D-galactosamine:polypeptide N-acetylgalactosaminyltransferase 7 (GALNT7), neuronal cell adhesion molecule (NRCAM), pleckstrin and Sec7 domain containing 3 (PSD3), retinoid X receptor, gamma (RXRG), and neurotrophic tyrosine kinase, receptor, type 3 (NTRK3). The most significantly downregulated genes in FVPTCs include DEP domain containing 6 (DEPDC6), glutamate receptor interacting protein 1 (GRIP1), G protein-coupled receptor 155 (GPR155), interaction protein for cytohesin exchange factors 1 (IPCEF1), and dual-specificity tyrosine-(Y)-phosphorylation regulated kinase 4 (DYRK4).
Conclusion: This is one of the first studies using high-density expression arrays to compare expression profiles between FAs and FVPTCs. Some of the newly identified and differentially expressed genes shall be assessed further for their ability to serve as diagnostic biomarkers and may help to better distinguish FAs from FVPTCs.

Research Title:	High-density expression profiling of renal cell carcinomas from Saudi Arabia: a preliminary study
Source:	BMC Genomics BioMed Central Ltd Volume 15, Supplement 2, page 36
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Impact Factor:	4.041
Affiliated Department(s):	Urology, Pathology
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ABSTRACT

Background: Renal cell carcinoma (RCC) is the most common malignancy of the adult kidney, comprising 3-4% of all human cancers, ranked sixth-leading cause of cancer death and incidences are increasing worldwide. If detected in early stages, it is potentially curable by surgical resection; however, only a fraction of metastatic RCC is responsive to treatment. The molecular events leading to disease onset and progression are not well understood and needs investigations.

Materials and methods: We performed whole gene expression profiling of RCC (n=4) and normal renal tissue (n=5) using Affymetrix HuGene 1.0 ST arrays. We retrieved selected expression data from NCBI's "Gene Expression Omnibus" database (GSE781, GSE7023, and GSE6344) for comparative analysis. Ingenuity Pathway Analysis (Ingenuity System), a genome-wide biological pathway analysis package, was used to find significantly molecular networks and pathways associated with kidney cancer.

Results: We identified 1515 differentially expressed significant genes, 967 up and 548 down regulated, with cutoff false discovery rate ≤ 0.05 and a fold change > 2; comparing RCC with normal kidney tissues. The most significantly upregulated genes were topoisomerase DNA II binding protein 1 (TOPBP1), tryptophan 2,3-dioxygenase (TDO2), forkhead box M1 (FOXM1), ankyrin repeat domain 13A (ANKRD13A), and potassium inwardly-rectifying channel JI (KCNJ1) whereas downregulated genes were nephrosis2 (NPHS2), uromodulin (UMOD), calbindin1 (CALB1), solute carrier family12 (SLC12A3), plasminogen (PLG). We also found 781 genes to be common, comparing our data with retrieved data. IPA based canonical pathway analysis shown Atherosclerosis signaling, LXR/RXR activation, GM-CSF signaling, Notch Signaling, Leukocyte Extravasation Signaling pathway to be significantly associated with our kidney cancer cases and this finding is in accordance with other finding.

Conclusions: Present study provides an initial overview of differentially expressed genes in kidney cancer of Saudi Arabian patients using whole transcript, high-density expression arrays. Comparative analysis suggest that even though data set is small but has a potential source for novel biomarker for kidney cancer and may offer unique biological insights into these tumors. In conclusion, it is important to study gene expression profiles comprehensively to extract more sophisticated biological interpretations.

Research Title:	High fibroblast growth factor 19 (FGF19) expression predicts worse prognosis in invasive ductal carcinoma of breast
Source:	Tumor Biology Springer Volume 35, Issue 3, page 2817-2824
ISSN:	1423-0380
Date and Year of Publication:	2014-MAR
Impact Factor:	2.84
Affiliated Department(s):	Pathology, Surgery
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ABSTRACT

Metabolic diseases like diabetes and obesity are major risk factors for breast cancer. Aberrant expression of metabolic effectors such as fibroblast growth factor 19 (FGF19) could be therefore associated with the disease. The expression of FGF19 was examined in 193 archival breast tumor samples by immunohistochemistry and evaluated semi-quantitatively by determining the staining index and correlating it with clinicopathological parameters using Fisher's exact test. The correlation between FGF19 expression and 5-year disease-specific survival rate was determined using the univariate Kaplan-Meier analysis. The prognostic value of FGF19 expression was evaluated using the multivariate Cox regression analysis. Of the 193 tumors analyzed, 40 % were classified with low FGF19 expression, whereas 60 % were categorized as tumors with high FGF19 expression. There was a highly significant correlation between high FGF19 expression and patients' age ($p = 0.008$) as well as 5-year disease-specific survival ($p = 0.001$). However, FGF19 expression did not show any significant correlations with other clinicopathological parameters, including hormonal status, tumor grade, tumor size, or lymph node status. Univariate Kaplan-Meier log rank analysis showed that patients with high FGF19 expression exhibited a significantly shorter disease-specific 5-year survival ($p = 0.007$). This effect was exacerbated by lymph node metastasis ($p = 0.001$), negative estrogen receptor (ER) status ($p = 0.002$), or old age ($p = 0.013$). Multivariate analysis showed that high FGF19 expression could be an independent prognostic marker of disease-specific survival in breast cancer patients ($p = 0.030$). Quantification of FGF19 expression appears to provide valuable prognostic information in breast cancer, particularly in older patients with lymph node metastasis and negative ER status.

Research Title:	Identification of frequent MTNR1B methylation in breast cancer following the application of high-throughput methylome analysis
Source:	BMC Genomics BioMed Central Ltd Volume 15, Supplement 2, page 44
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Affiliated Department(s):	Pathology, Surgery
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ABSTRACT

Background: Breast cancer is the main cancer type affecting women in the Kingdom of Saudi Arabia. The relatively young age of onset in this population could be explained by the interplay between common genetic susceptibility background substantiated by increased consanguinity and epigenetic aberrations caused by the shift in life style experienced in this region. Genomic screening of breast cancer patients is beneficial in identifying underlying variants that could explain increased susceptibility to breast cancer. However, it is important to understand the epigenetic aberrations associated with breast cancer in order to shed light on its etiology and identify possible treatments. To this end, we have performed MBD-Seq on a cohort of breast cancer samples that led to the identification of tumor-specific methylation of the MTNR1B promoter in a significant number of breast cancer cases from Saudi Arabia.
Materials and methods: Methyl binding domain-sequencing (MBD-Seq) was applied on DNA extracted from surgically-resected breast tumors using the MethylMiner™ kit from Invitrogen followed by fragment identification using next generation sequencing on the SOLiD platform (Applied Biosystems). Determination of methylation frequency and correlation with clinicopathological parameters was performed using the MethyLight assay on DNA extracted from FFPE tissues. Fisher's exact test and univariant Kaplan-Meier survival analysis were applied where $p<0.05$ considered statistically significant.
Results: MTNR1B methylation frequency in breast cancer is 35% (n=157). MTNR1B methylation was largely limited to the IDC, ILC and DCIS subtypes. Furthermore, MTNR1B methylation is significantly associated with histological grade I of breast cancer (p=0.019, n=128). The association of MTNR1B methylation and disease-free or specific survival is investigated.
Conclusions: Finding significant levels of methylation of a key circadian clock gene as the MTNR1B in a tumor-specific fashion may provide an intriguing evidence to the role of environmental factors (day-night cycles) and breast cancer development.

Research Title:	Immunomodulatory Effect of Red Onion (Allium cepa Linn) Scale Extract on Experimentally Induced Atypical Prostatic Hyperplasia in Wistar Rats.
Source:	Mediators of Inflammation Hindawi Publishing Corporation Volume 2014, Issue 2014, page 1-13
ISSN:	1466-1861
Date and Year of Publication:	2014-APR
Impact Factor:	2.417
Affiliated Department(s):	Pathology, Urology
Author(s):	Elberry AA, Mufti S, Al-Maghrabi J, Abdel Sattar E, Ghareib SA, Mosli HA, Gabr SA
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ABSTRACT

Red onion scales (ROS) contain large amounts of flavonoids that are responsible for the reported antioxidant activity, immune enhancement, and anticancer property. Atypical prostatic hyperplasia (APH) was induced in adult castrated Wistar rats by both s.c. injection of testosterone (0.5 mg/rat/day) and by smearing citral on shaved skin once every 3 days for 30 days. Saw palmetto (100 mg/kg) as a positive control and ROS suspension at doses of 75, 150, and 300 mg/kg/day were given orally every day for 30 days. All medications were started 7 days after castration and along with testosterone and citral. The HPLC profile of ROS methanolic extract displayed two major peaks identified as quercetin and quercetin-4'- β -O-D-glucoside. Histopathological examination of APH-induced prostatic rats revealed evidence of hyperplasia and inflammation with cellular proliferation and reduced apoptosis Immunohistochemistry showed increased tissue expressions of IL-6, IL-8, TNF- α , IGF-1, and clusterin, while TGF- β 1 was decreased, which correlates with the presence of inflammation. Both saw palmetto and RO scale treatment have ameliorated these changes. These ameliorative effects were more evident in RO scale groups and were dose dependent. In conclusion, methanolic extract of ROS showed a protective effect against APH induced rats that may be attributed to potential anti-inflammatory and immunomodulatory effects.

Research Title:	Impact of S100A8 Expression on Kidney Cancer Progression and Molecular Docking Studies for Kidney Cancer Therapeutics
Source:	Anticancer Research Int Inst Anticancer Research Volume 34, Issue 4, page 1873-1884
ISSN:	1791-7530
Date and Year of Publication:	2014-APR
Impact Factor:	1.872
Affiliated Department(s):	Pathology, Urology
Author(s):	Zeenat Mirza, Hans-Juergen Schulten, Hasan Ma Farsi, Jaudah A Al-Maghrabi, Mamdooh A Gari, Adeel Ga Chaudhary, Adel M Abuzenadah, Mohammed H Al-Qahtani, Sajjad Karim
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ABSTRACT

Background/Aim: The proinflammatory protein S100A8, which is expressed in myeloid cells under physiological conditions, is strongly expressed in human cancer tissues. Its role in tumor cell differentiation and tumor progression is largely unclear and virtually unstudied in kidney cancer. In the present study, we investigated whether S100A8 could be a potential anticancer drug target and therapeutic biomarker for kidney cancer, and the underlying molecular mechanisms by exploiting its interaction profile with drugs.

Materials and Methods: Microarray-based transcriptomics experiments using Affymetrix HuGene 1.0 ST arrays were applied to renal cell carcinoma specimens from Saudi patients for identification of significant genes associated with kidney cancer. In addition, we retrieved selected expression data from the National Center for Biotechnology Information Gene Expression Omnibus database for comparative analysis and confirmation of S100A8 expression. Ingenuity Pathway Analysis (IPA) was used to elucidate significant molecular networks and pathways associated with kidney cancer. The probable polar and non-polar interactions of possible S100A8 inhibitors (aspirin, celecoxib, dexamethasone and diclofenac) were examined by performing molecular docking and binding free energy calculations. Detailed analysis of bound structures and their binding free energies was carried out for S100A8, its known partner (S100A9), and S100A8 S100A9 complex (calprotectin). **Results:** In our microarray experiments, we identified 1,335 significantly differentially expressed genes, including S100A8, in kidney cancer using a cut-off of $p<0.05$ and fold-change of 2. Functional analysis of kidney cancer-associated genes showed overexpression of genes involved in cell-cycle progression, DNA repair, cell death, tumor morphology and tissue development. Pathway analysis showed significant disruption of pathways of atherosclerosis signaling, liver X receptor/retinoid X receptor (LXR/RXR) activation, notch signaling, and interleukin-12 (IL-12) signaling. We identified S100A8 as a prospective biomarker for kidney cancer and in silico analysis showed that aspirin, celecoxib, dexamethasone and diclofenac binds to S100A8 and may inhibit downstream signaling in kidney cancer.

Conclusion: The present study provides an initial overview of differentially expressed genes in kidney cancer of Saudi Arabian patients using whole-transcript, high-density expression arrays. Our analysis suggests distinct transcriptomic signatures, with significantly high levels of S100A8, and underlying molecular mechanisms contributing to kidney cancer progression. Our docking-based findings shed insight into S100A8 protein as an attractive anticancer target for therapeutic intervention in kidney cancer. To our knowledge, this is the first structure-based docking study for the selected protein targets using the chosen ligands.

Research Title:	Isolated Cerebral Aspergillosis in Immunocompetent Patients
Source:	World Neurosurgery Elsevier Volume 82, Issue 1, page 325-333
ISSN:	1878-8750
Date and Year of Publication:	2014-JUL
Impact Factor:	2.417
Affiliated Department(s):	Medicine, Pathology
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ABSTRACT

Background: Isolated cerebral aspergillosis (ICA) traditionally has been associated with immunocompromised patients with dismal outcomes. Cases of ICA in immunocompetent patients are very rare and poorly described. We describe our experience of 5 immunocompetent patients with ICA and compare our experience with the literature.
Methods: During the period 1996–2011, ICA was diagnosed in 5 otherwise healthy, immunocompetent patients at our institution. Medical records of the patients were reviewed with standardized data collection, including demographics, clinical presentation, radiologic features, histopathology results, treatment, and outcome.
Results: All 5 patients had radiologic evidence of cerebral disease, purely parenchymal in 4 patients and dural-based in 1 patient. Radiology showed the paranasal sinuses and lungs to be clear in all patients. All patients underwent resection with antifungal therapy. All patients were female with a mean age of 23 years (range, 13–36 years). Headache (n = 5) and seizures (n = 4) were the primary presenting manifestations. Brain magnetic resonance imaging was performed in 5 patients preoperatively, and computed tomography was performed preoperatively in 4 patients. The diagnosis was made by histopathology (n = 5) and fungal cultures (n = 3) of the excised mass. Surgical resection was performed in all patients followed by treatment with amphotericin B for 2–4 weeks then oral voriconazole for 6 months. Overall mortality was 20% (n = 1). Average follow-up period was 32 months (range, 12–51 months) with interval brain magnetic resonance imaging to document eradication.
Conclusions: ICA in otherwise healthy immunocompetent hosts seems to have a more favorable prognosis than what is reported for immunocompromised hosts.

Research Title:	Malignant Trigeminal Nerve Sheath Tumor and Anaplastic Astrocytoma Collision Tumor with High Proliferative Activityand Tumor Suppressor P53 Expression
Source:	Case Reports in Pathology Hindawi Publishing Corporation Volume 2014 page 1-6
ISSN:	2090-6781
Date and Year of Publication:	2014-OCT
Impact Factor:	0
Affiliated Department(s):	Pathology, Surgery
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ABSTRACT

Background: The synchronous development of two primary brain tumors of distinct cell of origin in close proximity or in contact with each other is extremely rare. We present the first case of collision tumor with two histological distinct tumors.
Case Presentation: A 54-year-old woman presented with progressive atypical left facial pain and numbness for 8 months. MRI of the brain showed left middle cranial fossa heterogeneous mass extending into the infratemporal fossa. At surgery, a distinct but intermingled intra- and extradural tumor was demonstrated which was completely removed through left orbitozygomatic-temporal craniotomy. Histopathological examination showed that the tumor had two distinct components: malignant nerve sheath tumor of the trigeminal nerve and temporal lobe anaplastic astrocytoma. Proliferative activity and expressed tumor protein 53 (TP53) gene mutations were demonstrated in both tumors.
Conclusions: We describe the first case of malignant trigeminal nerve sheath tumor (MTNST) and anaplastic astrocytoma in collision and discuss the possible hypothesis of this rare occurrence. We propose that MTNST, with TP53 mutation, have participated in the formation of anaplastic astrocytoma, or vice versa.

Research Title:	Metaplastic carcinoma of the breast: an immunohistochemical study
Source:	Diagnostic Pathology Biomed Central Ltd Volume 9, Issue 1, page 139
ISSN:	1746-1596
Date and Year of Publication:	2014-JUL
Impact Factor:	2.411
Affiliated Department(s):	Pathology, Surgery
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ABSTRACT

Background: Metaplastic breast carcinoma is a rare entity of breast cancer expressing epithelial and/or mesenchymal tissue within the same tumor. The aim of this study is to evaluate the clinicopathological features of metaplastic breast carcinoma and to confirm the triple negative, basal-like and/or luminal phenotype of this type of tumor by using immunohistochemical staining.

Methods: Seven cases of MBC were evaluated for clinico-pathological features including follow up data. Cases were studied immunohistochemically by CK-Pan, Vimentin, ER, PR, HER2, basal markers (CK5/6, p63, EGFR, SMA and S-100), luminal cytokeratins (CK8, CK18 and CK19), markers for syncytial cells (beta-HCG and PLAP), as well as prognostic markers (p53, ki-67 and calretinin).

Results: The mean age of the patients was 36 years. Three cases showed choriocarcinomatous features. All of our cases were negative for ER, PR and HER2. Six out of the 7 cases showed basal-like differentiation by demonstrating positivity with at least one of the basal/myoepithelial markers. Also 6 out of the 7 cases expressed luminal type cytokeratins (CK8, CK18 and/or CK19). P53 was positive in 3 cases, ki-67 was strongly expressed in only one case, while calretinin was expressed in 6 cases.

Conclusion: Metaplastic breast carcinoma presents in our population at a younger age group than other international studies. All cases are categorized immunohistochemically under the triple negative group of breast cancer and 86% of them exhibited basal-like and luminal phenotype. Majority of cases developed local recurrence and distant metastasis in a relatively short period of time.

Research Title:	Molecular characterization and identification of predictors of disease outcome in Saudi colorectal carcinoma
Source:	BMC Genomics BioMed Central Ltd Volume 15, Supplement 2, page 1
ISSN:	1471-2164
Date and Year of Publication:	2014-APR
Impact Factor:	4.041
Affiliated Department(s):	Pathology, Medicine, Surgery
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ABSTRACT

Colorectal Carcinoma (CRC) is a heterogeneous disease with different molecular characteristics associated with the sites from which, the tumours originate. Such heterogeneity is compounded by the multitude of genetic and epigenetic variations acting as passengers or drivers of the tumour. Majority of CRC develops via chromosomal instability (CIN) pathway. CIN is often exacerbated by inactivation of the Wnt signalling pathway "master regulator" APC gene, activating mutations of KRAS or BRAF oncogenes, or deletions of the 18q, and 17p chromosomal regions with deleterious effects on the tumour suppressor genes TP53 and DCC. Defective Mismatch Repair (MMR) pathway results in a subtler form of genomic instability, namely Microsatellite Instability (MSI). High levels of MSI (or MSI-H) in sporadic CRC are usually caused by hypermethylation of the MLH1 promoter. In terms of methylation, the CpG island methylator phenotype (CIMP) pathway is the second most common pathway in sporadic CRC. CIMP-positive (CIMPp) CRC tumours are usually associated with the proximal colon of older females. CIMPp CRC tumours have better prognosis if the tumours are also MSI-H. However, CIMPp CRC tumours that are Microsatellite Stable (MSS) have poor clinical outcome. To gain insight into the molecular mechanisms underpinning CRC in Saudi Arabian patients, we profiled the DNA methylation frequency of key genes (MLH1, MSH2, RASSF1A, SLIT2, HIC1, MGMT, SFRP1, MYOD1, APC, CDKN2A, and other five CIMP markers) in 120 sporadic CRC cases. CRC tumours originating from the rectum, left, and right colons are represented in this cohort. Expression patterns of different proteins playing important role in CRC carcinogenesis also studied by using Immunohistochemistry (IHC) technique and their impact as CRC prognosticators was evaluated.

Research Title:	Nodular goiter and hyperplastic lesion of the thyroid share common deregulated expression profiles
Source:	BMC Genomics BioMed Central Ltd Volume 15, Supplement 2, page 70
ISSN:	1471-2164
Date and Year of Publication:	2014-APR
Impact Factor:	4.041
Affiliated Department(s):	Pathology, Surgery
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POSTER PRESENTATION / ABSTRACT

Background: Proliferative thyroid lesions including nodular goiter and hyperplastic lesion are very common in the Middle East and North African (MENA) region . Hyperplastic lesions are also regarded as a subcategory of goiter. High-density expression profiles in these benign thyroid lesions are not surveyed in detail . In an effort to establish gene expression profiles that distinguish both lesions from each other and from normal thyroid (TN) tissue, we employed state-of-the-art oligonucleotide microarray technology.
Materials and methods: Whole transcript expression profiles were generated in 17 goiters, 14 hyperplastic lesions and 7 TN samples utilizing Affymetrix HuGene 1.0 ST arrays. We used the default analysis method for generating a threshold of significance for differential expression (p-value with a false discovery rate ≤ 0.05 and a fold change > 2). Partek Genomics Suite and Ingenuity Pathway Analysis software packages were utilized to interpret data sets.
Results: Expression profiles of goiters and hyperplastic lesions were highly related and no transcripts were differentially expressed between these two thyroid lesions under the given statistical threshold values. However, more than 10000 genes were differentially expressed between goiters, as well as hyperplastic lesions, and TN samples. The most differentially expressed transcripts were in fact downregulated in both thyroid lesions in comparison to TN samples and include genes like olfactory receptor, family 6, subfamily N (OR6N2), glial cells missing homolog 1, Drosophila (GCM1), family with sequence similarity 138, member B (FAM138B), prostate-specific P704P mRNA (P704P), and olfactory receptor, family 5, subfamily H, member 14 (OR5H14). The most upregulated transcripts in goiters and hyperplastic lesions vs TN samples include genes as cytochrome c oxidase assembly protein COX15 homolog (COX15), dyskeratosis congenita 1, dyskerin (DKC1), and DnaJ (Hsp40) homolog, subfamily A, member 2 (DNAJA2). Networks which were most deregulated in goiter and hyperplastic lesion in comparison to TN tissue share similar functions although certain pathways seem to be differentially affected in both thyroid lesions.
Conclusions: Our study indicates that goiter and hyperplastic lesion share common deregulated expression profiles in comparison to TN tissue. As a certain number of goiters and hyperplastic lesions bear the capacity to develop to thyroid neoplasms, knowledge of deregulated genes in these lesions may help to identify patients which are at elevated risk for developing thyroid carcinoma. Further studies have to reveal which expression signatures in these benign thyroid lesions are in common with malignant cases.

Research Title:	Non-diethylstilbestrol-associated primary clear cell carcinoma of the vagina: two case reports with immunohistochemical studies and literature review.
Source:	Iranian Journal of Medical Sciences Shiraz University Medical School Volume 39, Issue 3, page 298-303
ISSN:	1735-3688
Date and Year of Publication:	2014-MAY
Impact Factor:	0
Affiliated Department(s):	Pathology
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ABSTRACT

Primary clear cell adenocarcinomas most commonly involve the genitourinary system, including the vagina. Previously, primary clear cell adenocarcinomas of the vagina have been discussed within the context of prenatal exposure to diethylstilbestrol. Due to its widely proven role in the development of this carcinoma, administration of diethylstilbestrol is prohibited. We present two cases of non-diethylstilbestrol-associated primary clear cell adenocarcinoma of the vagina from the archives of the Anatomical Pathology Department at King Abdulaziz University in order to improve our understanding of its biological behavior. Our findings suggest that primary clear cell adenocarcinoma of the vagina may be unrelated to diethylstilbestrol exposure and that non-diethylstilbestrol-associated primary clear cell adenocarcinoma of the vagina, when present at a younger age, may have a worse prognosis.

Research Title:	Overexpression of cyclooxygenase-2 and transforming growth factor-beta 1 is an independent predictor of poor virological response to interferon therapy in chronic HCV genotype 4 patients.
Source:	The Saudi Journal of Gastroenterology Medknow Volume 20, Issue 1, Page 59-65
ISSN:	1998-4049
Date and Year of Publication:	2014-FEB
Impact Factor:	1.221
Affiliated Department(s):	Pathology
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ABSTRACT

Background/Aims: COX-2 and TGF-β1 are overexpressed in hepatitis C virus (HCV) infection and are related to hepatitis pathogenesis and hepatic fibrosis. The current study investigated the relationship between pretreatment COX-2 and TGF-β1 hepatic expression in HCV genotype 4 and the virological response to interferon therapy.
Patients And Methods: Liver biopsies of 55 patients with HCV infection genotype 4 were selected together with 10 liver biopsies as control. The patients' clinicopathological data were collected. Immunohistochemistry was done using anti-COX-2 and anti-TGF-β1 antibodies. Statistical tests were used to determine the association between both COX-2 and TGF-β1 expression in relation to clinicopathological parameters and response to interferon therapy.
Results: COX-2 was upregulated especially in nonresponders and was an independent predictor of poor virological response. However, COX-2 showed no association with other clinicopathological features. TGF-β1 was upregulated and associated with nonresponders, histological activity, and fibrosis stage. There was no association between TGF-β1 and other clinicopathological features. There was an association between COX-2 and TGF-β1 immunoexpression.
Conclusion: Overexpression of COX-2 and TGF-β1 is an independent predictor for poor outcome of interferon and ribavirin therapy and these might be useful markers for the response to treatment. Both molecules are associated together; however, their role during hepatitis treatment has to be clarified.

Research Title:	Prognostic significance of fibroblast growth factor 19 (FGF19) expression in breast invasive ductal carcinoma
Source:	BMC Genomics BioMed Central Ltd Volume 15, Supplement 2, page 35
ISSN:	1471-2164
Date and Year of Publication:	2014-APR
Impact Factor:	4.041
Affiliated Department(s):	Pathology, Surgery
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ABSTRACT

Background: Several studies have shown that both FGF19 mRNA and protein are widely distributed in human tissues where they play an important role in cell proliferation, differentiation and motility (1-3). As part of our systematic search for prognostic markers in breast cancer (BC), the present study was conducted to assess the prognostic value of FGF19 in patients with BC.

Materials and methods: Archival FFPE tumor samples were analyzed using immunohistochemistry (IHC) for monoclonal anti-FGF19 (W12) antibody in 193 patients with BC. IHC analysis was done using the automatic system (Bench-Mark XT; Ventana Medical Systems, Inc. Tucson, AZ, USA). Patients were diagnosed and treated at the Departments of Pathology, Surgery and Oncology, King Abdulaziz University Hospital, Saudi Arabia and the National Oncology Institute, Sabratha, Libya during years 2000-2008.

Results: The expression pattern of FGF19 was predominantly cytoplasmic in the tumor area. Of the 193 tumors, 40% were considered low FGF19 expression, whereas 60% were considered high FGF19 expression. Interestingly, in lymph node positive patients, there was highly significant correlation between FGF19 expression and age of patients ($p=0.008$). Moreover, FGF19 expression showed significant correlation with tumor recurrence ($p=0.02$). Interestingly, in univariate (Kaplan-Meier) survival analysis, FGF19 expression was differentiating the DSS of lymph node positive tumors more significantly than the lymph node negative tumors ($p<0.0001$, log rank), in that tumors of lymph node positive patient with high FGF19 expression was more often, who eventually died of their disease (shorter disease specific survival (DSS)) as compared with those who were alive at the completion of the follow-up. On the other hand, PR status, tumor stage and grade had no significant relationship with FGF19 expression.

Conclusions: Quantification of FGF19 expression seems to provide valuable prognostic information in BC, particularly in selecting lymph node positive patients who are at high risk for shorter DSS who might benefit from targeted therapy.

Research Title:	Prognostic significance of VEGFR1/Flt-1 immunoexpression in colorectal carcinoma
Source:	Tumor Biology Springer Volume 35, Issue 9, page 9045-9051
ISSN:	1423-0380
Date and Year of Publication:	2014-SEPT
Impact Factor:	2.84
Affiliated Department(s):	Medicine, Pathology
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ABSTRACT

Colorectal carcinoma (CRC) is a major cause of morbidity and mortality. Vascular endothelial growth factor 1/Fms-like tyrosine kinase 1 (VEGFR1/Flt-1) regulates monocyte migration, recruits endothelial cell progenitors, increases the adhesive properties of natural killer cells and induces of growth factors. Flt-1 is expressed on tumour cells and has been implicated in tumour growth and progression. The objective of this study is to address the relation of Flt-1 expression to tumour prognostication. Paraffin blocks from 143 primary CRC and 48 regional nodal metastases were retrieved from the archives of the Department of Pathology at King Abdulaziz University. Tissue microarrays were designed and constructed. Immunohistochemistry for Flt-1 was performed. Staining intensity and extent of staining were assessed and combined. Results were dichotomised as low expression and high expression. Flt-1 was overexpressed in primary tumours and nodal metastasis ($p < 0.001$ and 0.001) with no difference between primary and nodal metastasis ($p = 0.690$). Flt-1 immunoexpression was not associated with the clinicopathological parameters. Flt-1 overexpression was an independent predictor of positive margin status, positive lymphovascular invasion and local disease recurrence ($p < 0.001$, $p < 0.001$ and $p = 0.003$, respectively). Flt-1 was not associated with survival (log-rank = 0.003, $p = 0.959$). Flt-1 was overexpressed in primary CRC and their nodal metastases. Flt-1 expression was an independent predictor of margin status, lymphovascular invasion and local disease recurrence. Therefore, expression profiling of Flt-1 seems to have a prognostic potential in CRC. However, to elucidate the association of overexpression of Flt-1 with tumour characteristics and prognostication, more in vivo and in vitro molecular investigations are recommended.

Research Title:	Propagation and titration of Alkhumra hemorrhagic fever virus in the brains of newborn Wistar rats.
Source:	Journal of Virological Methods Elsevier B.V. Volume 199, Issue 1, page 39-45
ISSN:	0166-0934
Date and Year of Publication:	2014-APR
Impact Factor:	1.883
Affiliated Department(s):	Family Medicine, Medicine, Pathology
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ABSTRACT

Alkhumra hemorrhagic fever virus (AHFV) is a novel flavivirus identified first in Saudi Arabia. In this study, successful propagation of AHFV in the brains of newborn Wistar rats is described and the median rat lethal dose (RLD50) is determined. AHFV-RNA-positive human sera diluted 1:10 were injected intracerebrally into 16, ≤24h old rats. Post-inoculation, the rats were observed daily for 30 days. Brains of moribund rats were tested for AHFV-RNA using RT-PCR and cultured in LLC-MK2 cells. The titer of the isolated virus was determined and expressed in median tissue culture infectious dose (TCID50). To determine the RLD50, AHFV brain suspension was 10-fold diluted serially and each dilution was inoculated in the cerebral hemispheres of 10 rats for a total of 90 rats. Three days post-inoculation, the rats developed tremor, irritability, convulsion, opisthotonus, and spastic paresis starting in the hind limbs and ascending to involve the whole body. All infected rats died within 3-7 days with histopathologically confirmed meningoencephalitis. AHFV-RNA was detected in the brains of all infected rats and the virus titer was 10(9.4) RLD50/ml. The virus titer in LLC-MK2 was 10(8.2) TCID50/ml. In conclusion, AHFV was propagated successfully to high titers in the brains of newborn Wistar rats.

Research Title:	Protective effect of naringenin against gentamicin-induced nephrotoxicity in rats
Source:	Environmental Toxicology and Pharmacology Elsevier Science Bv Volume 38, Issue 2, page 420-429
ISSN:	1382-6689
Date and Year of Publication:	2014-SEPT
Impact Factor:	1.862
Affiliated Department(s):	Pathology
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ABSTRACT

The protective effect of naringenin, a flavonoid compound isolated from citrus fruits, was investigated against nephrotoxicity induced by gentamicin (80 mg kg(-1)/day, i.p., for eight days) in rats. Naringenin treatment (50 mg kg(-1)/day, p.o.) was administered for eight days, starting on the same day of gentamicin administration. Gentamicin caused significant elevations of serum creatinine, and kidney tissue levels of malondialdehyde, nitric oxide, and interleuldn-8, and a significant decrease in renal glutathione peroxidase activity. Naringenin treatment significantly ameliorated the changes in the measured biochemical parameters resulted from gentamicin administration. Also, naringenin markedly attenuated the histopathological renal tissue injury observed with gentamicin. Immunohistochemical examinations showed that naringenin significantly reduced the gentamicin-induced expression of kidney injury molecule-1, vascular endothelial growth factor, inducible nitric oxide synthase, and caspase-9, and increased survivin expression in the kidney tissue. It was concluded that naringenin, through its antioxidant and anti-inflammatory effects, may represent a therapeutic option to protect against gentamicin nephrotoxicity.

Research Title:	The innovative safe fixative for histology, histopathology, and immunohistochemistry techniques: "Pilot study using shellac alcoholic solution fixative".
Source:	Microscopy Research and Technique Wiley Periodicals, Inc. Volume 77, Issue 5, page 385-393
ISSN:	1097-0029
Date and Year of Publication:	2014-MAY
Impact Factor:	1.17
Affiliated Department(s):	Anatomy, Pathology
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ABSTRACT

The concerns over health and workplace hazards of formalin fixative, joined to its cross-linking of molecular groups that results in suboptimal immunohistochemistry, led us to search for an innovative safe fixative. Shellac is a natural material which is used as a preservative in foods and pharmaceutical industries. This study was undertaken to evaluate the fixation adequacy and staining quality of histopathological specimens fixed in the "shellac alcoholic solution" (SAS), and also to determine the validity of immunohistochemical staining of SAS-fixed material in comparison to those fixed in formalin. Fresh samples from 26 cases from various human tissues were collected at the frozen section room of King Abdulaziz University Hospital, and fixed in SAS fixative or in neutral buffered formaldehyde (NBF) for 12, 18, 24, and 48 h, and processed for paraffin sectioning. Deparaffinized sections were stained with hematoxylin and eosin (H&E) and immunostained for different antigens. The tissues fixed in SAS for >18 h showed best staining quality of H&E comparable to NBF-fixed tissues. Comparison of the immunohistochemical staining of different tissues yielded nearly equivalent readings with good positive nuclear staining quality in both fixatives. These findings support the fixation and preservation adequacy of SAS. Furthermore, it was concluded that the good staining quality obtained with SAS-fixed tissues, which was more or less comparable with the quality obtained with the formalin fixed tissues, supports the validity of this new solution as a good innovative fixative.

Research Title:	Unicentric Castleman's Disease Radiologically Mimicking Retroperitoneal Neoplasm, A Report Of Two Cases And Review Of The Literature.
Source:	Life Science Journal Marsland Press Volume 11, Issue 9, page 39-44
ISSN:	1097-8135
Date and Year of Publication:	2014-SEPT
Impact Factor:	2.296
Affiliated Department(s):	Pathology
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ABSTRACT

Castleman's disease (CD) is a rare benign disorder characterized by hyperplasia of lymphoid tissue that may develop at a single site or throughout the body. CD comprises at least two distinct diseases (unicentric (localized) and multicentric) with very different prognoses. Surgery remains the main treatment for resectable unicentric CD. The two principal histologic subtypes of CD are hyaline-vascular, plasma cell variants and a mixed variant. We report two cases of unicentric Castleman's disease (UCD) treated at our institute that mimic retroperitoneal neoplasm and cured by surgical excision. We review the literature on the management of this rare entity and concentrate more on UCD.

Research Title:	Uterine sarcoma Clinico-pathological characteristics and outcome
Source:	Saudi Medical Journal Saudi Medical Journal Volume 35, Issue 10, page 1215-1222
ISSN:	0379-5284
Date and Year of Publication:	2014-OCT
Impact Factor:	0.554
Affiliated Department(s):	Ob-Gyne, Medicine, Pathology
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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.

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Research Title:	A Single-Center Experience of Systemic Onset Juvenile Idiopathic Arthritis at a Tertiary Hospital in Jeddah, Saudi Arabia
Source:	Open Journal of Rheumatology and Autoimmune Diseases Scientific Research Publishing Volume 4, Issue 4, page 212-218
ISSN:	2163-9914
Date and Year of Publication:	2014-NOV
Impact Factor:	0
Affiliated Department(s):	Pediatrics
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ABSTRACT

Background and Objective: Systemic-onset juvenile idiopathic arthritis (JIA) is a major and prevalent subset of arthritis among children and it has a broad spectrum of clinical presentation, course and prognosis. This study described the clinical presentation of systemic-onset JIA in a Saudi- based cohort.

Methods: A retrospective chart review was performed of the medical records of children with systemic-onset JIA who were followed up at King Abdul Aziz University Hospital, Jeddah, between January 1997 and December 2013. Patients' files were reviewed for demographic, clinical, and paraclinical data, which were analyzed using the statistical Package for the Social Sciences.

Results: We included 20 patients of both genders (8 boys and 12 girls). The mean age of disease onset was 7 (4.5) years. The most common presenting symptoms were fever (100%), arthritis (100%), and rash (55%). Hepatomegaly (5%), abdominal (5%) and pulmonary manifestations (3%) were less frequent manifestations. Most patients had high white blood cell counts (50%), elevated erythrocyte sedimentation rates (80%) and C-reactive protein levels (90%). The interval between onset of symptoms and diagnosis was 9.4 (12.5) weeks. Patients were treated with non-steroidal anti-inflammatory drugs, methotrexate, steroids, anti-tumor necrosis agents, and disease-modifying anti-rheumatic drugs. Bone marrow biopsy was conducted to exclude malignancy in 20% of the patients.

Conclusion: Saudi children with systemic-onset JIA present with prolonged fever and arthritis (mainly oligoarticular rather than polyarticular). Physicians should be aware of the presentation of systemic-onset JIA in our setting in order to make prompt diagnosis and treatment decisions as early as possible. Carful follow-up of febrile patients is paramount to reaching the diagnosis early and initiating treatment.

Research Title:	A Single-Gene Cause in 29.5% of Cases of Steroid-Resistant Nephrotic Syndrome
Source:	Journal of the American Society of Nephrology American Society of Nephrology Volume 2014, page ASN. 2014050489
ISSN:	1533-3450
Date and Year of Publication:	2014-OCT
Impact Factor:	9.466
Affiliated Department(s):	Pediatrics
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ABSTRACT

Steroid-resistant nephrotic syndrome (SRNS) is the second most frequent cause of ESRD in the first two decades of life. Effective treatment is lacking. First insights into disease mechanisms came from identification of single-gene causes of SRNS. However, the frequency of single-gene causation and its age distribution in large cohorts are unknown. We performed exon sequencing of NPHS2 and WT1 for 1783 unrelated, international families with SRNS. We then examined all patients by microfluidic multiplex PCR and next-generation sequencing for all 27 genes known to cause SRNS if mutated. We detected a single-gene cause in 29.5% (526 of 1783) of families with SRNS that manifested before 25 years of age. The fraction of families in whom a single-gene cause was identified inversely correlated with age of onset. Within clinically relevant age groups, the fraction of families with detection of the single-gene cause was as follows: onset in the first 3 months of life (69.4%), between 4 and 12 months old (49.7%), between 1 and 6 years old (25.3%), between 7 and 12 years old (17.8%), and between 13 and 18 years old (10.8%). For PLCE1, specific mutations correlated with age of onset. Notably, 1% of individuals carried mutations in genes that function within the coenzyme Q10 biosynthesis pathway, suggesting that SRNS may be treatable in these individuals. Our study results should facilitate molecular genetic diagnostics of SRNS, etiologic classification for therapeutic studies, generation of genotype-phenotype correlations, and the identification of individuals in whom a targeted treatment for SRNS may be available.

Research Title:	Acute hemiplegia as a rare presentation of infantile Guillain-Barre syndrome
Source:	Saudi Medical Journal Saudi Medical Journal Volume 35, Issue 8, page 861-864
ISSN:	0379-5284
Date and Year of Publication:	2014-AUG
Impact Factor:	0.554
Affiliated Department(s):	Pediatrics
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ABSTRACT

Guillain-Barre syndrome (GBS) usually presents in a symmetrical ascending fashion of weakness. We present a 6-month-old male infant who presented to our emergency room with acute left-sided limb weakness and head lag 3 days after a febrile upper respiratory tract infection. A diagnosis of GBS was established by confirming high cerebrospinal fluid protein, motor nerve reduced amplitude, and prolonged conductions, and MRI T2 high signal intensity affecting the ventral roots of the spinal cord. He showed remarkable clinical and neurophysiological improvement after intravenous immunoglobulin and intensive physiotherapy. The occurrence of infantile acute hemiplegia as a presentation of GBS is rare. This report highlights the importance of considering GBS in the differential diagnosis so that early effective treatment may be started.

Research Title:	Bilateral adrenal pheochromocytoma in a 10-year old male patient
Source:	Journal of Pediatric Surgery Case Reports Elsevier B.V Volume 2, Issue 8, page 400-402
ISSN:	2213-5766
Date and Year of Publication:	2014-AUG
Impact Factor:	0
Affiliated Department(s):	Pediatric
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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.

Research Title:	Clinico-pathological correlations of congenital and infantile nephrotic syndrome over twenty years
Source:	Pediatric Nephrology Springer Volume 29, Issue 11, page 2173-2188
ISSN:	1432-198X
Date and Year of Publication:	2014-NOV
Impact Factor:	2.881
Affiliated Department(s):	Pediatrics
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ABSTRACT

Nephrotic syndrome (NS) presenting early in life is caused by heterogeneous glomerular diseases. We retrospectively evaluated whether histological diagnosis in children presenting with NS in the first year of life predicts remission or progression to end-stage kidney disease (ESKD). This is a single centre retrospective review of all children diagnosed with NS before one year of age between 1990 and 2009. All subjects had a renal biopsy, which was independently blindly reviewed by a single renal pathologist for the purpose of this study. Forty-nine children (25 female) who presented at 0.1-11.6 (median 1.6) months were included with 31 presenting within the first three months of life. Histopathological review diagnostic categories were; 13 Mesangial proliferative glomerulopathy (MesGN), 12 Focal and segmental glomerulosclerosis (FSGS), 11 Finnish type changes, eight Diffuse Mesangial Sclerosis (DMS), three Minimal change disease (MCD) and one each of Dense Deposit Disease (DDD) and Membranous nephropathy. Two children died from haemorrhagic complications of the biopsy. Eight children achieved remission (four MesGN, one Finnish type changes, one FSGS, one MCD and one membranous) with patient and renal survival of 73 % and 43 %, respectively, at follow-up duration of 5-222 (median 73) months (with five lost to follow-up). All children with Finnish-type histopathological changes presented within five months of age. Due to the historical nature of the cohort, genetic testing was only available for 14 children, nine of whom had an identifiable genetic basis (seven NPHS1, one PLCE1 and one ITGA3) with none of these nine children achieving remission. All of them had presented within four months of age and required renal replacement therapy, and two died. Histopathological findings are varied in children presenting with NS early in life. Whilst groups of histological patterns of disease are associated with differing outcomes, accurate prediction of disease course in a specific case is difficult and more widespread genetic testing may improve the understanding of this group of diseases and their optimal management.

Research Title:	Comparative Study of the Eficacy of Brushles Surgical Hand Preparation Techniques Using Antiseptic Soap, Alcohol and Non-medicated Soap
Source:	British Journal of Medicine & Medical Research Science Domain International Volume 4, Issue 8, page 1663-1671
ISSN:	2231-0614
Date and Year of Publication:	2014-AUG
Impact Factor:	0
Affiliated Department(s):	Medicine, Microbiology and Medical Parasitology, Pediatrics
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ABSTRACT

Background & Objectives: Preoperative hand preparation with a brush-les method is almost a common practice. The aim of this study was to compare the eficacy of brushles preoperative hand preparation using alcohol to antiseptic soap, and non-medicated soap in eliminating germs by standard proper pre-operative hand preparation.
Methods: Twenty volunters tried thre diferent ways of surgical hand preparation with antiseptic soap, alcohol, and non-medicated soap-based preoperative hand preparation.
Results: There was no positve bacterial growth sample in the alcohol-based scrubing group while it was 2% with positve bacterial growth in the antimicrobial soap and 5% with positve bacterial growth in the non-medicated soap group.
Conclusion: The alcohol-based pre-operative hand preparation was signifcantly more eficient han both the antimicrobial soap and the non-medicated soap

Research Title:	Congenital glucose-galactose malabsorption: a descriptive study of clinical characteristics and outcome from Western Saudi Arabia.
Source:	Arab Journal of Gastroenterology Elsevier Ltd. Volume 21, Issue 3, page 21-33
ISSN:	1687-1979
Date and Year of Publication:	2014-MAR
Impact Factor:	0
Affiliated Department(s):	Pediatrics
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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 resulted 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:	Consanguinity in Saudi Arabia: a unique opportunity for pediatric kidney research.
Source:	American Journal of Kidney Diseases Elsevier B.V. Volume 63, Issue 2, page 304-310
ISSN:	272-6386
Date and Year of Publication:	2014-FEB
Impact Factor:	5.756
Affiliated Department(s):	Pediatrics
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ABSTRACT

Identification of disease-related genes is a critical step in understanding the molecular basis of disease and developing targeted therapies. The genetic study of diseases occurring in the offspring of consanguineous unions is a powerful way to discover new disease genes. Pediatric nephrology provides an excellent example because ~70% of cases of kidney disease in childhood are congenital with a likely genetic basis. This percentage is likely to be even higher in countries with a high consanguinity rate, such as the Kingdom of Saudi Arabia. However, there are a number of challenges, such as cultural, legal, and religious restrictions, that should be appreciated before carrying out genetic research in a tradition-bound country. In this article, we discuss the background, opportunities, and challenges involved with this unique opportunity to conduct studies of such genetic disorders. Keys to success include collaboration and an understanding of local traditions and laws.

Research Title:	Growth hormone therapy and treatment outcomes: current clinical practice of the Gulf Cooperation Council
Source:	Expert Review of Endocrinology & Metabolism Informa Plc. Volume 9, Issue 4, page 319-325
ISSN:	1744-6651
Date and Year of Publication:	2014-JUL
Impact Factor:	0
Affiliated Department(s):	Pediatrics
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ABSTRACT

Over the last 20 years, recombinant human growth hormone (somatropin) has been the cornerstone of managing children with growth hormone deficiency (GHD). Although both international and national guidelines for growth hormone (GH) therapy exist, there is currently no consensus on the optimal use of GH therapy in Gulf Cooperation Council (GCC) countries. The goals of GH therapy are to normalize height during childhood, attain normal adult height and correct metabolic abnormalities related to GHD. However, extended use of GH >50 μg/kg/day may increase frequency of adverse events. Here, we report the proceedings from a meeting of nine GCC pediatric endocrinology experts, which took place in Beirut in November 2011. The meeting was also attended by three European counterparts and aimed to provide consensus on best practice in the management of children with GHD in the GCC based on current local medical and regulatory environments.

Research Title:	Higher Versus Lower Protein Intake In Formula-Fed Low Birth Weight Infants
Source:	Cochrane Database of Systematic Reviews Wiley-Blackwell Volume 2014, Issue 4, page 1-4
ISSN:	1361-6137
Date and Year of Publication:	2014-APR
Impact Factor:	5.939
Affiliated Department(s):	Pediatrics
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ABSTRACT

Background: The ideal quantity of dietary protein for formula-fed low birth weight infants is still amatter of debate. Protein intake must be sufficient to achieve normal growth without negative effects such as acidosis, uremia, and elevated levels of circulating amino acids. **Objectives:** To determine whether higher (>= 3.0 g/kg/d) versus lower (< 3.0 g/kg/d) protein intake during the initial hospital stay of formula-fed preterm infants or low birth weight infants (< 2.5 kilograms) results in improved growth and neurodevelopmental outcomes without evidence of short-and long-term morbidity. To examine the following distinctions in protein intake. 1. Low protein intake if the amount was less than 3.0 g/kg/d. 2. High protein intake if the amount was equal to or greater than 3.0 g/kg/d but less than 4.0 g/kg/d. 3. Very high protein intake if the amount was equal to or greater than 4.0 g/kg/d. If the reviewed studies combined alterations of protein and energy, subgroup analyses were to be carried out for the planned categories of protein intake according to the following predefined energy intake categories. 1. Low energy intake: less than 105 kcal/kg/d. 2. Medium energy intake: greater than or equal to 105 kcal/kg/d and less than or equal to 135 kcal/kg/d. 3. High energy intake: greater than 135 kcal/kg/d. As the Ziegler-Fomon reference fetus estimates different protein requirements for infants based on birth weight, subgroup analyses were to be undertaken for the following birth weight categories. 1. < 800 grams. 2. 800 to 1199 grams. 3. 1200 to 1799 grams. 4. 1800 to 2499 grams.
Search methods: The standard search methods of the Cochrane Neonatal Review Group were used. MEDLINE, CINAHL, PubMed, EMBASE, and the Cochrane Central Register of Controlled Trials (CENTRAL; The Cochrane Library) were searched. Selection criteria Randomized controlled trials contrasting levels of formula protein intake as low (< 3.0 g/kg/d), high (< 3.0 g/kg/d but < 4.0 g/kg/d), or very high (>= 4.0 g/kg/d) in formula-fed hospitalized neonates weighing less than 2.5 kilograms were included. Studies were excluded if infants received partial parenteral nutrition during the study period or were fed formula as a supplement to human milk. Studies in which nutrients other than protein also varied were added in a post-facto analysis. Data collection and analysis The standard methods of the Cochrane Neonatal Review Group were used.
Main results: Five studies compared low versus high protein intake. Improved weight gain and higher nitrogen accretion were demonstrated in infants receiving formula with higher protein content while other nutrients were kept constant. No significant differences were seen in rates of necrotizing enterocolitis, sepsis, or diarrhea. One study compared high versus very high protein intake during and after an initial hospital stay. Very high protein intake

promoted improved gain in length at term, but differences did not remain significant at 12 weeks corrected age. Three of the 24 infants receiving very high protein intake developed uremia. A post-facto analysis revealed further improvement in all growth parameters in infants receiving formula with higher protein content. No significant difference in the concentration of plasma phenylalanine was noted between high and low protein intake groups. However, one study (Goldman 1969) documented a significantly increased incidence of low intelligence quotient (IQ) scores among infants of birth weight less than 1300 grams who received a very high protein intake (6 to 7.2 g/kg).

Authors' conclusions: Higher protein intake (>= 3.0 g/kg/d but < 4.0 g/kg/d) from formula accelerates weight gain. However, limited information is available regarding the impact of higher formula protein intake on long-term outcomes such as neurodevelopmental abnormalities. Available evidence is not adequate to permit specific recommendations regarding the provision of very high protein intake (> 4.0 g/kg/d) from formula during the initial hospital stay or after discharge.

Research Title:	Incidence of Pediatric Inflammatory Bowel Disease in Saudi Arabia: A Multicenter National Study
Source:	Inflammatory Bowel Diseases Lippincott Williams & Wilkins Volume 20, Issue 6, page 1085-1090
ISSN:	1536-4844
Date and Year of Publication:	2014-JUN
Impact Factor:	5.475
Affiliated Department(s):	Pediatrics
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ABSTRACT

Background: Pediatric inflammatory bowel disease (IBD) is increasingly recognized in developing countries; however, the incidence and trend over time have not been reported.
Methods: This retrospective study included children diagnosed with IBD in gastroenterology centers in the Kingdom of Saudi Arabia between 2003 and 2012. The date of birth, date and age at diagnosis, gender, and final diagnosis were collected on special forms. Clinical, laboratory, imaging, endoscopy, and histopathology results were reviewed to confirm the final diagnosis. Descriptive statistics were used to compare ulcerative colitis and Crohn's disease in different age groups, and significance was assessed by the chi-square test. Incidence rates and trend over time were analyzed with the assumption of Poisson distribution. The incidence rate over time was compared in 2 periods (2003-2007 and 2008-2012). A P value of <0.05 and 95% confidence intervals were used to assess the significance and precision of the estimates.
Results: A total of 340 Saudi Arabian children aged 0 to 14 years were diagnosed. The mean incidence rate per 100,000 individuals was 0.2, 0.27, and 0.47 for ulcerative colitis, Crohn's disease, and IBD, respectively. Except for the 0- to 4-year age group, there was a significant increase in incidence over time.
Conclusions: Although the incidence of pediatric IBD in Saudi Arabian children is lower than suggested in the Western literature, there is a significantly increasing trend over time. However, decreased trend in the younger age group over time is identified. Prospective studies will be important to identify the risk factors for IBD in different age groups.

Research Title:	Intravenous Methylprednisolone for Intractable Childhood Epilepsy
Source:	Pediatric Neurology Elsevier Volume 50, Issue 4, page 334-336
ISSN:	0887-8994
Date and Year of Publication:	2014-APR
Impact Factor:	1.504
Affiliated Department(s):	Pediatrics
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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.

Research Title:	Metabolic syndrome in the survivors of childhood acute lymphoblastic leukaemia
Source:	Obesity Research & Clinical Practice Elsevier Ltd
ISSN:	71-403X
Date and Year of Publication:	2014-JUL
Impact Factor:	0.697
Affiliated Department(s):	Pediatrics
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ABSTRACT

Metabolic syndrome is a common complication encountered in children surviving acute lymphoblastic leukaemia (ALL). Affected patients develop obesity, insulin resistance, hypertension, and hyperlipidemia. Metabolic syndrome is a consequence of multiple factors, particularly hormonal imbalance induced by various ALL treatments. This review aims to evaluate the risk factors and mechanisms leading to the development of metabolic syndrome. Further research is needed to improve our understanding of the mechanisms leading to insulin resistance and the associated endothelial and adipose tissue dysfunction. Future studies should also examine other possible contributing factors, such as environmental and genetic factors. Understanding these factors will help in guiding modifications of the current ALL treatment protocols in order to prevent the development of this syndrome and hence improve the quality of life of ALL survivors. Until this is achieved, clinicians should continue to identify patients at risk early and use a therapeutic approach that combines dietary restrictions and enhanced physical activity.

Research Title:	Outcome Of Acute Kidney Injury In Pediatric Patients Admitted To The Intensive Care Unit
Source:	Pediatric Nephrology Springer Volume 82, Issue 12, page 379-386
ISSN:	0931-041X
Date and Year of Publication:	2014-SEPT
Impact Factor:	2.881
Affiliated Department(s):	Pediatrics
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ABSTRACT

Background: Acute kidney injury (AKI) is common in the pediatric intensive care unit (PICU). We aimed to describe the etiology, clinical features, and outcome of AKI in pediatric patients and to determine the predictors for initiation of renal replacement and mortality.
Methods: A retrospective chart review was performed of the medical records for all patients who were admitted to the PICU at King Abdulaziz University Hospital between January 1 and December 31, 2011. The pediatric-modified RIFLE criteria were used to classify AKI.
Results: We included 102 children with AKI, aged 4 - 60 months. Oliguria (61.5%, $p < 0.0001$) and hypervolemic signs (38.5%, $p = 0.03$) were more common among patients with RIFLE class failure. They also had the highest mortality (53.9%, $p = 0.01$). Oliguric patients were ~ 23 times more likely than their non-oliguric counterparts to be initiated on renal replacement therapy (RRT) (RR = 23.38, 95% CI: 3.07 - 178.16). Diuretic infusion was also a strong predictor for RRT initiation (RR = 10.00, 95% CI: 2.77 - 36.12). Hypervolemic patients were twice more likely to die during hospitalization in both unadjusted and adjusted models (RR = 2.06, 95% CI: 1.09 - 3.90, and aRR = 2.45, 95% CI: 1.09 - 5.51, respectively). Mechanical ventilation and RRT initiation were associated with higher likelihood of death (ARR = 13.23, 95% CI: 1.90 - 92.04, and ARR = 2.20, 95% CI: 1.18 - 4.12, respectively). Patients with RIFLE class Failure were about thrice more likely than patients with RIFLE class Risk to die in both the unadjusted (RR = 2.76, 95% CI: 1.35 - 5.65), and adjusted models (ARR = 2.88, 95% CI: 1.38 - 6.04). Children with AKI had longer PICU stay (0.0003) and higher mortality (< 0.0001) than the non-AKI group.
Conclusion: Severe AKI predicted high mortality in critically ill children.

Research Title:	Pediatric CKD and cardiovascular disease
Source:	Cardiovascular & Hematological Disorders-Drug Targets Bentham Science Publishers Volume 14, Issue 3, page 177-184
ISSN:	2212-4063
Date and Year of Publication:	2014-MAR
Impact Factor:	0
Affiliated Department(s):	Pediatrics
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ABSTRACT

Children and adolescents with chronic kidney disease (CKD) are at high risk for cardiovascular morbidity and mortality. This review provides a comprehensive overview of the possible risk factors for early atherosclerosis in children with CKD. Endothelial dysfunction, a precursor of atherosclerosis, starts early in renal disease, as indicated by increased carotid artery intima media thickness, carotid arterial wall stiffness, impaired flow mediated dilatation, and coronary artery calcification, which are frequently present in children with CKD. Many risk factors for atherosclerosis, such as hypertension, dyslipidemia, renal bone disease, hyperhomocysteinemia, and uremia-related cardiovascular risk factors are associated with CKD. All of these risk factors are modifiable and optimal clinical management can delay or prevent cardiovascular disease. Another strategy to decrease the risk of premature cardiac disease and death in children with CKD is to slow the progression of renal disease.

Research Title:	Pentalogy of Cantrell: first case reported in Saudi Arabia.
Source:	Annals of Saudi Medicine Annals of Saudi Medicine Volume 34, Issue 1, Page 75-77
ISSN:	0975-4466
Date and Year of Publication:	2014-FEB
Impact Factor:	0.705
Affiliated Department(s):	Ob-Gyne, Pediatrics
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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.

Research Title:	Pentoxifylline Alleviates Cardiac Ischemia and Dysfunction Following Experimental Angina in Insulin Resistance
Source:	PLOS One PLOS One Volume 9, Issue 5, page 1-7
ISSN:	1932-6203
Date and Year of Publication:	2014-MAY
Impact Factor:	3.534
Affiliated Department(s):	Pediatrics
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ABSTRACT

We have previously shown that pentoxifylline (PTX) protects from vascular complications associated with insulin resistance (IR). Here, we investigated the protective effect of PTX against cardiac ischemia and dysfunction following experimental angina in IR. IR, along with its accompanying cardiac dysfunction, was induced in rats by a high-fructose (10% in drinking water) high-fat diet for 12 weeks. PTX was administered daily (30 mg·kg−1) during the last 4 weeks of the study. Experimental angina was induced by isoproterenol (10 μg·kg−1) administered by intravenous injection. Both before (baseline) and after the experimental angina, cardiac contractility was assessed by continuous recording in anesthetized rats via a microtip catheter inserted in the left ventricle, and cardiac conductivity was determined by a surface electrocardiograph. Serum glucose, insulin, tumor necrosis factor-α (TNFα), and adiponectin levels and lipid profile were also determined. Feeding the rats a high-fructose high-fat diet produced IR, as evidenced by significant hyperinsulinemia and hyperglycemia, and PTX administration did not affect this IR. When subjected to experimental angina, IR hearts were less resistant to the ischemia following induction of angina (reflected by the large ST height depression) compared with controls, and PTX completely prevented the excessive ST height depression in IR animals. In addition, left ventricular pressure development was largely attenuated during and after induction of angina in IR animals compared with controls. PTX administration prevented the excessive attenuation in ventricular pressure development in IR animals. IR was associated with elevated levels of the inflammatory cytokine TNFα, whereas PTX treatment elevated the serum level of the anti-inflammatory cytokine adiponectin. PTX alleviates cardiac ischemia and dysfunction following experimental angina in IR directly through inhibition of the low-grade inflammation that accompanies IR.

Research Title:	Peritoneal Dialysis Access Failure In Children: Causes, Interventions And Outcomes
Source:	Pediatric Nephrology Springer Volume 29, Issue 9, page 1666-1667
ISSN:	0931-041X
Date and Year of Publication:	2014-SEPT
Impact Factor:	0.919
Affiliated Department(s):	Pediatrics
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MEETING ABSTRACT

Introduction: The objective of this study was to evaluate the incidence, reasons, risk factors and outcome of PD access malfunction.
Material and methods: The study population included 719 incident and 1427 prevalent patients enrolled in the IPPN (International Pediatric Peritoneal Dialysis Network) registry.
Results: 382 access revisions were reported in 153 (11%) incident and 114 (16%) prevalent patients. On average 1.75±0.95 (range 1-5) interventions were reported in incident patients; the incidencewas 1:67 patient months; 70% occurred within first treatment year. The risk of initial access failure was associated with younger age (OR 0.95, p<0.001), coexisting ostomies (OR 1.5, p=0.02), swan-neck tunnel (OR 1.4, p=0.03) and tentatively with early (<7 days) catheter use (OR 1.36, p=0.04). Reasons for access revision included mechanical obstruction (61%), peritonitis (15%), exit site infection (12%), and leakage (6%). The risk of obstruction or leakage was independently associated with younger age (OR 0.92, p<0.0001) and swan neck tunnel (OR 1.6, p=0.04). Catheter exchange was performed in 81% and 66% of pts with infectious and mechanical complications respectively. Early (<4 wks) recurrent access failure after revision was reported in 47 patients (20%), in 35 cases following mechanical obstruction. Intervention failure, defined as recurrence or PD failure within 3 months post-intervention, was observed in 11%of the infectious and 21%of themechanical complications (p=0.01). The need for access revision increased the risk of PD technique failure and switch to hemodialysis by 23% (HR 1.23, p=0.03). Access dysfunction due to mechanical causes doubled the risk of technique failure as compared to infectious causes (HR=1.95, p=0.03).
Conclusions: Access failure occurs in nearly 15% of pediatric PD patients, most commonly within the first treatment year.Mechanical obstruction is the most common cause of access dysfunction. Risk factors include young age, co-existing ostomies and swan-neck tunnel. Access failure due to obstruction is associated with compromised technique survival.

esearch Title:	PO-0015 Evaluation Of Peditric Patients Presenting In Itp In King Abdulaziz University Hospital
Source:	Archives of Disease in Childhood BMJ Publishing Group Ltd & Royal College of Paediatrics and Child Health Volume 99, Article 256, page 1-1
ISSN:	1468-2044
Date and Year of Publication:	2014-OCT
Impact Factor:	2.905
Affiliated Department(s):	Pediatrics
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ABSTRACT

Background: Immune thrombocytopenia (ITP) is an acute disease of short duration with mild symptoms and with estimated incidence in children is approximately 1.9 to 6.4 cases per 100,000 per year. The management of acute ITP of childhood has generated controversy for many years. Although most children can be managed by careful monitoring, a small proportion of children will suffer from bleeding.1

Aim: The aim of our study is to characterise bleeding severity, platelets count, the management over the past 2 years.

Material and methods: All patients diagnosed with ITP, with a first visit to King Abdelaziz University Hospital Jeddah, Saudi Arabia during last2 years will eligible for this study. Demographic, laboratory, and treatment data were collected through a questionnaire.

Result: The mean age of the patients was 6.5 years (range, 1 month to 16 years), 18 boys and 14 girls. The mean plateletcount at presentation was 22.3 × 109/L (range, 1 to 108 × 109/L). Bleeding symptoms were found in 22 cases (68.80%). 19 (59.40%) had skin bleeding, 15 (46.9%)had mucosa bleeding, and 4 (12.50%) had organs bleeding. Bone marrow aspiration and laboratory tests (antinuclear antibodies,human immunodeficiency and hepatitis C virus) were performed for18 (56.30%)children.26 (81.1%) of patients received Immunoglobulin, and 9 (28.10%) received corticosteroids.

Conclusion: Most children with ITP treated by paediatrician received Immunoglobulin, we recommend that physician should follow the new guideline tools on ITP diagnosis and management to reduce the number of children requiring intervention and possible drug-induced side effects.

Research Title:	Prediction of Perinatal Hypoxic Encephalopathy: Proximal Risk Factors and Short-Term Complications
Source:	Journal of Clinical Gynecology & Obstetrics Elmer Press Inc. Volume 3, Issue 3, page 97-104
ISSN:	1927-1271
Date and Year of Publication:	2014-SEPT
Impact Factor:	0
Affiliated Department(s):	Ob-Gyne, Pediatrics
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ABSTRACT

Background: To determine the proximal risk factors associated with perinatal hypoxic encephalopathy signs and its short-term complications.
Methods: This is a prospective study conducted in women in labor with medical and obstetrics risk factors at King Abdulaziz University Hospital, Jeddah, Saudi Arabia from May 1, 2010 to May 1, 2011. The abnormal umbilical arterial base deficit levels (≥ 12 mmol/L), compared with a normal base deficit level (< 12 mmol/L) and the neonatal outcomes were studied in both groups.
Results: The frequency of fetal acidosis with a cord pH ≤ 7 or a base deficit level of ≥ 12 mmol/L at birth was 31 (5.6%) versus 59 (10.7%), respectively. The intrapartum proximal risk factors were abnormal fetal heart rate patterns (n = 18, 30.5%); prolonged labor duration, vacuum delivery (n = 12, 20.3%); pregnancy-induced hypertension (n = 10, 17%); fetal growth restriction (n = 4, 6.8%); and abruptio placentae (n = 3, 5.1%). The neonatal encephalopathy signs with an abnormal base deficit and proximal risk factors were umbilical arterial cord blood pH (n = 24, 40.7%); low Apgar score at 5 minutes (n = 10, 17%); admission to the neonatal intensive care unit (n = 20, 33.9%); and intubation (n = 9, 15.3%).
Conclusion: Fetal metabolic acidemia may predict neonatal encephalopathy signs in association with intrapartum proximal risk factors.

Research Title:	Primary school teacher's knowledge and attitudes toward children with epilepsy.
Source:	Seizure - European Journal of Epilepsy Elsevier Ltd Volume 23, Issue 4, page 280-283
ISSN:	1059-1311
Date and Year of Publication:	2014-APR
Impact Factor:	2.059
Affiliated Department(s):	Pediatrics
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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.

Research Title:	Public awareness and attitudes toward epilepsy in Saudi Arabia is improving
Source:	Neurosciences Riyadh Armed Forces Hospital Volume 19, Issue 2, page 124-126
ISSN:	1319-6138
Date and Year of Publication:	2014-APR
Impact Factor:	0.393
Affiliated Department(s):	Pediatrics
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ABSTRACT

Objective: To examine public awareness and attitudes toward epilepsy in Riyadh, the capital city of Saudi Arabia.
Methods: A focused 10-item questionnaire was designed to survey public awareness and attitudes toward epilepsy. Personal interviews were conducted randomly by one author in preselected public places in Riyadh, Saudi Arabia during March and April 2011.
Results: Seven hundred and forty-nine interviews were completed during the study period. Most participants (77.4%) had prior knowledge of epilepsy, and 52% believed that epilepsy is an organic disease. This correlated with their educational level, as those with higher levels of education were more likely to link epilepsy to organic causes (p=0.008). However, 15% also linked epilepsy to evil spirit possession, and up to 37% preferred spiritual rituals and religious healing to medical treatments. Although most respondents (61%) would accept an epileptic patient in a regular job, 71% (particularly males) reported reservations in marrying someone with epilepsy (p=0.001).
Conclusions: The awareness and attitudes of the Saudi public toward epilepsy are showing some improvement. However, it is still thought to be linked to evil spirit possession by some, and spiritual rituals and religious healing are commonly believed to be effective treatments. Targeted areas for focused education were identified.

Research Title:	Rapid Detection of Monogenic Causes of Childhood-Onset Steroid-Resistant Nephrotic Syndrome
Source:	Clinical Journal of the American Society of Nephrology American Society of Nephrology Volume 9, Issue 6, page 1109-1116
ISSN:	1555-905X
Date and Year of Publication:	2014-JUN
Impact Factor:	5.25
Affiliated Department(s):	Pediatrics
Author(s):	Svjetlana Lovric, Humphrey Fang, Virginia Vega-Warner, Carolin E Sadowski, Heon Yung Gee, Jan Halbritter, Shazia Ashraf, Pawaree Saisawat, Neveen A Soliman, Jameela A Kari, Edgar A Otto, Friedhelm Hildebrandt
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ABSTRACT

Background and objectives: In steroid-resistant nephrotic syndrome (SRNS), >21 single-gene causes are known. However, mutation analysis of all known SRNS genes is time and cost intensive. This report describes a new high-throughput method of mutation analysis using a PCR-based microfluidic technology that allows rapid simultaneous mutation analysis of 21 single-gene causes of SRNS in a large number of individuals.

Design, setting, participants, & measurements: This study screened individuals with SRNS; samples were submitted for mutation analysis from international sources between 1996 and 2012. For proof of principle, a pilot cohort of 48 individuals who harbored known mutations in known SRNS genes was evaluated. After improvements to the method, 48 individuals with an unknown cause of SRNS were then examined in a subsequent diagnostic study. The analysis included 16 recessive SRNS genes and 5 dominant SRNS genes. A 10-fold primer multiplexing was applied, allowing PCR-based amplification of 474 amplicons in 21 genes for 48 DNA samples simultaneously. Forty-eight individuals were indexed in a barcode PCR, and high-throughput sequencing was performed. All disease-causing variants were confirmed via Sanger sequencing.

Results: The pilot study identified the genetic cause of disease in 42 of 48 (87.5%) of the affected individuals. The diagnostic study detected the genetic cause of disease in 16 of 48 (33%) of the affected individuals with a previously unknown cause of SRNS. Seven novel disease-causing mutations in PLCE1 (n=5), NPHS1 (n=1), and LAMB2 (n=1) were identified in <3 weeks. Use of this method could reduce costs to 1/29th of the cost of Sanger sequencing.

Conclusion: This highly parallel approach allows rapid (<3 weeks) mutation analysis of 21 genes known to cause SRNS at a greatly reduced cost (1/29th) compared with traditional mutation analysis techniques. It detects mutations in about 33% of childhood-onset SRNS cases.

Research Title:	Renal artery stenosis in association with congenital anomalies of the kidney and urinary tract
Source:	Saudi Medical Journal Saudi Medical Journal Volume 35, Issue 10, page 1264-1266
ISSN:	0379-5284
Date and Year of Publication:	2014-OCT
Impact Factor:	0.554
Affiliated Department(s):	Pediatrics
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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.

Research Title:	Social Impact of Dialysis on Children and Their Families
Source:	The Indian Journal of Pediatrics Springer India Volume 81, Issue 10, page 1020-1026
ISSN:	0019-5456
Date and Year of Publication:	2014-OCT
Impact Factor:	0.919
Affiliated Department(s):	Pediatrics, Medical Education
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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 Case vertical bar Renal tubular acidosis and eye findings Proximal renal tubular acidosis with ocular abnormalities
Source:	Kidney International Nature Publishing Group Volume 86, Issue 1, page 217-218
ISSN:	1523-1755
Date and Year of Publication:	2014-JUL
Impact Factor:	8.52
Affiliated Department(s):	Pediatrics
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ABSTRACT

The patient presented at 4.5 years of age with marked developmental delay and stunted growth. She could only walk with support and also had delayed speech development. She was born at full term to consanguineous parents with no prenatal complications. She has four healthy brothers. On examination, her weight was 11 kg (standard deviation score (SDS) 4.3), height 96 cm (SDS 1.6), and head circumference 44 cm (SDS 4.4). Her blood pressure was 90/ 60mm Hg. She had marked corneal opacities, which recurred after a corneal transplant (Figure 1a). Her urine analysis showed a urine pH of 5 and was negative for glucose, and negative for blood and 1þ protein (specific gravity: 1.012). Other laboratory investigations are listed in Table 1. A renal ultrasound was unremarkable. Brain computed tomography (CT) showed bilateral basal ganglia calcifications (Figure 1b). Moreover, magnetic resonance imaging of the brain was unremarkable. Audiometry revealed normal hearing and there were no other extra-renal manifestations. Autosomal recessive isolated proximal renal tubular acidosis (pRTA) and ocular abnormalities caused by mutations in the sodium bicarbonate co-transporter (NBCe1/SLC4A4). The patient exhibited a metabolic acidosis with normal anion gap (12±4 mEq/l) and evidence of normal distal urinary acidification (urine pH was 5). In the absence of extrarenal bicarbonate losses this establishes a diagnosis of pRTA. While this is typically seen in the context of the renal Fanconi syndrome, there was no evidence of generalized proximal dysfunction, consistent with isolated pRTA. In contrast to inherited distal renal tubular acidosis, which is typically associated with nephrocalcinosis and/or nephrolithiasis, these features can be absent in pRTA, as in this case. Isolated pRTA is extremely rare and the diagnostic clues here were the eye findings (corneal opacities, cataracts), as well as basal ganglia calcifications, which are typical features of this rare inherited disease due to mutations in SLC4A4. 1 Genetic analysis of SLC4A4 (isoform 2) in this patient revealed a novel homozygous deletion (c.2211_2213delCCT; p.L738del) confirming the diagnosis.

Research Title:	Therapeutic effects of mesenchymal stem cells on hepatocellular carcinma: tracking of cells using iron oxide nanoparticles
Source:	The FASEB Journal Federation of American Societies for Experimental Biology Volume 28, Issue 1 Supplement, page 87.3
ISSN:	0892-6638
Date and Year of Publication:	2014-APR
Impact Factor:	5.48
Affiliated Department(s):	Clinical Biochemistry, Pediatrics, Medicine
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ABSTRACT

Recently, a significant increase in the incidence of hepatocellular carcinoma (HCC) has been reported. However, early detection of the disease can help in selecting from various available therapies. Unfortunately, in advanced liver cancer cases, treatment options are very limited. In the present study, we point to the need to identify a new effective, less aggressive treatment approach. Advances in stem cell research, led us to consider cell-based therapy for treating liver cancer. It was previously reported that bone marrow derived mesenchymal stem cells (MSCs) have the tumor suppressive effects in an experimental HCC model in rats. In this work, we investigated the possible role of Wnt signaling in hepatic carcinogenesis and how it is influenced by by MSCs labeled with iron oxide nanoparticles. Forty rats were used and were divided equally into four groups: a normal control group and 3 groups that received diethylnitroseamine and CCl4 to induce HCC. Then after induction, one group was treated with MSCs only, the second group with PBS (vehicle) only, and the third group with labeled MSCs with iron-oxide nanoparticles. Gene expression of Wnt signaling target genes by reverse transcription-polymerase chain reaction (RT-PCR), in rat liver tissue, was measured. In addition, serum levels of liver function parameters and alpha fetoprotein were performed in all groups. Histopathological examination of the liver and organ samples from all groups was performed. Magnetic resonance imaging (MRI) was used to visualize MSCs loaded with iron oxide nanoparticles in the affected liver. We detected a significant tumor-mass reduction in the group which received MSCs compared to the control groups. The results of this work confirm the previous finding of a possible therapeutic effect of MSCs on HCC. In addition, the use of iron oxide nanoparticles may prove to be successful in tracking and localizing MSCs to the site of the lesion, which may provide a documentation of their therapeutic effect.

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Research Title:	A Review on Therapeutic Potential of Piper nigrum L. (Black Pepper): The King of Spices
Source:	Medicinal & Aromatic Plants OMICS Publishing Group Volume 3, Issue 161, page 1-6
ISSN:	2167-0412
Date and Year of Publication:	2014-AUG
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Affiliated Department(s):	Pharmacology
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ABSTRACT

Medicinal plants are very popular in different traditional systems of medicines due to their diverse pharmacological potentials and lesser side effects in biological systems. Piper nigrum L. (Family Piperaceae) is a well known spice considered as ''The King of spices'' among various spices. It contains a pungent alkaloid ''piperine'' which is known to possess many pharmacological actions. Piperine increases bioavailability of many drugs and nutrients by inhibiting various metabolising enzymes. Piper nigrum L and its active constituent ''Piperine''exhibits diverse pharmacological activities like antihypertensive, antiplatelet, antioxidant, antitumor, anti-asthmatics, analgesic, anti-inflammatory, anti-diarrheal, antispasmodic, antidepressants, immunomodulatory, anticonvulsant, anti-thyroids, antibacterial, antifungal, hepato-protective, insecticidal and larvicidal activities etc. The current review article is aimed to provide an updated literature review on recent advancement of pharmacognosy, chemistry and pharmacological activities of Piper nigrum L.

Research Title:	Amelioration of doxorubicin-induced cardiotoxicity by resveratrol
Source:	Molecular Medicine Reports Spandidos Publishing Ltd Volume 10, Issue 3, page 1455-1460
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Impact Factor:	1.484
Affiliated Department(s):	Medicine, Pharmacology
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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.

Research Title:	Association of GNB3 C825T polymorphism with obesity in Saudi population
Source:	Life Science Journal Marsland Press Volume 11, Issue 6, page 282-285
ISSN:	1097-8135
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Affiliated Department(s):	Pharmacology
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ABSTRACT

The prevalence of obesity is increasing in Saudi Arabia. The search for genes that increase the susceptibility to develop obesity has become important. One set of candidate genes for obesity is the heterotrimeric G proteins, which are key components of intracellular signal transduction and play a focal role in adipogenesis. The aim of this study was to study the association between the C825T (C-to-T substitution at nucleotide 825 in exon 10) (rs5443) polymorphism of the GNB3 gene and obesity in a sample Saudi population. Blood samples from 116 healthy volunteers in age group 18-60 years were taken and obesity status was determined by the Body Mass Index(BMI). DNA was extracted from whole blood and PCR for the GNB gene was done. The PCR product thus obtained was subjected to restriction analysis using the enzyme BsaJ1 to determine the presence or absence of the GNB3 C825T polymorphism. Alleles T represent the absence of restriction site while alleles C indicate the presence of restriction site. Association between the genotypes and obesity was determined. We found that the presence of the T allele was a major contributing factor to obesity because from our study group we observed a higher occurrence of TT genotype in obese and over obese people while the normal people had a high occurrence of CT genotype and the underweight people had a high occurrence of CC genotype. Genotyping studies clearly showed that the T allele was a major contributing factor towards obesity. Higher T allele frequency was associated with obesity as compared with normal individuals.

Research Title:	Black Tea Extract and its Thearubigins Relieve the Sildenafil-Induced Delayed Gut Motility in Mice: A Possible Role of Nitric Oxide
Source:	Phytotherapy Research Wiley-Blackwell Volume 28, Issue 11, page 1687-1691
ISSN:	1099-1573
Date and Year of Publication:	2014-NOV
Impact Factor:	2.397
Affiliated Department(s):	Pharmacology
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ABSTRACT

In this study we hypothesize that a standardized black tea aqueous extract (BTE) and thearubigins, its main polyphenolic pigments, will improve sildenafil-induced delay in gastric emptying (GE) and small intestinal transit (SIT) in mice. Twenty groups of mice (n=8) were given a phenol red meal, and three sets of experiments were performed. In the first and second sets, effects of different concentrations of BTE, thearubigins (TRs), and sildenafil (SLD), alone and in combinations, on GE and SIT were measured. In the third set, influence of n-Nitro-l-arginine methyl ester hydrochloride (l-NAME) pretreatment on effects of these treatments was tested. Black tea extract (3% and 4.5%) and thearubigins (50 and 60mg/kg) dose-dependently increased GE and SIT, whereas BTE 6% and thearubigins 70mg/kg did not affect them. Sildenafil dose-dependently reduced both GE and SIT. Combination of metoclopramide, BTE 4.5%, thearubigins 60, or l-NAME with sildenafil (5mg/kg) reversed its motility-delaying effects. Pretreatment with l-NAME followed by BTE 4.5%, thearubigins 60, BTE 4.5%+sildenafil 5, or thearubigins 60+sildenafil 5 only partially affected the accelerating effects of BTE 4.5% and thearubigins 60. In conclusion, a standardized BTE and its thearubigins improve the sildenafil-induced delayed gut motility in mice. This improvement was partially blocked by l-NAME suggesting a possible role of nitric oxide. Thus, BTE 4.5% or TRs 60mg/kg solution could be considered a reliever therapy for the sildenafil-induced dyspepsia

Research Title:	CCl4 induced genotoxicity and DNA oxidative damages in rats: hepatoprotective effect of Sonchus arvensis
Source:	BMC Complementary and Alternative Medicine Biomed Central Ltd Volume 14, Issue 1, page 452
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Impact Factor:	1.877
Affiliated Department(s):	Pharmacology
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ABSTRACT

Background: Sonchus arvesis is traditionally reported in various human ailments including hepatotoxicity in Pakistan. Presently we designed to assess the protective effects of methanolic extract of Sonchus arvesis against carbon tetrachloride induced genotoxicity and DNA oxidative damages in hepatic tissues of experimental rats.

Methods: 36 male Sprague–Dawley rats were randomly divided into 6 groups to evaluate the hepatoprotective effects of Sonchus arvensis against CCl4 induced genotoxicity, DNA damages and antioxidant depletion. Rats of normal control group were given free access of food and water add labitum. Group II rats received 3 ml/kg of CCl4 (30% in olive oil v/v) via the intraperitoneal route twice a week for four weeks. Group III and IV received 1 ml of 100 mg/kg b.w. and 200 mg/kg b.w. SME via gavage after 48 h of CCl4 treatment whereas group V was given 1 ml of silymarin (100 mg/kg b.w.) after 48 h of CCl4 treatment. Group VI only received 200 mg/kg b.w. SME. Protective effects of SME were checked by measuring serum markers, activities of antioxidant enzymes, genotoxicity and DNA dmages.

Results: Results of the present study showed that treatment of SME reversed the activities of serum marker enzymes and cholesterol profile as depleted with CCl4 treatment. Activities of endogenous antioxidant enzymes of liver tissue homogenate; catalase (CAT), superoxide dismutase (SOD), glutathione peroxidase (GSHpx), glutathione-S-transferase (GST) and glutathione reductase (GSR) were reduced with administration of CCl4, which were returned to the control level with SME treatment. CCl4-induced hepatic cirrhosis decreased hepatic glutathione (GSH) and increased lipid peroxidative products (TBARS), were normalized by treatment with SME. Moreover, administration of CCl4 caused genotoxicity and DNA fragmentation which were significantly restored towards the normal level with SME.

Conclusion: These results reveal that treatment of SME may be useful in the prevention of hepatic stress.

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
Source:	Journal of Oral Pathology & Medicine Wiley-Blackwell Volume 43, Issue 6, page 405-409
ISSN:	1600-0714
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Impact Factor:	1.87
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.

Research Title:	Detection of Adverse Drug Reactions by medication antidote signals and comparison of their sensitivity with common methods of ADR detection
Source:	Saudi Pharmaceutical Journal Elsevier B.V. sciencedirect.com/science/article/pii/S1319016414001133
ISSN:	1319-0164
Date and Year of Publication:	2014-OCT
Impact Factor:	1
Affiliated Department(s):	Pharmacology
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ABSTRACT

Objective: To determine the PPVs of selected ten medication antidote signals in recognizing potential ADRs and comparison of their sensitivity with manual chart analysis, and voluntary reporting recognizing the same ADRs.
Method: The inpatient EMR database of internal medicine department was utilized for a period of one year, adult patients prescribed at least one of the ten signals, were included in the study, recipient patients of antidote signals were assessed for the occurrence of an ADR by Naranjo's tool of ADR evaluation. PPVs of each antidote signal were verified.
Result: PPV of Methylprednisolone and Phytonadione was 0.28, Metoclopramide and Potassium Chloride - 0.29, Dextrose 50% , Promethazine , Sodium Polystyrene and Loperamide - 0.30, Protamine and Acetylcysteine - 0.33. In comparison of confirmed ADRs of antidote signals with other methods, Dextrose 50%, Metoclopramide, Sodium Polystyrene, Potassium Chloride, Methylprednisolone and Promethazine seem to be extremely significant (P value >0.0001), while ADRs of Phytonadione, Protamine, Acetylcysteine and Loperamide were insignificant.
Conclusion: Antidote medication signals have definitive discerning evaluation value of ADRs over routine methods of ADR detection with high detection rate with minimum cost; Their integration with hospital EMR database and routine patient safety surveillance enhances transparency, time-saving and facilitates ADR detection.

Research Title:	Does curcumin or pindolol potentiate fluoxetines antidepressant effect by a pharmacokinetic or pharmacodynamic interaction
Source:	Indian Journal of Pharmaceutical Sciences Medknow Publications & Media Pvt Ltd Volume 76, Issue 3, page 203-210
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Impact Factor:	0.296
Affiliated Department(s):	Pharmacology
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ABSTRACT

This study was designed to study potentiation of fluoxetines antidepressant effect by curcumin or pindolol. Twenty eight groups of mice (n=8) were used in three sets of experiments. In the first set, 9 groups were subjected to the forced swimming test after being treated intraperitoneally with three vehicles, fluoxetine (5 and 20 mg/kg), curcumin (20 mg/kg), pindolol (32 mg/kg), curcuminfluoxetine (5 mg/kg) and pindololfluoxetine (5 mg/kg). One hour after the test, serum and brain fluoxetine and norfluoxetine levels were measured in mice receiving fluoxetine (5 and 20 mg/kg), curcuminfluoxetine (5 mg/kg) and pindololfluoxetine (5 mg/kg). In the second set, the test was done after pretreatment with p-chlorophenylalanine. In the third set, the locomotor activity was measured. The immobility duration was significantly decreased in fluoxetine (20 mg/kg), curcumin (20 mg/kg), curcuminfluoxetine (5 mg/kg) and pindololfluoxetine (5 mg/kg) groups. These decreases were reversed with p-chlorophenylalanine. Fluoxetine and norfluoxetine levels were significantly higher in fluoxetine (20 mg/kg) group with no differences in fluoxetine (5 mg/kg), curcuminfluoxetine (5 mg/kg) and pindololfluoxetine (5 mg/kg) groups. Moreover, drugs failed to alter the locomotor activity indicating absence of central stimulation. In conclusion, curcumin, more than pindolol enhanced the antidepressant effect of a subeffective dose of fluoxetine in mice without increasing its serum or brain levels excluding any pharmacokinetic interaction. Reversal of this potentiation with p-chlorophenylalanine suggests a pharmacodynamic interaction through involvement of presynaptic 5-HT 1A receptors.

Research Title:	Paederia foetida Linn. leaf extract: an antihyperlipidemic, antihyperglycaemic and antioxidant activity
Source:	BMC Complementary and Alternative Medicine Biomed Central Ltd Volume 14, Issue 76, page 1-16
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Affiliated Department(s):	Pharmacy
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ABSTRACT

Background: The primary objective of the present investigation is to evaluate the antidiabetic, antihyperlidemic and antioxidant activity of the methanolic extract of the Paederia foetida Linn. (PF) leaf extract in the streptozotocin induced diabetic rats.
Methods: Single intraperitoneal injection (IP) of streptozotocin (60 mg/kg body weight) was used for induction of diabetes is swiss albino (wistar strain) rats. The induction of diabetes was confirmed after 3 days as noticing the increase in blood sugar level of tested rats. PF at a once a daily dose of 100 mg/kg, 250 mg/kg, 500 mg/kg, p.o. along with glibenclamide 10 mg/kg, p.o. was also given for 28 days. On the 28th day rats from all the groups fasted overnight fasted and the blood was collected from the puncturing the retro orbit of the eye under mild anesthetic condition. There collected blood sample was used to determine the antihyperlipidemic, hypoglycemic and antioxidant parameters.
Results: The oral acute toxicity studies did not show any toxic effect till the dose at 2000 mg/kg. While oral glucose tolerance test showed better glucose tolerance in tested rats. The statistical data indicated that the different dose of the PF significantly increased the body weight, hexokinase, plasma insulin, high density lipoprotein cholesterol, superoxide dismutase, catalase and glutathione peroxides. It also decreases the level of fasting blood glucose, total cholesterol, triglycerides, low density lipoprotein cholesterol, very low density lipoprotein cholesterol, malonaldehyde, glucose-6-phosphate, fructose-1-6-biphosphate and glycated hemoglobin in STZ induced diabetic rats. The histopathology of STZ induce diabetic rats, as expected the test dose of PF extract considerably modulates the pathological condition of various vital organ viz. heart, kidney, liver, pancreas as shown in the histopathology examinations.
Conclusions: Our investigation has clearly indicated that the leaf extract of Paederia foetida Linn. showed remarkable antihyperglycemic activity due to its possible systematic effect involving in the pancreatic and extra pancreatic mechanism. Forever, the antihyperlipidemic activity was exerted possible by lowering the higher level of lipid profile and decreasing the intercalated disc space in the heart. The antioxidant activity of extract was due to inhibition of lipid peroxidation and increasing the SOD, GPx and CAT. It was corroborate that the extract shown the Paederia foetida Linn leaves potential to be act as antidiabetic, antihyperlipidemic and antioxidant properties.

Research Title:	Physicochemical and phytochemical standardization with HPTLC fingerprinting of Nigella sativa L. seeds.
Source:	Pakistan Journal of Pharmaceutical Sciences Pakistan Journal of Pharmaceutical Sciences Volume 27, Issue 5, page 1175-1182
ISSN:	1011-601X
Date and Year of Publication:	2014-SEPT
Impact Factor:	0.099
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ABSTRACT

This study was designed to perform the physicochemical and phytochemical standardization with HPTLC fingerprinting of Nigella sativa seeds in order to establish the standard pharmacognostical parameters of this miracle herb. Different parameters like extractive values; total ash value, acid insoluble ash value and water soluble ash value, moisture content, loss on drying, pH values of Nigella sativa seeds were performed. Preliminary phytochemical screening was done to detect different phytoconstituents by using the Harborne's phytochemical methods. Quantification of phenolic and flavonoid contents, determination of pesticides residues, aflatoxin and heavy metals were also carried out. HPTLC fingerprinting of methanolic extract was performed using CAMAG-HPTLC system connected with win CAT software. Preliminary phytochemical screening of the extracts in different solvent revealed the presence of carbohydrates, phenolic compounds, flavonoids, alkaloids, proteins, saponins, lipids, sterols and tannins. Total flavonoid and phenolic contents in methanolic extract was found to be 1.4 mg/gm and 9.8 mg/gm extract respectively. Concentrations of heavy metals were found within acceptable limits. Pesticides residues and aflatoxins were not detected. The physicochemical and phytochemical standards along with HPTLC fingerprint profile established as an outcome of this research may be utilized as substantial data for identification, purification and standardization of Nigella sativa seeds.

Research Title:	Phytochemical screening and protective effects of Trifolium alexandrinum (L.) against free radical-induced stress in rats
Source:	Food Science & Nutrition John Wiley & Sons, Inc Volume 2, Issue 6, page 751-757
ISSN:	2157-9458
Date and Year of Publication:	2014-SEPT
Impact Factor:	0.94
Affiliated Department(s):	Pharmacology
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ABSTRACT

Trifolium alexandrinum is traditionally used in various human ailments, including renal dysfunctions. The present experiment was designed to investigate antioxidant and nephroprotective effect of T. alexandrinum methanolic extract (TAME) against CCl4-induced oxidative stress in albino rats. Results of in vitro study revealed significant ($P < 0.05$) antioxidant effects. The ameliorative role of TAME was also examined by investigating the level of antioxidant enzymes catalase (CAT), peroxidase (POD), glutathione peroxidase (GSH-Px), glutathione-S-transferase (GST), nonenzymatic antioxidant viz; reduced glutathione contents (GSH) and lipid peroxidation products (TBARS) in the renal tissue homogenate in CCl4-treated rats. The intraperitoneal injection of 1 mL/kg b.w. CCl4 caused a significant depletion in the activity antioxidant enzymes and increased the TBARS contents. Supplementation of TAME at 200 mg/kg b.w. for 2 weeks significantly improved activities of antioxidant enzymes and reduced TBARS formation. Co-treatment of TAME also presented significant protection in maintaining renal urine and serum markers. Antioxidant and nephroprotective effects of TAME are associated with its polyphenolic constituents.

Research Title:	Sleep habits in adolescents of Saudi Arabia; distinct patterns and extreme sleep schedules
Source:	Food & Function Royal Society of Chemistry Volume 5, Issue 11, page 2806-2832
ISSN:	2042-6496
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Impact Factor:	2.907
Affiliated Department(s):	Pharmacology
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ABSTRACT

Human life expectancy has increased over the past 50 years due to scientific and medical advances and higher food availability. However, overweight and obesity affect more than 50% of adults and 15% of infants and adolescents. There has also been a marked increase in the prevalence of metabolic syndrome in recent decades, which has been associated with a reduction in nocturnal pineal production of melatonin with aging and an increased risk of coronary diseases, type 2 diabetes mellitus (T2DM) and death. Melatonin is currently under intensive investigation in experimental animal models of diabetes, obesity and MS at pharmacological doses (between 5 and 20 mg kg(-1) body weight), demonstrating its capacity to ameliorate the total metabolic profile and its potential as an alternative to conventional drug therapies for the disorders associated with the MS, i.e. elevated systolic blood pressure, and impairment of glucose homeostasis, plasma lipid profile, inflammation, oxidative stress, and increased body weight. An especially significant finding is the induction by melatonin of white adipose tissue browning, which may be related to its effects against oxidative stress, uncoupling the mitochondrial bioenergetic process by enhancing the expression of uncoupled-protein-1 (UCP-1), which has been related to body weight reduction in experimental animals. Further research is required to improve knowledge of this mechanism. Clinical studies are needed with the administration of pharmacological melatonin doses, because the dose has ranged between 0.050 and 0.16 mg kg(-1) bw in most studies to date. Melatonin is a natural phytochemical, and it is also important to test its beneficial metabolic effects when consumed in functional foods.

Research Title:	Structural and Functional Characterization of Pathogenic Non-Synonymous Genetic Mutations of Human Insulin-Degrading Enzyme by In Silico Methods
Source:	CNS & Neurological Disorders-Drug Targets Bentham Science Publishing Ltd Volume 13, Issue 3, page 517-532
ISSN:	1871-5273
Date and Year of Publication:	2014-APR
Impact Factor:	2.702
Affiliated Department(s):	Clinical Biochemistry, Medical Genetics, Pharmacology
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ABSTRACT

Insulin-degrading enzyme (IDE) is a key protease involved in degrading insulin and amyloid peptides in human body. Several non-synonymous genetic mutations of IDE gene have been recently associated with susceptibility to both diabetes and Alzheimer's diseases. However, the consequence of these mutations on the structure of IDE protein and its substrate binding characteristics is not well elucidated. The computational investigation of genetic mutation consequences on structural level of protein is recently found to be an effective alternate to traditional in vivo and in vitro approaches. Hence, by using a combination of empirical rule and support vector machine based in silico algorithms, this study was able to identify that the pathogenic non-synonymous genetic mutations corresponding to p.I54F, p.P122T, p.T533R, p.P581A and p.Y609A have more potential role in structural and functional deviations of IDE activity. Moreover, molecular modeling and secondary structure analysis have also confirmed their impact on the stability and secondary properties of IDE protein. The molecular docking analysis of IDE with combinational substrates has revealed that peptide inhibitors compared to small non-peptide inhibitor molecules possess good inhibitory activity towards mutant IDE. This finding may pave a way to design novel potential small peptide inhibitors for mutant IDE. Additionally by un-translated region (UTR) scanning analysis, two regulatory pathogenic genetic mutations i.e., rs5786997 (3' UTR) and rs4646954 (5' UTR), which can influence the translation pattern of IDE gene through sequence alteration of upstream-Open Reading Frame and Internal Ribosome Entry Site elements were identified. Our findings are expected to help in narrowing down the number of IDE genetic variants to be screened for disease association studies and also to select better competitive inhibitors for IDE related diseases.

Research Title:	The anti-inflammatory effects of 1,1 dimethyl-4-phenylpiperazinium (DMPP) compared to dexamethasone in a guinea pig model of ovalbumin induced asthma
Source:	European Review for Medical and Pharmacological Sciences Verduci Publisher Volume 18, Issue 15, page 2228-2236
ISSN:	1128-3602
Date and Year of Publication:	2014-AUG
Impact Factor:	0.988
Affiliated Department(s):	Pharmacology
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ABSTRACT

Backgroud And Aim: Inflammatory cells involved in the pathophysiology of asthma express nicotinic receptor. Therefore 1,1 dimethyl(-4-)phenylpiperazinium (DMPP) in two doses were compared to dexamethasone in asthmatic guinea pigs.

Materials And Methods: Six groups were included; Normal control and five asthmatic (OVA-sensitized and challenged) groups; which were treated for 10 days as follows: two vehicles, dexamethasone (DEXA, 1 mg/kg) and DMPP (0.4 and 0.8 mg/kg) groups. Pulmonary functions and airway hyper-responsiveness were assessed. Leukocytic count, tumor necrosis factor-alpha (TNF alpha), interleukin-6 (IL-6) and immunoglobulin E (IgE) were measured in both blood and bronchoalveolar lavage fluid (BALF). Histopathological examination of the lung tissues was conducted.

Results: Asthmatic untreated animals exhibited significant increase in early and late airway resistance (RxV) and airway hyper-responsiveness, with reduction in tidal volume. Both blood and BALF showed significant increase in total leukocytic count (TLC), eosinophils, lymphocytes, monocytes, TNF-alpha, IL-6 and IgE with significant decrease in neutrophils. Airway inflammatory cell infiltration and smooth muscle thickness significantly increased. DMPP 0.4 mg/kg significantly decreased late phase RXV, TLC, BALF lymphocytes, TNF-alpha, smooth muscle thickness and increased neutrophils in BALF over both DEXA and DMPP 0.8 mg/kg. Moreover, DMPP 0.4 mg/kg significantly decreased IL-6 and BALF eosinophils than DMPP 0.8 mg/kg and decreased serum IgE and parenchymal inflammatory infiltration than DEXA.

Conclusions: Low dose DMPP has more anti-inflammatory effect than a high dose in most parameters and sometimes than dexamethasone. Cholinergic anti-inflammatory pathway may therefore represent a potential drug target for allergic asthma. The dose related effect of DMPP and the mechanism underlying this effect require further evaluation.

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Research Title:	An evidence for the transcriptional regulation of iodothyronine deiodinase 2 by progesterone in ovarectomized rats.
Source:	Journal of Physiology and Biochemistry Springer Volume 70, Issue 2, page 331-339
ISSN:	1138-7548
Date and Year of Publication:	2014-JUN
Impact Factor:	2.496
Affiliated Department(s):	Physiology
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ABSTRACT

Recent literature lacks studies on the effects of progesterone withdrawal on peripheral conversion of thyroxin (T4) into triiodothyronine (T3) by iodothyronine deiodinase 2 (D2) in different body tissues. The present study aimed to assess the possible relation of progesterone to T4, T3, and D2 in ovarectomized rats. Thirty female Wistar rats were included into a sham-operated control group and an ovarectomized group. Four months following the surgical procedures, measurements of estradiol, progesterone, free T4, free T3, and thyroid-stimulating hormone (TSH) were done. Also, estradiol/progesterone and T4/T3 ratios were calculated. Tissue homogenates from the kidney, liver, brain, thyroid, mandible, and femur were used to assess expression of D2 mRNA. The estradiol/progesterone ratio showed a significant increase in ovarectomized rats. T4 showed a significant increase in contrast to T3 which showed a highly significant decrease following ovariectomy. The T4/T3 ratio was significantly increased in ovarectomized rats. In addition, D2 expression was significantly attenuated in all tissue homogenates of the ovarectomized group. The present work showed a significant positive correlation between T4 and T3 in the sham-operated control rats, which was abolished in ovarectomized rats. A negative significant correlation between progesterone and T4 was revealed in ovarectomized rats. There was also a significant positive correlation between progesterone and D2 expression in the ovarectomized group. The results of the present study hypothesize that progesterone withdrawal may underlie the decrement in D2 expression, with consequent reduction in the peripheral conversion of T4 into T3 leading to a hypothyroid state.

Research Title:	Estrogen deficiency reduces the expression of estrogen receptor-beta in Wistar rats' periodontal tissues
Source:	Saudi Medical Journal Saudi Medical Journal Volume 35, Issue 3, page 242-247
ISSN:	0379-5284
Date and Year of Publication:	2014-MAR
Impact Factor:	0.554
Affiliated Department(s):	Anatomy, Physiology
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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.

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Research Title:	Accuracy of Ultrasound to Determine Gestational Age in Third Trimester
Source:	Open Journal of Medical Imaging Scientific Research Publishing Volume 4, Issue 3, page 126-132
ISSN:	2056-8428
Date and Year of Publication:	2014-DEC
Impact Factor:	0
Affiliated Department(s):	Radiology
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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 consi- dered 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 de- termining gestational age of fetus in third trimesters. Data collected for all pregnant women re- ferred to the Maternity & Children's Hospital in Jeddah. Only women with single live fetus were in- cluded 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 neo- nates in multipara. All scans were performed by a single ultrasonologist on one ultrasound ma- chine. 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 di- ameter (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 ultra- sound.

Research Title:	Age, Gender, and Interracial Variability of Normal Lacrimal Gland Volume Using MRI
Source:	Ophthalmic Plastic and Reconstructive Surgery Lippincott Williams & Wilkins Volume 30, Issue 5, page 388-391
ISSN:	1537-2677
Date and Year of Publication:	2014-SEPT
Impact Factor:	0.914
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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.

Research Title:	Assessment of air pockets in high-dose-rate vaginal cuff brachytherapy using cylindrical applicators
Source:	Journal of Contemporary Brachytherapy Termedia Publishing House Ltd Volume 6, Issue 3, page 271-275
ISSN:	2081-2841
Date and Year of Publication:	2014-JUL
Impact Factor:	0
Affiliated Department(s):	Radiology
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ABSTRACT

Purpose: To retrospectively assess the incidence and magnitude of air pockets around Vaginal cylinders and its impact on dose distribution in vaginal cuff image-guided high-dose-rate (HDR) brachytherapy.

Material and methods: Fifty endometrial carcinoma patients treated by postoperative HDR vaginal cuff brachytherapy were included in the study. The average age of patients was 58.3 +/- 11.8 years (range: 31-87 years). Brachytherapy was performed using cylindrical applicators, and the dose prescribed to 0.5 cm from the applicator's surface, over a length of 5 cm from the applicator's tip. Computed tomography (CT) simulation was used for each brachytherapy fraction. The incidence, vaginal mucosa displacement, volume, and dosimetric effect of air pockets around the vaginal cylinder were evaluated.

Results: A total of 78 air pockets were found in 29/50 patients (58%) and 45/135 (33%) brachytherapy plans. They were located at the apex: 16/78 (20%) and lateral to the applicator: 62/78 (80%). The volume of air pockets ranged between 0.01 and 2.1 cm(3) (mean: 0.15 cm(3) +/- 0.36 cm(3)), and the maximum displacement of vaginal mucosa from cylinder surface was between 0.1 and 1.09 cm (mean: 0.34 cm +/- 0.2 cm). The dose reduction to the vaginal mucosa generated by the air pockets ranged from 0.5 to 66% (mean: 26.4% +/- 13.9%).

Conclusions: The presence of air pockets around vaginal cylinder applicators is frequently noticed in post-operative vaginal cuff brachytherapy. The dose to the vaginal mucosa is reduced, as a result of displacement generated by air pockets. The effect on the clinical outcome of this dose reduction is yet to be determined.

Research Title:	Current Trends in Computed Tomography Referral Practice Experience at a Large Academic Hospital
Source:	Life Science Journal Marsland Press Volume 11, Issue 11, page 842-848
ISSN:	1097-8135
Date and Year of Publication:	2014-NOV
Impact Factor:	2.296
Affiliated Department(s):	Radiology
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ABSTRACT

To evaluate current computed tomography (CT) referral practice with emphasis on correct clinical data and examination choice. Our second aim was to investigate turnaround times on all brain CT scans included in the study. Retrospective analysis of CT examinations in the radiology information system was carried out at King Abdulaziz University Hospital, Jeddah Saudi Arabia. This study was conducted six months after hospital wide implementation of the iRefer criteria, the Royal college of Radiologists imaging referral guidelines. The review included all patients who had attended the emergency department, out-patients, or were inpatients and had a CT request during the period from July to September 2012. Clinical data and indication for all subjects were evaluated and analyzed. Two thousand three hundred twenty two records were investigated, of which 1695(73%) were adults and 627(27%) were pediatric patients. The majority of requests were for brain 856 (37%). Of those, 46% were requested by the Emergency department, (86%) adult and (14%) pediatric patients. The total number of examinations performed with inadequate clinical information was 111; among those were 17(15%) pediatric patient requests. There is a need to increase collaboration between clinicians and radiologists to follow appropriateness guidelines and decrease inappropriate CT requests. Educational tools should be used in raising clinicians' awareness on radiation dose from radiological investigations.

Research Title:	Direct digital radiograph. Technicians role in obtaining good images
Source:	Saudi Medical Journal Saudi Medical Journal Volume 35, Issue 8, page 879-881
ISSN:	0379-5284
Date and Year of Publication:	2014-AUG
Impact Factor:	0.554
Affiliated Department(s):	Radiology
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ABSTRACT

Objectives: To determine the rejected rate of direct digital radiography (DRs) in our hospital, benchmark it with other institutes, and explore the causes of rejection.
Methods: Data were collected between June 2012 and May 2013 at King Abdulaziz University Hospital, Jeddah, Kingdom of Saudi Arabia. The rejected analysis was registered in the system, which is a built in software. Reasons for rejection could not be deleted, and no further imaging is allowed for the same patient without reporting the reason for rejection. Reasons for rejection are predefined by the machine.
Results: Of 89,797 images that were acquired, 13,371 were rejected, with a rejection rate of 15%. Positioning errors were the main reason for rejection, followed by artifact 28.5%, and motion 17.1%. As for body parts pelvis, abdomen, spine, and knee were recorded as rejected with higher rates than the average.
Conclusion: This study has shown a number of unnecessary repeated imaging of patients. In addition, reject analysis in DR is proven to be an indicator for quality in imaging, the reasons of rejection that have high percentage for occurrence should be given more focus during patients scan.

Research Title:	Estimation Of Effective Dose During Hysterosalpingography Procedures
Source:	International Atomic Energy Agency April 13 to 16th, 2014. Cusco, Peru Page 1103-1110
ISSN:	ISSSD 2014
Date and Year of Publication:	2014-APR
Impact Factor:	0
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ABSTRACT

Hysterosalpingography (HSG) is the most frequently used diagnostic tool to evaluate the endometrial cavity and fallopian tube by using conventional x-ray or fluoroscopy. Determination of the patient radiation doses values from x-ray examinations provides useful guidance on where best to concentrate efforts on patient dose reduction in order to optimize the protection of the patients. The aims of this study were to measure the patients' entrance surface air kerma doses (ESAK), effective doses and to compare practices between different hospitals in Sudan. ESAK were measured for patient using calibrated thermo luminance dosimeters (TLDs, GR200A). Effective doses were estimated using National radiological Protection Board (NRPB) software. This study was conducted in five radiological departments: Two Teaching Hospitals (A& D), twoprivate hospitals (B and C) and one University Hospital (E). The mean ESD was 20.1 mGy, 28.9 mGy, 13.6 mGy, 58.65 mGy, 35.7, 22.4 and 19.6 mGy for hospitals A,B,C,D, andE), respectively. The mean effective dose was 2.4 mSv, 3.5 mSv, 1.6 mSv, 7.1 mSv and 4.3 mSvin the same order. The study showed wide variations in the ESDs with three of the hospitals having values above the internationally reported values. Number of x-ray images, fluoroscopy time, operator skills x-ray machine type and clinical complexity of the procedures were shown to be major contributors to the variations reported. Results demonstrated the need for standardization of technique throughout the hospital. The results also suggest that there is a need to optimize the procedures. Local DRLs were proposed for the entire procedures.

Research Title:	Gallbladder dysfunction and gallstone prevalence in patients with chronic kidney disease. Is there a difference between predialysis and hemodialysis patients? A multi-center Study.
Source:	International Journal of Advanced Research International Journal of Advanced Research Volume 2, Issue 10, page 842-848
ISSN:	2320-5407
Date and Year of Publication:	2014-OCT
Impact Factor:	1.659
Affiliated Department(s):	Radiology
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ABSTRACT

Background: Gallbladder stone formation is undoubtedly multifactorial, and many related factors had been thoroughly investigated. We evaluated gallbladder function and gallstone prevalence in chronic kidney disease (CKD) patients and compared them among predialysis (PreD) and hemodialysis (HD) patients.
Methods: A Cross-sectional controlled study was carried out in three big tertiary hospitals. Three groups of subjects were enrolled in the study; 100 control subjects, 120 PreD patients, who had CKD stage 4 and 5, and 135 CKD patients on regular HD. Routine biochemical parameters were assessed in all subjects. Ultrasonography was done for all groups to evaluate gallbladder volumes, and ejection fraction (EF) was calculated.
Results: Gallbladder fasting volume (FV) was significantly different among study groups. There were statistically significant differences between CKD patients and controls, regarding both gallbladder residual volume (RV) and EF ($P=0.008$ and $P<0.001$, respectively). However, no statistically significant differences were found between PreD and HD patients, regarding both gallbladder RV and EF. Regarding, the frequency of gallbladder stones, there was a statistically significant difference between CKD patients and controls ($P<0.004$).
Conclusion: CKD is associated with significant gallbladder dysfunction and high gallstone prevalence, however, these changes did not differ significantly between PreD and HD patients.

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
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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:	Religious Involvement and Health in Dialysis Patients in Saudi Arabia
Source:	Journal of Religion and Health Springer US Volume 54, Issue 2 , page 713-730
ISSN:	1573-6571
Date and Year of Publication:	2014-OCT
Impact Factor:	0.945
Affiliated Department(s):	Medicine, Radiology
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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.

Research Title:	Ultrasonographic features associated with malignancy in cytologically indeterminate thyroid nodules
Source:	European Journal of Surgical Oncology Elsevier Volume 40, Issue 2, page 182-186
ISSN:	0748-7983
Date and Year of Publication:	2014-FEB
Impact Factor:	2.892
Affiliated Department(s):	Radiology
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ABSTRACT

Context: Thyroid nodules with indeterminate cytology usually are treated with surgery, but most are benign. Neck ultrasonography has varied results in predicting malignancy.
Objective: To evaluate the predictive value of ultrasonography and the frequency of malignancy in patients who had indeterminate thyroid nodules.
Design: Retrospective study.
Setting: University hospital.
Patients: There were 78 patients who had thyroid nodules that were diagnosed on cytology (fine needle aspiration) as a follicular lesion (atypia of undetermined significant) or follicular neoplasm. Ultrasonography was available in 69 patients (88%).
Intervention And Main Outcome Measures: Diagnostic fine needle aspiration (cytology), ultrasonography, and surgical pathology of thyroid nodules.
Results: Fine needle aspiration was indeterminate in all patients, with follicular lesions in 60 patients (77%) and follicular neoplasm in 18 patients (23%). Ultrasonography showed micro calcification in 6 patients (9%), irregular border in 15 patients (22%), size $\geq$ 3 cm in 31 patients (45%), and hypoechogenicity in 43 patients (62%). Surgical pathology showed that the nodules were benign in 50 patients (64%) and malignant in 28 patients (36%). Malignancy was significantly associated with male sex (relative risk, 2.3), solid nodule structure (relative risk, 2.6), and irregular border (relative risk, 3.6). Compared with other ultrasonographic characteristics, irregular borders had the highest specificity (93%), positive predictive value (80%), and accuracy (78%) for malignancy.
Conclusions: The frequency of malignancy is high in indeterminate thyroid nodules. Based on the limited accuracy or predictive value of ultrasonographic risk factors, surgery is the treatment of choice for indeterminate thyroid nodules.

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Research Title:	A case report: Cecal volvulus caused by Meckel's diverticulum
Source:	International Journal of Surgery Case Reports Elsevier B.V. Volume 5, Issue 12, page 1200-1202
ISSN:	2210-2612
Date and Year of Publication:	2014-NOV
Impact Factor:	0.19
Affiliated Department(s):	Surgery
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ABSTRACT

Introduction: Meckel's diverticulum is the most common congenital anomaly of the small intestine. Common complications related to Meckel's diverticulum include hemorrhage, intestinal obstruction and inflammation. Acute large bowel obstruction is a rare complication of Meckel's diverticulum and in the presented case it is caused by volvulus.
Presentation of Case: We report a 39 year old female who presented with the diagnosis of a large bowel obstruction occurring as a result of cecal volvulus caused by adhesions of a perforated diverticulum.
Discussion: The reported case presents one of the rare complications of MD, which is volvulus. The case described above presented with signs and symptoms suggestive of acute intestinal obstruction and radiological findings suggestive of cecal volvulus. The patient was taken to the operation room for exploration and we discovered the presence of a perforated MD. The main treatment of such case is to perform diverticulectomy in all symptomatic patients.
Conclusion: MD is mostly identified intraoperatively. Knowledge of the pathophysiologies by which MD can cause complications such as volvulus is important in order to plan management.

Research Title:	Abnormal Anatomical Variations of Extra-Hepatic Biliary Tract, and Their Relation to Biliary Tract Injuries and Stones Formation
Source:	Gastroenterology Research Elmer Press Inc Volume 7, Issue 1, page 12-16
ISSN:	1918-2813
Date and Year of Publication:	2014-JUL
Impact Factor:	1.502
Affiliated Department(s):	Surgery
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ABSTRACT

Background: To determine the most common abnormal anatomical variations of extra-hepatic biliary tract (EHBT), and their relation \to biliary tract injuries and stones formation.
Methods: This is a retrospective review of 120 patients, who underwent endoscopic retrograde cholangiopancreaticography (ERCP) and/or magnetic resonance cholangiopancreaticography (MRCP), between July 2011 and June 2013. The patients' ERCP and MRCP images were reviewed and evaluated for the anatomy of EHBT; the medical records were reviewed for demographic data, biliary tracts injuries and stones formation.
Results: Out of 120 patients, 50 were males (41.7%) and 70 were females (58.3%). The mean age was 54 years old (range 20 - 88). Abnormal anatomy was reported in 30% (n = 36). Short cystic duct (CD) was found in 20% (n = 24), left CD insertion in 5% (n = 6), CD inserted into the right hepatic duct (RHD) in 1.7% (n = 2), duct of Luschka in 3.33% (n = 4) and accessory hepatic duct in also 3.33% (n = 4). Biliary tract injuries were reported in 15% (n = 18) and stones in 71.7% (n = 86). Biliary tract injuries were higher in abnormal anatomy (P = 0.04), but there was no relation between abnormal anatomy and stones formation.
Conclusion: Abnormal anatomy of EHBT was found to be 30%. The most common abnormality is short CD followed by left CD insertion. Surgeons should be aware of these common abnormalities in our patients, hence avoiding injuries to the biliary tract during surgery. The abnormal anatomy was associated with high incidence

Research Title:	Acute cholecystitis presenting with massive intra-abdominal haemorrhage
Source:	Journal of Surgical Case Reports Oxford University Press Volume 2014, Issue 4, page 1-3
ISSN:	2042-8812
Date and Year of Publication:	2014-APR
Impact Factor:	1.676
Affiliated Department(s):	Surgery
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ABSTRACT

Haemorrhagic cholecystitis is a known rare life-threatening complication of acute cholecystitis. In this case report, we describe clinical presentation and radiological findings of acute cholecystitis presenting with massive intra-abdominal haemorrhage. We present a case of a 57-year-old male presenting to the emergency department with clinical symptoms of acute cholecystitis. Initially, the patient was haemodynamically stable. Gallbladder could not be visualized by ultrasound. Computed tomography with IV contrast showed a large haematoma in the gallbladder fossa, with active extravasation of IV contrast. On angiography the bleeding was localized to a branch of the cystic artery, which was embolized using gelfoam material. The patient was taken to the operating room for an urgent laparotomy and cholecystectomy.

Research Title:	Alzheimer's and Type 2 Diabetes Treatment via Common Enzyme Targeting
Source:	Cns & Neurological Disorders-Drug Targets Bentham Science Publishing Ltd Volume 13, Issue 2, page 299-304
ISSN:	1871-5273
Date and Year of Publication:	2014-MAR
Impact Factor:	2.702
Affiliated Department(s):	Medicine, Surgery
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ABSTRACT

Alzheimer's disease (AD) and type 2 diabetes mellitus (T2DM) are two devastating diseases that are currently incurable. Epidemiological, clinical and pathological evidence has confirmed the co-existence of these two disorders. Moreover, there has been promising progress made in the identification of the pathological linkage between T2DM and AD in the last decade. Hence, developing common treatment strategies for these diseases is important. Currently, enzyme targeting is a potential strategy to cure many diseases. In this communication, we tried to summarize the single enzyme-targeted therapeutic approach for the treatment of AD and T2DM. This field of research continues to be active and progressive in identifying many promising enzymes that are involved in both diseases. Based on this review article, we also believe that enzyme inhibition is a promising and reliable strategy for the treatment of many incurable diseases. In the future, we expect that the scientific community will be able to develop common enzyme inhibitors for the treatment of both AD and T2DM.

Research Title:	Association of single nucleotide polymorphisms in FOXE1 and pre-MIR146A with papillary thyroid carcinoma
Source:	BMC Genomics BioMed Central Volume 15, Supplement 2, page 68
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Impact Factor:	4.041
Affiliated Department(s):	Pathology, Surgery
Author(s):	Nadia Bagatian, Ohoud Subhi, Shireen Hussain, Khalid Al-Ghamdi, Osman A Al-Hamour, Mohammed H Al-Qahtani, Adeel Chaudhary, Adel Abuzenadah, Jaudah Al-Maghrabi, Hans-Juergen Schulten
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ABSTRACT

Background: Papillary thyroid carcinoma (PTC) is one of the most common cancer types in the Middle East and North African (MENA) region and more abundant than in many other world regions suggesting that genetic susceptibility factors for this malignancy are likely to vary between the populations studied. We assessed in a population from the MENA region the allele frequencies of two SNPs which may bear the capacity to confer risk for developing PTC. SNP rs2910164 is a sequence polymorphism in the precursor microRNA (mir)146a. The heterozygous C/G state of rs2910164 was found to be associated with a reduced amount of mir146a which in turn had an effect on the efficiency to inhibit target genes as CCDC6. SNP rs1867277 is located 283 bp upstream of the translational start site of the developmental gene encoding forkhead box E1 (FOXE1) and identified as an associated risk factors for a number of solid tumors including PTC.
Materials and methods: SNPs rs2910164 and rs1867277 were investigated in patients with PTC and volunteers without a thyroid disease (case and control group each, N=207-234) using PCR, including a multiplex PCR step on genomic DNA, to amplify each SNP region. PCR products were directly sequenced. For Hardy-Weinberg (HW) equilibrium testing the Online Encyclopedia for Genetic Epidemiology studies was used. Odds ratios (ORs) and 95% confidence intervals (CI) were calculated using the online VassarStats website for statistical computation and considered to be statistically significant for a P-value < 0.05.
Results: Both SNPs rs2910164 (mir146a) and rs1867277 (FOXE1) were in HW disequilibrium in the patient group (X2 = 8.33 and X2 = 8.29, respectively) but in equilibrium in the control group (X2 = 0.87 and X2 = 1.56, respectively). For rs2910164 a trend association with PTC was found for the heterozygous C/G state when compared to the combined C/C+G/G states (OR = 0.51, CI 0.51-1.1, P = 0.11). For rs1867277 the risk allele A was significantly associated with PTC in comparison to allele G (OR = 1.94, CI 1.48-2.53, P < 0.0001).
Conclusions: The HW disequilibrium of SNP rs1867277 in the PTC group and its significant association of risk allele A with PTC let us suggest that this SNP in the developmental FOXE1 gene may represent an additive risk factor for developing PTC in the investigated population.

Research Title:	Congenital Posterior Mediastinal Teratoma with Intraspinal Extension
Source:	Journal of Pediatric Oncology Pharma Publisher Volume 2, page 3-9
ISSN:	2309-3021
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Impact Factor:	0.873
Affiliated Department(s):	Surgery, Pathology
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ABSTRACT

Congenital teratoma is the commonest tumors of the nervous system, which are predominantly midline located. However, their spinal location is extremely rare. We present a case of a female twin newborn with huge right side mediastinal tumor presented afterbirth with a chest infection. She underwent complete surgical resection via thoracotomy. Histopathological examination revealed immature teratoma. She had complete respiratory recovery but presented three months later with progressive paraparesis due to intrapinal tumor. She underwent thoracic laminectomy and complete excision for what turned out histopathologically to be mature teratoma. She recovered well from surgery and received adjuvant chemotherapy over one year. Her 5-year follow up revealed a healthy child with no recurrence of the mediastinal or intraspinal teratoma on regular imaging surveillance. We report herein a rare congenital posterior mediastinal teratoma with intraspinal extension and discuss the clinical features, imaging studies, histopathological examination, and management.

Research Title:	Cutaneous Melanoma in 1-Year-Old Child: An Insight on Infantile Melanoma
Source:	American Journal of Dermatopathology Lippincott Williams & Wilkins Volume 36, Issue 11, page 908-914
ISSN:	1533-0311
Date and Year of Publication:	2014-NOV
Impact Factor:	1.426
Affiliated Department(s):	Pathology, Surgery
Author(s):	Fadwa J Altaf, Sherine I Salama, Abdullah S Bawazer, Ahmad O Al-Lehabi, Luai S Jamal, Basem Awan, Osama I Nassif, Ghadeer A Moktar
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ABSTRACT

In the past, malignant melanoma (MM) is a diagnosis of unheard in children, but nowadays MM is a very rare malignancy in children. Its diagnosis requires careful interpretation of the pathological diagnostic criteria with clinical correlation of the findings. In this study, the authors are presenting a pigmented lesion in a 12-month-old girl, which was present since her birth with increase in size and shape. The authors discussed the difficulty that confronted them in making a diagnosis of MM and the differential diagnosis.

Research Title:	Detection of rare single nucleotide variants affecting genes in the DNA repair pathways in hereditary breast cancer
Source:	BMC Genomics BioMed Central Ltd Volume 15, Supplement 2, page 20
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Affiliated Department(s):	Surgery, Pathology, Medicine
Author(s):	Shireen Hussein, Adnan Merdad, Jaudah Al-Maghrabi, Mamdooh A Gari, Fatma Al-Thubaiti, Ibtessam R Hussein, Adeel G Chaudhary, Adel M Abuzenadah, Hanaa Tashkandi, Shadi Al-Khayyat, Taha Kumosani, Mohammed H Al-Qahtani, Ashraf Dallol
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ABSTRACT

Background: Patients with hereditary breast cancer constitute a considerable fraction of overall breast cancer sufferers. The contribution of genetic factors to the development of breast cancer in the admixed and highly consanguineous population of the western region of Saudi Arabia is thought to be significant as the disease is early onset [1]. The current protocols of continuous clinical follow-up of relatives of such patients are costly and cause a burden on the usually over-stretched medical resources. Discovering the significant contribution of BRCA1/2 mutations to breast cancer susceptibility allowed for the design of genetic tests that allows the medical practitioner to focus the care for those who need it most. However, BRCA1/2 mutations do not account for all breast cancer susceptibility genes and there are other genetic factors, known and unknown that may play a role in the development of such disease.

Materials and methods: We have performed whole-exome sequencing of seven cases of breast cancer patients with positive family history of the disease using the Agilent SureSelect™ Whole-Exome Enrichment kit and sequencing on the SOLiD™ platform.

Results: In addition to identifying two rare or novel mutations in BRCA2, we have identified several coding single nucleotide variations that affect genes controlling DNA repair in the BRCA1/2 pathway. The disruption of these pathways is very likely to contribute to breast cancer susceptibility.

Conclusions: Our findings suggest that whole exome sequencing is a powerful tool for identifying mutations associated with hereditary breast cancer that might be missed by using other classical genetic testing strategies. Moreover, this will guide the treatment of breast cancer patients who have failed to respond to first-line therapies, thus, it is a great leap towards applying personalized medicine in Saudi Arabia.

Research Title:	Does the Study Guide Represent a Helpful Learning Tool for Medical Students? Students Perspectives
Source:	Jokull Journal 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
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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.

Research Title:	Expression of Matrix Metalloproteinases (MMPs) in Primary Human Breast Cancer: MMP-9 as a Potential Biomarker for Cancer Invasion and Metastasis
Source:	Anticancer Research Int Inst Anticancer Research Volume 34, Issue 3, page 1355-1366
ISSN:	1791-7530
Date and Year of Publication:	2014-MAR
Impact Factor:	1.872
Affiliated Department(s):	Surgery
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ABSTRACT

Background/Aim: Breast cancer (BC) is the most common type of cancer in Saudi women. Matrix metalloproteinases (MMPs) are endopeptidases with the ability to degrade extracellular matrix proteins. In healthy individual tissue disruption is prevented by precised regulation of MMPs; however, in cancer a number of MMPs are overexpressed causing tissue disruption and making tumor cells capable of invasion and metastasis. Invasive ductal carcinoma (IDC) of BCs are classified into grade 1 (G1), grade 2 (G2) and grade 3 (G3) tumors.

Materials and Methods: We performed a transcriptomic profiling of 38 surgically-resected breast tumors (4 G1, 17 G2 and 17 G3) using Affymetrix Gene 1.0 ST microarrays. Differentially expressed genes for each grade were identified by the Partek Genomic Suite 6.4 and expression analysis results were validated by immunohistochemistry at the protein level. Pathway analyses and establishment of clinical significance of findings were performed using the appropriate software.

Results: We identified 1,593 differentially expressed genes in BC grades in comparison to normal samples using a cut-off of $p<0.05$ and fold change >2. Out of these genes 429 were expressed throughout in all grades along with tumor progression while many others associated with specific grades (440 genes in G1, 203 in G2 and 394 in G3 only) were exclusively. Microarray results indicate that mRNA expression of MMP-1, -9,-11,-12, and -13 were up-regulated in higher BC grades when compared to normal breast tissues. MMP-9 was expressed in most IDC (97.5%) samples and was highly expressed in 55% of the tumors. Differential expression of MMP-9 significantly correlated with histological BC grades of ($p=0.03$) and strongly correlated with overall survival ($p=0.08$). **Conclusion:** Gene expression signatures are unique for specific grades. Overexpression of MMPs in higher grades might be associated with BC tumor invasion and metastasis. Therefore, MMPs, and MMP-9 in particular, are reliable candidates for diagnostic biomarker and drug target and further functional analyses have to be performed in order to confirm their role in BC. Our results also suggest the incidence of MMP-9 expression is high in IDC, but it is of limited prognostic value.

Research Title:	High fibroblast growth factor 19 (FGF19) expression predicts worse prognosis in invasive ductal carcinoma of breast
Source:	Tumor Biology Springer Volume 35, Issue 3, page 2817-2824
ISSN:	1423-0380
Date and Year of Publication:	2014-MAR
Impact Factor:	2.84
Affiliated Department(s):	Pathology, Surgery
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ABSTRACT

Metabolic diseases like diabetes and obesity are major risk factors for breast cancer. Aberrant expression of metabolic effectors such as fibroblast growth factor 19 (FGF19) could be therefore associated with the disease. The expression of FGF19 was examined in 193 archival breast tumor samples by immunohistochemistry and evaluated semi-quantitatively by determining the staining index and correlating it with clinicopathological parameters using Fisher's exact test. The correlation between FGF19 expression and 5-year disease-specific survival rate was determined using the univariate Kaplan-Meier analysis. The prognostic value of FGF19 expression was evaluated using the multivariate Cox regression analysis. Of the 193 tumors analyzed, 40 % were classified with low FGF19 expression, whereas 60 % were categorized as tumors with high FGF19 expression. There was a highly significant correlation between high FGF19 expression and patients' age ($p = 0.008$) as well as 5-year disease-specific survival ($p = 0.001$). However, FGF19 expression did not show any significant correlations with other clinicopathological parameters, including hormonal status, tumor grade, tumor size, or lymph node status. Univariate Kaplan-Meier log rank analysis showed that patients with high FGF19 expression exhibited a significantly shorter disease-specific 5-year survival ($p = 0.007$). This effect was exacerbated by lymph node metastasis ($p = 0.001$), negative estrogen receptor (ER) status ($p = 0.002$), or old age ($p = 0.013$). Multivariate analysis showed that high FGF19 expression could be an independent prognostic marker of disease-specific survival in breast cancer patients ($p = 0.030$). Quantification of FGF19 expression appears to provide valuable prognostic information in breast cancer, particularly in older patients with lymph node metastasis and negative ER status.

Research Title:	Histopathological effects of radiosurgery on a human trigeminal nerve.
Source:	Surgical Neurology International Medknow Volume 4, Issue 6, page 462-467
ISSN:	2152-7806
Date and Year of Publication:	2014-JAN
Impact Factor:	0
Affiliated Department(s):	Surgery
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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:	Identification of frequent MTNR1B methylation in breast cancer following the application of high-throughput methylome analysis
Source:	BMC Genomics BioMed Central Ltd Volume 15, Supplement 2, page 44
ISSN:	1471-2164
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Impact Factor:	4.041
Affiliated Department(s):	Pathology, Surgery
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ABSTRACT

Background: Breast cancer is the main cancer type affecting women in the Kingdom of Saudi Arabia. The relatively young age of onset in this population could be explained by the interplay between common genetic susceptibility background substantiated by increased consanguinity and epigenetic aberrations caused by the shift in life style experienced in this region. Genomic screening of breast cancer patients is beneficial in identifying underlying variants that could explain increased susceptibility to breast cancer. However, it is important to understand the epigenetic aberrations associated with breast cancer in order to shed light on its etiology and identify possible treatments. To this end, we have performed MBD-Seq on a cohort of breast cancer samples that led to the identification of tumor-specific methylation of the MTNR1B promoter in a significant number of breast cancer cases from Saudi Arabia.
Materials and methods: Methyl binding domain-sequencing (MBD-Seq) was applied on DNA extracted from surgically-resected breast tumors using the MethylMiner™ kit from Invitrogen followed by fragment identification using next generation sequencing on the SOLiD platform (Applied Biosystems). Determination of methylation frequency and correlation with clinicopathological parameters was performed using the MethyLight assay on DNA extracted from FFPE tissues. Fisher's exact test and univariant Kaplan-Meier survival analysis were applied where $p<0.05$ considered statistically significant.
Results: MTNR1B methylation frequency in breast cancer is 35% (n=157). MTNR1B methylation was largely limited to the IDC, ILC and DCIS subtypes. Furthermore, MTNR1B methylation is significantly associated with histological grade I of breast cancer (p=0.019, n=128). The association of MTNR1B methylation and disease-free or specific survival is investigated.
Conclusions: Finding significant levels of methylation of a key circadian clock gene as the MTNR1B in a tumor-specific fashion may provide an intriguing evidence to the role of environmental factors (day-night cycles) and breast cancer development.

Research Title:	Incidence and Types of Herbal Remedies as a Cause of Bowel Perforation
Source:	Life Science Journal Marsland Press Volume 11, Issue 2, page 37-40
ISSN:	1097-8135
Date and Year of Publication:	2014-FEB
Impact Factor:	2.296
Affiliated Department(s):	Surgery, Anatomy
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ABSTRACT

Objective: To study the incidence and types of herbal remedies as a cause of bowel perforation.
Method: This is a retrospective review of all patients who were diagnosed with bowel perforation at King Abdulaziz University Hospital between January 2005 and November 2013. The patients' medical records were reviewed for demographic data, causes of the bowel perforation, types of foreign bodies if any, clinical picture and management. The data were entered and analyzed using the statistical package for social sciences (SPSS Inc, Chicago, IL, USA), version 20.00.
Results: Total of 36 cases of bowel perforation, 20 were males (55.6%) and 16 were females (44.4%). The mean age was 45.17±15.95 years old (range 13-85). The most common cause of bowel perforation was foreign body ingestion as it was found in 13 patients (36.1%); it was followed by intestinal obstruction in 6 patients (16.8%), diverticular disease in 5 patients (14.0%), iatrogenic in 4 patients (11.1%), Crohn's disease in 3 patients, blunt injury in also 3 patients (8.3%), and the least common cause was malignancy in 2 patients (5.6%). The most common foreign body was herbal remedies in 8 patients (22.3%); Ginger in 4 patients (11.1%); Anise in 2 patients (5.6%);Ginseng in 1 patients (2.8%) and Liquoric in1 patient (2.8%).There was no association between age nor gender and bowel perforation secondary to herbal remedies ingestion (p-value = 0.1).Other foreign bodies were fish bones in 3 patients (8.4%), chicken bone in 1 patient and plastic piece in 1 patient (2.8%).
Conclusion: Herbal remedies ingestion formed 22.3% of our bowel perforation cases. Ginger was the most common herb. At national level, patient's education about complications of herbal remedies ingestion and risks of bowel perforation is needed to increase the community awareness regarding this problem and take the proper precautions before taking such remedies in order to avoid bowel perforation

Research Title:	Laparoscopic-assisted one-stage resection of rectal cancer with synchronous liver metastasis utilizing a pfannenstiel incision
Source:	Saudi Journal of Gastroenterology Medknow Publications & Media Pvt Ltd Volume 20, Issue 5, page 315-318
ISSN:	1998-4049
Date and Year of Publication:	2014-OCT
Impact Factor:	1.221
Affiliated Department(s):	Surgery,
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ABSTRACT

Laparoscopic approaches have been increasingly used in selected patients with either colorectal or liver cancer. However, simultaneous resection of colorectal carcinoma with synchronous liver metastases is still a subject of debate. The present case describes combined laparoscopic rectal and liver resections for a patient with primary rectal cancer and a synchronous liver metastasis utilizing a Pfannenstiel incision for specimen extraction. The operative time was 370 min and estimated blood loss was 400 mL. Postoperatively, the patient required parenteral analgesia for 48 h, resumed normal diet on day 3 and was discharged on day 7 after the operation. A laparoscopic approach utilizing a Pfannenstiel extraction incision may present an advantageous and attractive option for simultaneous laparoscopic rectal and liver resection in selected patients with the aim of improving short-term outcomes.

Research Title:	Malignant Trigeminal Nerve Sheath Tumor and Anaplastic Astrocytoma Collision Tumor with High Proliferative Activityand Tumor Suppressor P53 Expression
Source:	Case Reports in Pathology Hindawi Publishing Corporation Volume 2014 page 1-6
ISSN:	2090-6781
Date and Year of Publication:	2014-OCT
Impact Factor:	0
Affiliated Department(s):	Pathology, Surgery
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ABSTRACT

Background: The synchronous development of two primary brain tumors of distinct cell of origin in close proximity or in contact with each other is extremely rare. We present the first case of collision tumor with two histological distinct tumors.
Case Presentation: A 54-year-old woman presented with progressive atypical left facial pain and numbness for 8 months. MRI of the brain showed left middle cranial fossa heterogeneous mass extending into the infratemporal fossa. At surgery, a distinct but intermingled intra- and extradural tumor was demonstrated which was completely removed through left orbitozygomatic-temporal craniotomy. Histopathological examination showed that the tumor had two distinct components: malignant nerve sheath tumor of the trigeminal nerve and temporal lobe anaplastic astrocytoma. Proliferative activity and expressed tumor protein 53 (TP53) gene mutations were demonstrated in both tumors.
Conclusions: We describe the first case of malignant trigeminal nerve sheath tumor (MTNST) and anaplastic astrocytoma in collision and discuss the possible hypothesis of this rare occurrence. We propose that MTNST, with TP53 mutation, have participated in the formation of anaplastic astrocytoma, or vice versa.

Research Title:	Metaplastic carcinoma of the breast: an immunohistochemical study
Source:	Diagnostic Pathology Biomed Central Ltd Volume 9, Issue 1, page 139
ISSN:	1746-1596
Date and Year of Publication:	2014-JUL
Impact Factor:	2.411
Affiliated Department(s):	Pathology, Surgery
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ABSTRACT

Background: Metaplastic breast carcinoma is a rare entity of breast cancer expressing epithelial and/or mesenchymal tissue within the same tumor. The aim of this study is to evaluate the clinicopathological features of metaplastic breast carcinoma and to confirm the triple negative, basal-like and/or luminal phenotype of this type of tumor by using immunohistochemical staining.

Methods: Seven cases of MBC were evaluated for clinico-pathological features including follow up data. Cases were studied immunohistochemically by CK-Pan, Vimentin, ER, PR, HER2, basal markers (CK5/6, p63, EGFR, SMA and S-100), luminal cytokeratins (CK8, CK18 and CK19), markers for syncytial cells (beta-HCG and PLAP), as well as prognostic markers (p53, ki-67 and calretinin).

Results: The mean age of the patients was 36 years. Three cases showed choriocarcinomatous features. All of our cases were negative for ER, PR and HER2. Six out of the 7 cases showed basal-like differentiation by demonstrating positivity with at least one of the basal/myoepithelial markers. Also 6 out of the 7 cases expressed luminal type cytokeratins (CK8, CK18 and/or CK19). P53 was positive in 3 cases, ki-67 was strongly expressed in only one case, while calretinin was expressed in 6 cases.

Conclusion: Metaplastic breast carcinoma presents in our population at a younger age group than other international studies. All cases are categorized immunohistochemically under the triple negative group of breast cancer and 86% of them exhibited basal-like and luminal phenotype. Majority of cases developed local recurrence and distant metastasis in a relatively short period of time.

Research Title:	Method of delivery of bone marrow stem cells to the articular joint influences their survival during arthroscopy
Source:	BMC Genomics BioMed Central Ltd Volume 15, Supplement 2, page 37
ISSN:	1471-2164
Date and Year of Publication:	2014-APR
Impact Factor:	4.041
Affiliated Department(s):	Surgery
Author(s):	Reham Al Nono, Gauthaman Kalamegam, Haneen Alsehli, Farid Ahmed, Mohammed Alkaff, Mohammed Abbas, Wael Kafienah, Faten Al Sayes, Adeel Chaudhary, Adel Abuzenadah, Mohammed Al Qahtani, Mamdooh Gari
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ABSTRACT

Background: Cartilage poor capacity to regenerate can eventually lead to osteoarthritis. We aim to restore cartilage regeneration by introducing autologus bone marrow MSCs (BMMSCs) into the damaged joint using arthroscopy. The arthroscopic procedure involves variations in temperature either to supraphysiologic or subphysiologic levels following low-flow irrigation or cryotherapy respectively [1,2]. The aim of this study was to assess whether such temperature fluctuations would influence the viability and function of delivered BMMSCs and hence the outcome of the arthroscopic procedure.

Materials and methods: Primary cultures of human BMMSCs were assessed for their morphology (Phase contrast microscopy), cell proliferation (MTT assay) and surface marker analysis (FACS). Early passage of BMMSCs (P4; 1 x 106 cells/10 mL) were used in two different configurations that reflect their potential method of delivery to the joint: a single cell-suspension (Group A) or a cell-pellet (Group B). The arthroscope with illumination was held in a fixed position such that it was suspended into the medium containing cell-suspension or cell-pellet in 50mL tubes and different samples in both groups were incubated for 10, 20 or 30 minutes. The temperature increased with time from 27.6 ± 0.14 to 37. 2 ± 0.07. The cell-suspension/cell-pellet were then gently mixed and 2 x 104 cells/well (24 well plate) were seeded. Cells were cultured under standard culture conditions (37ºC in 5% atmospheric air) for 72 h and cell morphology and proliferation were assessed.

Results: BMMSCs showed characteristic fibroblastic morphology, proliferation and were positive for BMMSC related surface markers, namely CD73 (96.4%), CD105 (76.1%) and CD90 (29.4%) (Figure 1A-C). They were negative for CD34 and CD45 (Figure-1C). In Group A, assessment of cell proliferation by MTT assay showed decrease by 2.04% and 63.27% at 20 and 30 min, respectively, compared to control following arthroscopic exposure. However, only the decrease observed at 30min was statistically significant (Figure 1D). In contrast, Group B showed statistically significant increases in cell numbers at 10min (33.30%) and 20min (23.33%) compared to the control (Figure 1E).

Conclusions: Long-term exposure of BMMSCs to the arthroscope as a single cell suspension or in pellets results in decreased cell viability. The pellet configuration seems to confer protection from temperature alterations during short periods of arthroscopic exposure. We conclude that the method of delivery of BMMSC to the joint could be detrimental to their survival and contribution to cartilage repair during arthroscopic procedure.

Research Title:	Molecular characterization and identification of predictors of disease outcome in Saudi colorectal carcinoma
Source:	BMC Genomics BioMed Central Ltd Volume 15, Supplement 2, page 1
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Affiliated Department(s):	Pathology, Medicine, Surgery
Author(s):	Abdelbaset Buhmeida, Ashraf Dallol, Jaudah Al-Maghrabi, Mahmoud Al-Ahwal, Abdulrahman Sibiany, Mohmmad Al-Qahtani
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ABSTRACT

Colorectal Carcinoma (CRC) is a heterogeneous disease with different molecular characteristics associated with the sites from which, the tumours originate. Such heterogeneity is compounded by the multitude of genetic and epigenetic variations acting as passengers or drivers of the tumour. Majority of CRC develops via chromosomal instability (CIN) pathway. CIN is often exacerbated by inactivation of the Wnt signalling pathway "master regulator" APC gene, activating mutations of KRAS or BRAF oncogenes, or deletions of the 18q, and 17p chromosomal regions with deleterious effects on the tumour suppressor genes TP53 and DCC. Defective Mismatch Repair (MMR) pathway results in a subtler form of genomic instability, namely Microsatellite Instability (MSI). High levels of MSI (or MSI-H) in sporadic CRC are usually caused by hypermethylation of the MLH1 promoter. In terms of methylation, the CpG island methylator phenotype (CIMP) pathway is the second most common pathway in sporadic CRC. CIMP-positive (CIMPp) CRC tumours are usually associated with the proximal colon of older females. CIMPp CRC tumours have better prognosis if the tumours are also MSI-H. However, CIMPp CRC tumours that are Microsatellite Stable (MSS) have poor clinical outcome. To gain insight into the molecular mechanisms underpinning CRC in Saudi Arabian patients, we profiled the DNA methylation frequency of key genes (MLH1, MSH2, RASSF1A, SLIT2, HIC1, MGMT, SFRP1, MYOD1, APC, CDKN2A, and other five CIMP markers) in 120 sporadic CRC cases. CRC tumours originating from the rectum, left, and right colons are represented in this cohort. Expression patterns of different proteins playing important role in CRC carcinogenesis also studied by using Immunohistochemistry (IHC) technique and their impact as CRC prognosticators was evaluated.

Research Title:	Nodular goiter and hyperplastic lesion of the thyroid share common deregulated expression profiles
Source:	BMC Genomics BioMed Central Ltd Volume 15, Supplement 2, page 70
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Affiliated Department(s):	Pathology, Surgery
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POSTER PRESENTATION / ABSTRACT

Background: Proliferative thyroid lesions including nodular goiter and hyperplastic lesion are very common in the Middle East and North African (MENA) region . Hyperplastic lesions are also regarded as a subcategory of goiter. High-density expression profiles in these benign thyroid lesions are not surveyed in detail . In an effort to establish gene expression profiles that distinguish both lesions from each other and from normal thyroid (TN) tissue, we employed state-of-the-art oligonucleotide microarray technology.

Materials and methods: Whole transcript expression profiles were generated in 17 goiters, 14 hyperplastic lesions and 7 TN samples utilizing Affymetrix HuGene 1.0 ST arrays. We used the default analysis method for generating a threshold of significance for differential expression (p-value with a false discovery rate ≤ 0.05 and a fold change > 2). Partek Genomics Suite and Ingenuity Pathway Analysis software packages were utilized to interpret data sets.

Results: Expression profiles of goiters and hyperplastic lesions were highly related and no transcripts were differentially expressed between these two thyroid lesions under the given statistical threshold values. However, more than 10000 genes were differentially expressed between goiters, as well as hyperplastic lesions, and TN samples. The most differentially expressed transcripts were in fact downregulated in both thyroid lesions in comparison to TN samples and include genes like olfactory receptor, family 6, subfamily N (OR6N2), glial cells missing homolog 1, Drosophila (GCM1), family with sequence similarity 138, member B (FAM138B), prostate-specific P704P mRNA (P704P), and olfactory receptor, family 5, subfamily H, member 14 (OR5H14). The most upregulated transcripts in goiters and hyperplastic lesions vs TN samples include genes as cytochrome c oxidase assembly protein COX15 homolog (COX15), dyskeratosis congenita 1, dyskerin (DKC1), and DnaJ (Hsp40) homolog, subfamily A, member 2 (DNAJA2). Networks which were most deregulated in goiter and hyperplastic lesion in comparison to TN tissue share similar functions although certain pathways seem to be differentially affected in both thyroid lesions.

Conclusions: Our study indicates that goiter and hyperplastic lesion share common deregulated expression profiles in comparison to TN tissue. As a certain number of goiters and hyperplastic lesions bear the capacity to develop to thyroid neoplasms, knowledge of deregulated genes in these lesions may help to identify patients which are at elevated risk for developing thyroid carcinoma. Further studies have to reveal which expression signatures in these benign thyroid lesions are in common with malignant cases.

Research Title:	Outcome of Microsurgical Clipping of Ruptured Intracranial Aneurysms at a University Hospital in Saudi
Source:	Life Science Journal Marsland Press Volume 11, Issue 6, page 598-603
ISSN:	1097-8135
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Affiliated Department(s):	Surgery
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ABSTRACT

Objective: To describe treatment outcome in patients who had undergone microsurgery for clipping of cerebral aneurysm.
Methods: A retrospective chart review of the clinical, radiological and operative records of patients who had undergone surgery for ruptured intracranial aneurysms (IAs) between January 2001 and December 2012 at King Abdulaziz University Hospital, Jeddah. The patient's demographic a clinical data, including their neurological status and graded according to the World Federation of Neurological Surgeons (WFNS), cerebral imaging findings, and surgical notes were reviewed. Outcome was assessed according the Glasgow outcome score (GOS). Fisher's exact and chi-square tests were performed to determine the association between GOS and the study variables.
Results: Thirty-three patients were included; with a mean (SD) age of the patients was 43.5 (12.0) years (range, 17-65 years). Females constituted 63.6% of the sample. The average aneurysm size was 11.5 (5.2) mm, and they were, in most cases, located in the anterior communicating artery. Most patients (n=13; 39.4%) had a clinical grade of 1; only one patient (3.0%) had a clinical grade of 4. Approximately 60% of the patients showed evidence of SAH on CT scan; in about one third of the cases, the findings were normal. Twenty-eight patients (84.8%) had a good GOS. Good GOS were more likely in patients without postoperative vasospasm (P=0.04), hydrocephalus (P =0.021), and in patients with aneurysms < 10 mm in diameter (P =0.044).
Conclusion: Patients who undergo surgery for clipping of IAs have a good outcome. Aneurysm size, and the presence of preoperative brain edema, hydrocephalus, and postoperative vasospasm were found to significantly affect the outcome in our patients.

Research Title:	Pattern of Traumatic Brain Injury at King Abdulaziz University Hospital
Source:	Journal of King Abdulaziz University-Medical Sciences King Abdulaziz University Volume 21, Issue 1, page 51-63
ISSN:	1658-4279
Date and Year of Publication:	2014-JAN
Impact Factor:	0
Affiliated Department(s):	Surgery
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ABSTRACT

Traumatic brain injury is a common problem in society leading to morbidity and mortality. This study describes pattern of traumatic brain injury at King Abdulaziz University Hospital, and identify the demographic and clinical factors affected in the survivors' hospital length of stay. A retrospective study performed in January 2003 till January 2009. The incidence of traumatic brain injury requiring admission in relation to annual emergency room is 75/100,000 patients; mean age is 9.5 ± 4 years with ~81% of injuries occurring at < 30 years. Severe traumatic brain injury accounts for 15.1% of cases, whereas moderate traumatic brain injury accounts for 10.4% and mild traumatic brain injury accounts for 74.5%. Mechanisms of injuries: 46.5%, falling from a height, 26.7% motor vehicle collisions, 10.4% pedestrian-vehicle collisions and 10.4% assault victims. Factors affecting the hospital length of stay: Admission Glasgow Coma Scale ($p < 0.001$), loss of consciousness $p < 0.001$, presence of motor weakness $p < 0.001$, female gender $p < 0.03$, patients' age $p < 0.001$ and the nationality $p < 0.001$. Characteristics of traumatic brain injury: Young age, the mechanism of injury (mainly falls) and type of injury (mainly concussion). Tentatively, the patients' length of stay is predicted on the demographic and clinical data.

Research Title:	Predictors of diabetes foot complications among patients with diabetes in Saudi Arabia
Source:	Diabetes Research And Clinical Practice Elsevier Ireland Ltd Volume 106, Issue 2, page 286-294
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Affiliated Department(s):	Surgery
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ABSTRACT

Aims: To identify risk factors and clinical biomarkers of prevalent diabetes foot complications, including foot ulcers, gangrene and amputations among patients with diabetes in Jeddah, Saudi Arabia.
Methods: 598 diabetes patients from Jeddah participated in the current study. Patients were considered to have diabetes foot complications if they reported diagnosis of foot ulcers or gangrene or amputations in a questionnaire administered by a physician and confirmed by clinical exams. Information on socio-demographic and lifestyle variables was self-reported by patients, and several clinical markers were assessed following standard procedures.
Results: The prevalence of diabetes foot complications in this population was 11.4%. In the multivariable model without adjustment for PAD (peripheral artery disease) and DPN (diabetes peripheral neuropathy), non-Saudi nationality, longer diabetes duration and insulin use was significantly associated with higher diabetes foot complications prevalence. Each 1 g/L increase of hemoglobin was associated with 2.8% lower prevalence of diabetes foot complications. In the multivariable model adjusting for PAD and DPN, the previously observed associations except for nationality were no longer significant. Patients with both DPN and PAD had 9.73 times the odds of diabetes foot complications compared to the patients with neither condition.
Conclusion: In this population, longer diabetes duration, insulin use, lower hemoglobin levels and non-Saudi nationality were associated with higher prevalence of foot complications. These associations were largely explained by the presence of DPN and PAD except for non-Saudi nationality. Diabetes patients with both DPN and PAD had nearly 10-fold increased risk of foot complications than those with neither condition.

Research Title:	Prognostic significance of fibroblast growth factor 19 (FGF19) expression in breast invasive ductal carcinoma
Source:	BMC Genomics BioMed Central Ltd Volume 15, Supplement 2, page 35
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Affiliated Department(s):	Pathology, Surgery
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ABSTRACT

Background: Several studies have shown that both FGF19 mRNA and protein are widely distributed in human tissues where they play an important role in cell proliferation, differentiation and motility (1-3). As part of our systematic search for prognostic markers in breast cancer (BC), the present study was conducted to assess the prognostic value of FGF19 in patients with BC.

Materials and methods: Archival FFPE tumor samples were analyzed using immunohistochemistry (IHC) for monoclonal anti-FGF19 (W12) antibody in 193 patients with BC. IHC analysis was done using the automatic system (Bench-Mark XT; Ventana Medical Systems, Inc. Tucson, AZ, USA). Patients were diagnosed and treated at the Departments of Pathology, Surgery and Oncology, King Abdulaziz University Hospital, Saudi Arabia and the National Oncology Institute, Sabratha, Libya during years 2000-2008.

Results: The expression pattern of FGF19 was predominantly cytoplasmic in the tumor area. Of the 193 tumors, 40% were considered low FGF19 expression, whereas 60% were considered high FGF19 expression. Interestingly, in lymph node positive patients, there was highly significant correlation between FGF19 expression and age of patients ($p=0.008$). Moreover, FGF19 expression showed significant correlation with tumor recurrence ($p=0.02$). Interestingly, in univariate (Kaplan-Meier) survival analysis, FGF19 expression was differentiating the DSS of lymph node positive tumors more significantly than the lymph node negative tumors ($p<0.0001$, log rank), in that tumors of lymph node positive patient with high FGF19 expression was more often, who eventually died of their disease (shorter disease specific survival (DSS)) as compared with those who were alive at the completion of the follow-up. On the other hand, PR status, tumor stage and grade had no significant relationship with FGF19 expression.

Conclusions: Quantification of FGF19 expression seems to provide valuable prognostic information in BC, particularly in selecting lymph node positive patients who are at high risk for shorter DSS who might benefit from targeted therapy.

Research Title:	Ruptured spontaneous splenic artery aneurysm: A case report and review of the literature
Source:	International Journal of Surgery Case Reports Elsevier Volume 5, Issue 10, page 754-757
ISSN:	2210-2612
Date and Year of Publication:	2014-SEPT
Impact Factor:	0.19
Affiliated Department(s):	Surgery
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ABSTRACT

Introduction: Splenic artery aneurysm is a rare condition, however, potentially fatal. The importance of splenic artery aneurysm lies in the risk for rupture and life threatening hemorrhage.

Presentation of Case: This is a case of a ruptured splenic artery aneurysm in a 58-year-old lady. She presented with hypovolemic shock and intra-peritoneal bleeding. Diagnosis was confirmed by CT angiography and she was managed by operative ligation of the aneurysm with splenectomy and distal pancreatectomy.

Discussion: The literature pointed the presence of some risk factors correlating to the development of splenic artery aneurysm. In this article we discuss a rare case of spontaneous (idiopathic) splenic artery aneurysm and review the literature of this challenging surgical condition.

Conclusion: Splenic artery aneurysm needs prompt diagnosis and management to achieve a favorable outcome, high index of suspicion is needed to make the diagnosis in the absence of known risk factors.

Research Title:	Safety and Outcome of Suboccipital Mini-Craniectomy for the Evacuation of Spontaneous Cerebellar Hemorrhage
Source:	Life Science Journal Marsland Press Volume 11, Issue 10, page 432-438
ISSN:	1097-8135
Date and Year of Publication:	2014-OCT
Impact Factor:	2.296
Affiliated Department(s):	Surgery
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ABSTRACT

Objective: Spontaneous cerebellar hemorrhage (SCH) that may cause severe brain stem compression, obstructive hydrocephalus, and cerebellar herniation is life threatening condition. Large suboccipital craniectomy has been traditionally used to evacuate SCH, which has long operative time and local tissue damage, and associated with high morbidity and mortality. We examined the effectiveness and outcome of our experience in the management of SCH with suboccipital minimal invasive "Mini-Craniectomy" (MC). **Methods:** This retrospective study was performed between July 2002 and August 2013 in two tertiary hospitals in the western region of Saudi Arabia for all patients were admitted with SCH. The patients were treated conservatively if they presented with Glasgow Coma Scale (GCS) of 13 or more and their computed tomography (CT) scans on admission revealed ahematoma sizeless than30 mm in maximal diameter and no evidence of brain stem compression or hydrocephalus. While, Surgical intervention with MC was considered for patients with GCS less than 13 and with CT findings of hematoma size more than 30 mm in maximal diameter, and/or brain stem compression or hydrocephalus. Glasgow outcome score (GOS) was identified for all patients at their 3-month follow up.
Results: Thirty-eight patients with SCH were included in this study with mean age of 63.5 years. Twenty-six patients (68%) were males and 12 (32%) were females. Three patients presented with GCS of 3 were offered palliative support. Non-operative management was indicated for 13 patients, and 22 patients underwent emergency MC and evacuation of cerebellar hematoma (CH). In the non-operative group, 2 patients deteriorated neurologically and underwent MC, and another patient required insertion of ventriculoperitoneal shunt (VPS) for progressive hydrocephalus. In the operative group (n=24),2 had a local rebleed and required were reoperation, 2developed worsening of hydrocephalus and required external ventricular drains (EVD), one of them eventually requiredVPS. Suboccipital pseudomeningocele, occurred in 3 patients and resolved after 5 days of external lumbar drainage. At 3-month follow up, all patients treated conservatively (n=11) had favorable GOS.Patient who underwent MC (n=24), 19 patients (79%) had favorable GOS (3 had mild disability and 16 returned back to their baseline neurological status). Five patients (21%) had unfavorable GOS (3 patients died, 2 patients had severe disability and were dependent). **Conclusion:** The results of this study indicate that surgery for SCH through a MC is effective surgical procedure with good outcome.

Research Title:	Scalp squamous cell carcinoma in xeroderma pigmentosum.
Source:	North American Journal of Medical Sciences Medknow Volume 6, Issue 2, page 106-106
ISSN:	1947-2714
Date and Year of Publication:	2014-FEB
Impact Factor:	0
Affiliated Department(s):	Surgery
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ABSTRACT

Context: Xeroderma pigmentosum is a rare autosomal-recessive disorder that appears in early childhood. Squamous cell carcinoma is not uncommon in patients with xeroderma pigmentosum and mostly involving the face, head, neck, and scalp. However, squamous cell carcinoma of the scalp may exhibit an aggressive course.
Case Report: Here, we present a huge squamous cell carcinoma of the scalp in a three-years-old child with xeroderma pigmentosum. In addition, we illustrate the challenges of a child with xeroderma pigmentosum who grows up in a sunny environment where the possibility of early onset of squamous cell carcinoma is extremely high in any suspected skin lesion.
Conclusion: In xeroderma pigmentosum patients, squamous cell carcinoma of the scalp can present early and tends to be unusually aggressive. In sunny areas, proper education to the patient and their parents about ultra-violet light protection and early recognition of any suspicious lesion could be life-saving.

Research Title:	Tapeworm Induced Recurrent Pancreatitis: A Case Report and Review of Literature
Source:	Case Reports in Clinical Medicine Scientific Research Publishing Inc. Volume 3, Issue 3, page 175-180
ISSN:	2325-7075
Date and Year of Publication:	2014-MAR
Impact Factor:	0.07
Affiliated Department(s):	Surgery
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ABSTRACT

Recurrent idiopathic pancreatitis is an uncommon disease. We are presenting a case of Taenia saginata causing pancreatitis, which is rare in the literature. A 40 years old female was admitted to our hospital with complaints of epigastric pain for 6 months, radiating to the back, combined with nausea, vomiting and significant weight loss. On examination, she looked ill, vitally stable, afebrile, not jaundiced, and her abdomen was soft, lax with moderate epigastric tenderness, no distention and positive bowel sounds. Her workup showed serum amylase of 1367 U/L, Liver function test, Calcium and Triglycerides were all within normal ranges. Abdominal Ultrasound showed homogeneous bulky pancreas with dilated pancreatic duct. CT abdomen confirmed the diagnosis of pancreatitis with no evidence of biliary stones. An upper gastrointestinal endoscope revealed diffuse gastritis with small haital hernia. She was treated conservatively as a case of idiopathic acute pancreatitis and later was discharged in good condition. One month later, she was admitted again with similar symptoms and attacks of diarrhea. Investigations showed amylase of 139 U/L, abdominal Ultrasound was negative for biliary stones. CT showed a prominent pancreatic duct and thickened duodenum. Oesophagogastrodudenoscopy was repeated to evaluate the cause of the pain. This interestingly revealed a tapeworm (Taenia saginata) in the second part of the duodenum, adjacent to ampulla of Vater. The patient received Mebendazole 100 mg PO BID for three days and later was discharged home. At 4 weeks follow up, she was asymptomatic and her stool analysis was negative.

Research Title:	The Efficacy of Computed Tomographic Angiography in Identification of Intracranial Aneurysms
Source:	Life Science Journal Marsland Press Volume 11, Issue 9, page 261-268
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Date and Year of Publication:	2014-SEPT
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Affiliated Department(s):	Surgery
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ABSTRACT

Objective: Computed tomographic angiography (CTA) has surfaced as a valuable non-invasive diagnostic modality in the management of intracranial aneurysms (IAs). In this study, the author reports the accuracy of CTA versus digital subtraction angiography (DSA) in the assessment of patients with IAs.
Methods: A retrospective review was conducted for all patients investigated for IAs with both CTA and DSA using standard imaging protocols at king Abdulaziz university hospital between January 2008 and December 2013. Thirty-one patients with IAs underwent evaluation with CTA and DSA during the study period. Comparison between the two modalities included accuracy of detection of IAs was assessed.
Results: Patient's age ranged from 17 and 70 years (average 42.8 ± 7.9 years), and 20 patients (64.5%) were females. SAH was the initial presentation in 20 patients (64.5%), five patients (16%) with headache and seizures disorder had a mass lesion on CT scans demonstrating a large IAs, and CT scans were normal in 6 patients (19.4%). Both of CTA and DSA studies detected 29 IAs in 28 patients (90.3%). Three patients had no IAs detected in both CTA and DSA examinations, in one patient operated for repeated SAH with intracerbral hematoma, a small internal carotid artery blister was detected intraoperatively and clipped. Twenty-two patients (78.6%) underwent craniotomy and microsurgical clipping of IAs, and endovascular coiling was performed in 6 patients. CTA was effective in the post-treatment follow up and evaluation of IAs; however, in two patients CTA was not accurate in assessing the recurrence of the aneurysms.
Conclusion: CTA provides accurate and valuable information for patients with cerebral aneurysms. It can be used alone for the diagnosis, treatment planning, and post-treatment follow up of IAs.

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Research Title:	Adverse testicular effects of Botox® in mature rats.
Source:	Toxicology and Applied Pharmacology Elsevier B.V. Volume 275, Issue 2, page 182-188
ISSN:	0041-008X
Date and Year of Publication:	2014-MAR
Impact Factor:	3.63
Affiliated Department(s):	Pathology, Urology
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ABSTRACT

Botox® injections are taking a consistently increasing place in urology. Intracremasteric injections, particularly, have been applied for cryptorchidism and painful testicular spasms. Studies outlining their safety for this use are, however, scanty. Thus, the present study aimed at evaluating possible testicular toxicity of Botox® injections and their effect on male fertility. Mature rats were given intracremasteric Botox® injections (10, 20 and 40 U/kg) three times in a two-week interval. Changes in body and testes weights were examined and gonadosomatic index compared to control group. Semen quality, sperm parameters, fructose, protein, cholesterol and triglycerides contents were assessed. Effects on normal testicular function were investigated by measuring testosterone levels and changes in enzyme activities (lactate dehydrogenase-X and acid phosphatase). To draw a complete picture, changes in oxidative and inflammatory states were examined, in addition to the extent of connective tissue deposition between seminiferous tubules. In an attempt to have more accurate information about possible spermatotoxic effects of Botox®, flowcytometric analysis and histopathological examination were carried out. Botox®-injected rats showed altered testicular physiology and function. Seminiferous tubules were separated by dense fibers, especially with the highest dose. Flowcytometric analysis showed a decrease in mature sperms and histopathology confirmed the findings. The oxidative state was, however, comparable to control group. This study is the first to show that intracremasteric injections of Botox® induce adverse testicular effects evidenced by inhibited spermatogenesis and initiation of histopathological changes. In conclusion, decreased fertility may be a serious problem Botox® injections could cause.

Research Title:	Botulinum Toxin A Intradetrusor Injection for Treating Neurogenic Detrusor Overactivity, A Single Centre Experience
Source:	Luts-Lower Urinary Tract Symptoms Wiley-Blackwell Volume 6, Issue 3, page 162-166
ISSN:	1757-5664
Date and Year of Publication:	2014-SEPT
Impact Factor:	0.543
Affiliated Department(s):	Urology
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ABSTRACT

Objectives: To evaluate the efficacy and safety of Botulinum Toxin A (BoNTA) intradetrusor injections in patients with neurogenic detrusor overactivity.
Methods: All patients provided clinical history and voiding diary, submitted to clinical examination, urine culture; serum creatinine; imaging, including plain abdominal X-rays, abdomino-pelvic ultrasonography and voiding cystourethrogram; and urodynamic tests (CMG) . They were managed by intradetrusor injections of BoNTA. For the typical patient, 300 units of BoNTA were injected through 30 injections of 10u/mL intradetrusally into equally spaced sites of the bladder wall, excluding the trigone, under cystoscopic guidance. Patients were commenced clean intermittent catheterizations (CICs) every 4-6h post-injection. Follow up included voiding diaries, abdomino-pelvic ultrasonography, serum creatinine and CMG, were completed for all patients at 6 and 12weeks. This study used IBM SPSS Version 20.0 for statistical analysis.
Results: Forty-five patients (28 males and 17 females) with a mean age of 19.6years were subjected to BoNTA intradetrusor injections. A good clinical response (dry patient either completely or more than 50% of the period between CICs) was observed in 68.9 and 66.7% of the patients after 6 and 12weeks of follow up, respectively. In the group that responded well, the mean bladder volume increased post-injection by 48.2% and the mean maximum intravesical pressure decreased to 35.3cm H2O, a 33.4% improvement. No patients had side-effects related to BoNTA or to the procedure, and no patients experienced a deterioration of their renal functions.
Conclusions: Intradetrusor BoNTA injections provide a good clinical response. The urodynamic parameters significantly improved in patients with neurogenic detrusor overactivity.

Research Title:	Effects of Varicocele on Serum Testosterone and Changes of Testosterone After Varicocelectomy: A Prospective Controlled Study
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Affiliated Department(s):	Urology
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ABSTRACT

Objective: To examine the hypotheses that clinical varicoceles affect baseline serum total testosterone levels (T) and varicocelectomy improves T.
Materials And Methods: This prospective, nonrandomized, controlled study involved 4 groups of adult men. Varicocele-infertile treatment group (VIT) included 66 men who underwent varicocelectomy. Thirty-three varicocele-infertile control men (VIC) and 33 varicocele-fertile control men (VFC) were only observed. Normal-control (NC) group included 33 fertile men without varicocele. Varicocele groups were stratified into baseline hypogonadal (T <300 ng/dL) or eugonadal (T >= 300 ng/dL) subgroups. Main outcome measurements were between-group baseline T differences; and within-group T changes at 6- and 12-month follow-ups of men with varicocele. P <. 05 was considered significant.
RESULTS: Means (standard deviations) of baseline T in VIT, VIC, VFC, and NC were 347.4 (132.1), 339.7 (125.8), 396.6 (164.9), and 504.8 (149.7) ng/dL, respectively. The baseline T levels of varicocele groups were comparable, whereas they were significantly low compared with NC group. At 6-month follow-up, VIT demonstrated significant T improvements (mean change = 44.7 ng/dL; 12.9%; P < .0001). T changes were more remarkable among baseline hypogonadals (mean change = 93.7 ng/dL; 40.1%; P < .0001) compared with eugonadals (mean change = 8.6 ng/dL; 2.01%; P = .1223). These improvements were persistent at 12-month follow-up. Contrariwise, VIC and VFC exhibited nonsignificant T changes. Postvaricocelectomy T changes correlated significantly and inversely with baseline T (r = -0.689; P < .0001). This correlation was stronger and more significant among hypogonadals (r = -0.528; P = .004) than eugonadals (r = -0.400; P = .013). T improvements also exhibited significant positive correlations with preoperative and postoperative sperm concentrations.
Conclusion: Baseline T was significantly low in men with varicocele compared with normal men. Varicocelectomy yielded significant T improvements among hypogonadal men but insignificant changes in eugonadals. T changes correlated strongly and significantly with baseline T and sperm concentrations.

Research Title:	High-density expression profiling of renal cell carcinomas from Saudi Arabia: a preliminary study
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Affiliated Department(s):	Urology, Pathology
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ABSTRACT

Background: Renal cell carcinoma (RCC) is the most common malignancy of the adult kidney, comprising 3-4% of all human cancers, ranked sixth-leading cause of cancer death and incidences are increasing worldwide. If detected in early stages, it is potentially curable by surgical resection; however, only a fraction of metastatic RCC is responsive to treatment. The molecular events leading to disease onset and progression are not well understood and needs investigations.

Materials and methods: We performed whole gene expression profiling of RCC (n=4) and normal renal tissue (n=5) using Affymetrix HuGene 1.0 ST arrays. We retrieved selected expression data from NCBI's "Gene Expression Omnibus" database (GSE781, GSE7023, and GSE6344) for comparative analysis. Ingenuity Pathway Analysis (Ingenuity System), a genome-wide biological pathway analysis package, was used to find significantly molecular networks and pathways associated with kidney cancer.

Results: We identified 1515 differentially expressed significant genes, 967 up and 548 down regulated, with cutoff false discovery rate ≤ 0.05 and a fold change > 2; comparing RCC with normal kidney tissues. The most significantly upregulated genes were topoisomerase DNA II binding protein 1 (TOPBP1), tryptophan 2,3-dioxygenase (TDO2), forkhead box M1 (FOXM1), ankyrin repeat domain 13A (ANKRD13A), and potassium inwardly-rectifying channel JI (KCNJ1) whereas downregulated genes were nephrosis2 (NPHS2), uromodulin (UMOD), calbindin1 (CALB1), solute carrier family12 (SLC12A3), plasminogen (PLG). We also found 781 genes to be common, comparing our data with retrieved data. IPA based canonical pathway analysis shown Atherosclerosis signaling, LXR/RXR activation, GM-CSF signaling, Notch Signaling, Leukocyte Extravasation Signaling pathway to be significantly associated with our kidney cancer cases and this finding is in accordance with other finding.

Conclusions: Present study provides an initial overview of differentially expressed genes in kidney cancer of Saudi Arabian patients using whole transcript, high-density expression arrays. Comparative analysis suggest that even though data set is small but has a potential source for novel biomarker for kidney cancer and may offer unique biological insights into these tumors. In conclusion, it is important to study gene expression profiles comprehensively to extract more sophisticated biological interpretations.

Research Title:	Immunomodulatory Effect of Red Onion (Allium cepa Linn) Scale Extract on Experimentally Induced Atypical Prostatic Hyperplasia in Wistar Rats.
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Affiliated Department(s):	Pathology, Urology
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ABSTRACT

Red onion scales (ROS) contain large amounts of flavonoids that are responsible for the reported antioxidant activity, immune enhancement, and anticancer property. Atypical prostatic hyperplasia (APH) was induced in adult castrated Wistar rats by both s.c. injection of testosterone (0.5 mg/rat/day) and by smearing citral on shaved skin once every 3 days for 30 days. Saw palmetto (100 mg/kg) as a positive control and ROS suspension at doses of 75, 150, and 300 mg/kg/day were given orally every day for 30 days. All medications were started 7 days after castration and along with testosterone and citral. The HPLC profile of ROS methanolic extract displayed two major peaks identified as quercetin and quercetin-4'- β -O-D-glucoside. Histopathological examination of APH-induced prostatic rats revealed evidence of hyperplasia and inflammation with cellular proliferation and reduced apoptosis Immunohistochemistry showed increased tissue expressions of IL-6, IL-8, TNF- α , IGF-1, and clusterin, while TGF- β 1 was decreased, which correlates with the presence of inflammation. Both saw palmetto and RO scale treatment have ameliorated these changes. These ameliorative effects were more evident in RO scale groups and were dose dependent. In conclusion, methanolic extract of ROS showed a protective effect against APH induced rats that may be attributed to potential anti-inflammatory and immunomodulatory effects.

Research Title:	Impact of S100A8 Expression on Kidney Cancer Progression and Molecular Docking Studies for Kidney Cancer Therapeutics
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ABSTRACT

Background/Aim: The proinflammatory protein S100A8, which is expressed in myeloid cells under physiological conditions, is strongly expressed in human cancer tissues. Its role in tumor cell differentiation and tumor progression is largely unclear and virtually unstudied in kidney cancer. In the present study, we investigated whether S100A8 could be a potential anticancer drug target and therapeutic biomarker for kidney cancer, and the underlying molecular mechanisms by exploiting its interaction profile with drugs.

Materials and Methods: Microarray-based transcriptomics experiments using Affymetrix HuGene 1.0 ST arrays were applied to renal cell carcinoma specimens from Saudi patients for identification of significant genes associated with kidney cancer. In addition, we retrieved selected expression data from the National Center for Biotechnology Information Gene Expression Omnibus database for comparative analysis and confirmation of S100A8 expression. Ingenuity Pathway Analysis (IPA) was used to elucidate significant molecular networks and pathways associated with kidney cancer. The probable polar and non-polar interactions of possible S100A8 inhibitors (aspirin, celecoxib, dexamethasone and diclofenac) were examined by performing molecular docking and binding free energy calculations. Detailed analysis of bound structures and their binding free energies was carried out for S100A8, its known partner (S100A9), and S100A8 S100A9 complex (calprotectin). **Results:** In our microarray experiments, we identified 1,335 significantly differentially expressed genes, including S100A8, in kidney cancer using a cut-off of $p<0.05$ and fold-change of 2. Functional analysis of kidney cancer-associated genes showed overexpression of genes involved in cell-cycle progression, DNA repair, cell death, tumor morphology and tissue development. Pathway analysis showed significant disruption of pathways of atherosclerosis signaling, liver X receptor/retinoid X receptor (LXR/RXR) activation, notch signaling, and interleukin-12 (IL-12) signaling. We identified S100A8 as a prospective biomarker for kidney cancer and in silico analysis showed that aspirin, celecoxib, dexamethasone and diclofenac binds to S100A8 and may inhibit downstream signaling in kidney cancer.

Conclusion: The present study provides an initial overview of differentially expressed genes in kidney cancer of Saudi Arabian patients using whole-transcript, high-density expression arrays. Our analysis suggests distinct transcriptomic signatures, with significantly high levels of S100A8, and underlying molecular mechanisms contributing to kidney cancer progression. Our docking-based findings shed insight into S100A8 protein as an attractive anticancer target for therapeutic intervention in kidney cancer. To our knowledge, this is the first structure-based docking study for the selected protein targets using the chosen ligands.

Research Title:	Modulatory effect of silymarin on inflammatory mediators in experimentally induced benign prostatic hyperplasia: emphasis on PTEN, HIF-1 alpha, and NF-kappa B
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Affiliated Department(s):	Medicine, Urology
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ABSTRACT

The current study aimed to investigate the potential role of the anti-inflammatory effects of silymarin (SIL) in inhibiting experimentally induced benign prostatic hyperplasia (BPH) in rats. Rats were injected testosterone (3 mg/kg/day, subcutaneously (s.c.)) for 2 weeks. In the treatment group, SIL (50 mg/kg, per orally (p.o.)) was administered daily to rats concomitantly with testosterone. Rats were killed 72 h after the last testosterone injection. Then, prostate tissues were dissected out, weighed, and subjected to histological, immunohistochemical, and biochemical examinations. Rats treated with testosterone showed marked increase in prostate weight and prostate weight/body weight with histopathological picture of inflammation and hyperplasia as well as increased collagen deposition. Co-treatment with SIL significantly alleviated these pathological changes. Further, SIL attenuated testosterone-induced nuclear factor-kappa B (NF-kappa B), cyclooxygenase-II (COX-II), and inducible nitric oxide synthase (iNOS) upregulation, and blunted testosterone-mediated increase in nitric oxide level and messenger RNA (mRNA) expression of interleukin-6 (IL-6) and IL-8. Testosterone-induced downregulation of phosphatase and tensin homolog (PTEN) and upregulation of hypoxia-inducible factor 1 alpha (HIF-1 alpha) were alleviated by SIL. Our findings highlight the anti-inflammatory properties of SIL as a crucial mechanism of its preventive actions against experimental BPH. This can be attributed to, at least partly, attenuating the expression of NF-kB and the subsequent inflammatory cascade, ameliorating the expression of PTEN, and mitigating that of HIF-1 alpha. These data warrant further investigations for the potential use of SIL in the management of BPH.

Research Title:	The Impact of Prostatic Calculi on Chronic Pelvic Pain, Voiding and Sexual Functions
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Impact Factor:	0
Affiliated Department(s):	Urology, Medicine
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ABSTRACT

Purpose: To examine the clinical implications of prostatic calculi in terms of links to chronic pelvic pain, voiding and sexual functions.
Methods: 60 adult males were recruited for this study. The parameters recorded were: age, weight, height, Body Mass Index (BMI) calculated as the weight in kilograms divided by the square of the height in meters, Waist Circumference (WC), Lower Urinary Tract Symptoms (LUTS), Sexual dysfunction [both Erectile Dysfunction (ED) and Premature Ejaculation (PE)] , and symptoms suggestive of chronic prostatitis(CP); Diabetes Mellitus type 2 (D.M. 2) in addition to urine analysis and microbiological culture, serum Prostatic Specific Antigen (PSA), serum total testosterone(TT), maximum flow rate (Q-max), Prostatic ultra-sonographic evidence of prostate calculi and Prostate Volume (PV) as measured by ultrasonography. Those calculi were categorized according to severity into minimal, moderate, severe and extensive calculi. Statistical analysis: This study used IBM SPSS version 20, used descriptive statistics, used independent t-test for comparing group means, and chi-square test for establishing relationship between categorical variables. With p-value < 0.05 accepted as significant and with a 95% confidence interval.
Results: Among all the test comparison that has been done in this study, only the degree (severity of amount) of calculi showed significant results between the two groups described (p=< 0.0001). All other parameters did not show any significant differences.
Conclusions: This study found no significant differences in chronic pelvic pain, voiding and sexual dysfunctions (ED and PE) between middle-aged men with prostatic calculi as compared to those without them.