

Publications of

Faculty of Medicine King Abdulaziz University

(2015)

Prepared by Vice-Deanship for Postgraduate Studies and Research Revised: JUNE 1, 2016

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.

LSM87

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 2015, the Vice Deanship has gathered a total of 382 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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2015 Annual Research Report/Statistics



Introduction

- For the year 2015, the Vice-Dean for Postgraduate Studies and Research office has recorded <u>382</u> 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







| 7 | Report | |
|---|---|--|
| | • A total of <u>352</u> researches were conducted by both Faculty of Medicine and University Hospital | |
| | Faculty of Medicine = 290 researches | |
| | University Hospital = 52 researches | |
| | Both Faculty & Hospital = 15 research | |















2015 Total Teaching Staff

| Department | Professor | A ssociate Professor | Assistant Professor | Lecturer | Total per Dept |
|---------------------------------------|-----------|-------------------------|------------------------|----------|----------------|
| Anatomy | 9 | 9 | 5 | 2 | 25 |
| Anesthesia and ICU | 2 | 1 | 6 | 0 | 9 |
| Clinical Biochemistry | 7 | 6 | 6 | 1 | 20 |
| Dermatology | 1 | 0 | 4 | 0 | 5 |
| Emergency Medicine | 0 | 0 | 1 | 0 | 1 |
| Family Medicine | 6 | 4 | 10 | 0 | 20 |
| Hematology | 4 | 3 | 4 | 0 | 11 |
| Medicine | 14 | 10 | 32 | 0 | 56 |
| Medical Education | 1 | 1 | 1 | 1 | 4 |
| Medical Genetics | 1 | 2 | 2 | 0 | 5 |
| Vicrobiology and Medical Parasitology | 7 | 12 | 11 | 2 | 32 |
| Obstetrics and Gynecology | 9 | 3 | 14 | 0 | 26 |
| Opthalmology | 4 | 0 | 3 | 0 | 7 |
| ORL | 1 | 3 | 6 | 0 | 10 |
| Orthopedics | 1 | 1 | 5 | 0 | 7 |
| Pathology | 8 | 7 | 3 | 2 | 20 |
| Pediatrics | 9 | 8 | 20 | 0 | 37 |
| Pharmacology | 5 | 1 | 4 | 0 | 10 |
| Physiology | 4 | 5 | 5 | 3 | 17 |
| Radiology | 2 | 1 | 13 | 0 | 16 |
| Surgery | 14 | 9 | 12 | 0 | 35 |
| Urology | 4 | 1 | 3 | 0 | 8 |
| All Department Total | 113 | 87 | 170 | 11 | 381 |















Report

Top 5 Research published in High-Ranking Impact Factor Journal

| Research Title: | Metagenomic analysis of faecal microbiome as a tool towards targeted non-invasive biomarkers for colorectal cancer |
|----------------------------------|---|
| Source: | Gut |
| ISSN: | 1468-3288 |
| Date and Year of Publication: | SEPT 2015 |
| Impact Factor: | 13.319 |
| Affiliated | Medical Genetics; Princess Al-Jawhara Center of Excellence in |
| Department(s): | Research for Heredetary Disorder |
| Author(s): | Jun Yu, Qiang Feng, Sunny Hei Wong, Dongya Zhang, Qiao yi Liang, Youwen Qir Longqing Tang, Hui Zhao, Jan Stenvang, Yanli Li, Xiaokai Wang, Xiaoqiang Xu, Ning Chen, William Ka Kei Wu, Jumana Al-Aama , Hans Jørgen Nielsen, Pia Kiilerich, Benjamin Anderschou Holbech Jensen, Tung On Yau, Zhou Lan, Huijue Jia, Junhua Li, Liang Xiao, Thomas Yuen Tung Lam, Siew Chien Ng, Alfred Sze- Lok Cheng, Vincent Wai-Sun Wong, Francis Ka Leung Chan, Xun Xu, Huanming Yang, Lise Madsen, Christian Datz, Herbert Tilg, Jian Wang, Nils Brünner, Karster Kristiansen, Manimozhiyan Arumugam, Joseph Jao-Yiu Sung, Jun Wang |



Report

4

Top 5 Research published in High-Ranking Impact Factor Journal

| Research Title: | A systematic review and meta-analysis of non-invasive biomarkers for assessing disease activity in Inflammatory Bowel Disease |
|----------------------------------|---|
| Source: | Gastroenterology |
| ISSN: | 1528-0012 |
| Date and Year of Publication: | APR 2015 |
| Impact Factor: | 16.716 |
| Affiliated Department(s): | Internal Medicine |
| Author(s): | Mosli, Mahmoud H .; Zou, Guangyong; Garg, Sushil Kumar; Feagan, Sean; MacDonald, John K.; Sandborn, William; Chande, Nilesh; Feagan, Brian G. |



Report

3

Top 5 Research published in High-Ranking Impact Factor Journal

| Desearch Title | Placebo response and remission rates in Ulcerative Colitis clinical trials: | |
|------------------|---|--|
| Research Thre: | Systematic review and meta-analysis | |
| Source: | Gastroenterology | |
| ISSN: | 1528-0012 | |
| Date and Year of | APR 2015 | |
| Publication: | AFR 2015 | |
| Impact Factor: | 16.716 | |
| Affiliated | Internal Medicine | |
| Department(s): | | |
| | V. Jairath, C. Parker, G. Zou, J.K. MacDonald, T. Alameel, M. Albeshir, M. Almadi, T. | |
| Author(s): | A Koutsoumpas E Minas M H Mosli M A Samaan M K Vandervoort S P | |
| | Travis, G. D'Haens, B.G. Levesque, W.J. Sandborn, B.G. Feagan | |



Report

2

Top 5 Research published in High-Ranking Impact Factor Journal

| Research Title: | The oral and gut microbiomes are perturbed in rheumatoid arthritis and |
|------------------|---|
| | partly normalized after treatment |
| Source: | Nature Medicine |
| ISSN: | 1546-170X |
| Date and Year of | 4110 2015 |
| Publication: | A0G 2015 |
| Impact Factor: | 28.054 |
| Affiliated | Medical Genetics ; Princess Al-Jawhara Center of Excellence in |
| Department(s): | Research for Heredetary Disorder |
| | Xuan Zhang, Dongya Zhang, Huijue Jia, Qiang Feng, Donghui Wang, Di Liang, |
| | Xiangni Wu, Junhua Li, Longqing Tang, Yin Li, Zhou Lan, Bing Chen, Yanli Li, |
| | Huanzi Zhong, Hailiang Xie, Zhuye Jie, Weineng Chen, Shanmei Tang, Xiaoqiang |
| | Xu, Xiaokai Wang, Xianghang Cai, Sheng Liu, Yan Xia, Jiyang Li, Xingye Qiao, |
| Author(s): | Jumana Yousuf Al-Aama, Hua Chen, Li Wang, Qing-jun Wu, Fengchun Zhang, |
| | Wenije Zheng, Yongzhe Li, Mingrong Zhang, Guangwen Luo, Wenbin Xue, Liang |
| | Xiao, Jun Li, Wanting Chen, Xun Xu, Ye Yin, Huanming Yang, Jian Wang, Karsten |
| | Kristiansen, Liang Liu, Ting Li, Qingchun Huang, Yingrui Li, Jun Wang |



Report

1

Top 5 Research published in High-Ranking Impact Factor Journal

| Research Title: | 2014 MERS-CoV Outbreak in Jeddah - A Link to Health Care Facilities |
|----------------------------------|---|
| Source: | New England Journal of Medicine |
| ISSN: | 1533-4406 |
| Date and Year of Publication: | FEB 2015 |
| Impact Factor: | 54.42 |
| Affiliated Department(s): | Internal Medicine |
| Author(s): | Ikwo K. Oboho, Sara M. Tomczyk, AhmadM. Al-Asmari, Ayman A. Banjar, Hani Al- Mugti, Muhannad S. Aloraini, Khulud Z. Alkhaldi, Emad L. Almohammadi, Basem M. Alraddadi, Susan I. Gerber, David L. Swerdlow, John T. Watson, Tariq A. Madani |



King Abdulaziz University, Faculty of Medicine Publications 2015

Publications of Faculty of Medicine King Abdulaziz University (2015) Prepared by Vice-Deanship for Postgraduate Studies and Research Revised: May 1, 2016

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Department of Anatomy

Department of Anatomy

<u>Head of Department</u> أ.د. محمد حسن محمد بادواد <u>Members</u>

حامد بن عبد الرؤوف بن محمد علي محمد صالح عادل مصطفى عبد العزيز حسين عبدالمنعم عبدالسلام محمد الحيانى محمد حسن محمد بادواد إيمان حسين محمد عبد العال جمال سعيد عبدالعزيز بدير سعيد أحمد محمد زغلول سمر محمد عمر السقاف سهام كامل محمد أبو ناصف أشرف يوسف نصر محمد نعيم أميره على حسن أحمد الحجاجى رشا عبدالرحمن محمد على الشالى سعاد شاكر علي عبدالهادي شريف محمد السيد حسن عزه ابراهيم محمد زكي غادة عبدالحي عبدالحميد محمد مجدي محمد عمر الفرك نسرين عبدالله حمزة راجح هشام نعمان عبدالرحيم مصطفى رائد محمود حمدي منصور عامر ربيع فتح الله على إبراهيم حنان على أمين مصطفى همايون مبارك أمير علوي

ابرار فوزي محمد الهندي أريج محمد ثابت الشهري شريفه مفرح على العمري عاصم جمال عبدالناصر عبد المحي طاشكندي عماد احمد محمد هندي ملاك طلال محمد ملائكه مهند عبدالله عثمان الكسيح ميرفت محمد عواد حلوانى نزار جمال صديق احمد كمال نسرين لطفى عبدالرحمن فيزو رحمه سعيد الغامدى رؤى زهير صدقة عرب سعاد مبروك علي برادعي عطية ناصر منصور القرنى فارس منصور عبدالواحد طاشكندي فوزية أحمد ترسن خوجه محمد ابكر عمر عسوني موسى مهدي على العرياني مؤيد محمد عبدالحميد الخطيب هانى عبدالفتاح محمد نور التركستانى هند الجويد سالم باقديم



| Research Title: | Ameliorative potentials of a combination of fenugreek and alpha-tocopherol on cadmium induced testicular toxicity: an ultrastructural study | |
|-----------------------------------|---|--|
| Source: | Folia Morphologica Via Medica Vol. 54, Issue 3, Page: 325-334 | |
| ISSN: | 1644-3284 | |
| Month and Year of Publication: | AUG 2015 | |
| Impact Factor: | 0.336 | |
| Affiliated Department(s): | Anatomy | |
| Author(s): | Hussein AM, Mustafa HN, Badawoud MH | |
| Correspondent's Email: | n/a | |

ABSTRACT

Background: The current study aimed to elucidate the protective role of combined fenugreek and alpha-tocopherol against cadmium induced histopathological changes in the testes.

Materials and methods: Thirty adult male albino rats divided into three equal groups 10 rats each. Group I is the control group. Group II received 5 mg/kg/day cadmium chloride. Group III received 5 mg/kg/day cadmium chloride and 150 mg/kg/day fenugreek and 100 mg/kg/day of alpha-tocopherol. The treatment of all groups was done by oral gavage for 60 consecutive days. The testes were removed and subjected to histopathological and ultrastructure study.

Results: Rats exposed to cadmium showed severe histopathological changes in the testicular spermatogenic series, many vacuoles and multinucleated giant cells. Treatment with fenugreek and alpha-tocopherol partially improved the morphological changes, reduced tissue damage and rebuilt of the spermatogonia layer.

Conclusions: Fenugreek and alpha-tocopherol might represent a promising medicinal combination to ameliorate the toxic effects of cadmium exposure.



| Research Title: | Antihyperglycemic effect of thymoquinone and oleuropein, on streptozotocin-induced diabetes mellitus in experimental animals |
|-----------------------------------|--|
| Source: | Pharmacognosy Magazine Medknow Publications & Media Pvt Ltd |
| | Vol. 11, Issue 44, Page: 251-257 |
| ISSN: | 0976-4062 |
| Month and Year of Publication: | OCT 2015 |
| Impact Factor: | 1.258 |
| Affiliated Department(s): | Anatomy |
| | Sibghatullah Muhammad Ali Sangi, Mansour Ibrahim |
| Author(s): | Sulaiman, Mohammed Fawzy Abd El-wahab, Elsamoual |
| | Ibrahim Ahmedani, Soad Shaker Ali |
| Correspondent's Email: | doctor_sangi@yahoo.com |

ABSTRACT

Background: Diabetes mellitus is one of the most important diseases related with endocrines. Its main manifestation includes abnormal metabolism of carbohydrates and lipids and inappropriate hyperglycemia that is caused by absolute or relative insulin deficiency. It affects humankind worldwide.

Objectives: Our research was aimed to observe antihyperglycemic activity of thymoquinone and oleuropein.

Materials and Methods: In this study, rats were divided into six groups, 6 rats in each. Diabetes was inducted by streptozotocin (STZ). The level of fasting blood glucose was determined for each rats during the experiment, doses of thymoquinone and oleuropein (3 mg/kg and 5 mg/kg) for both, were injected intraperitoneal. Pancreatic tissues were investigated to compare β -cells in diabetic and treated rats.

Result and Conclusion: It was found that thymoquinone and oleuropein significantly decrease serum Glucose levels in STZ induced diabetic rats.



| | Can Mineral Trioxide Aggregate And Nanoparticulate | |
|----------------------------------|---|--|
| Research Title: | Endosequence Root Repair Material Produce Injurious | |
| | Effects To Rat Subcutaneous Tissues? | |
| | Journal of Endodontics | |
| Source: | Elsevier Science Inc | |
| | Vol. 41, Issue 7, Page: 1151-1156 | |
| ISSN: | 1878-3554 | |
| Month and Year of | JUL 2015 | |
| Publication: | | |
| Impact Factor: | 3.375 | |
| Affiliated Department(s): | Anatomy | |
| Author(s): | Wafaa A Khalil, Siham K Abunasef | |
| Correspondent's Email: | Wafa_Endo@Hotmail.Com | |

ABSTRACT

Introduction: The aim of this study was to evaluate the injurious effects of mineral trioxide Aggregate (MTA) and EndoSequence Bioceramic Root Repair Material (ERRM; Brassler USA, Savannah, GA) 7 and 30 days after their implantation into rat subcutaneous tissues.

Methods: Twelve Wistar rats were selected for the present study. Each animal received 3 implants: one contained MTA, one contained ERRM, and one was an empty tube that served as a control. Half of the animals were killed after 7 days, and the remaining animals were killed 30 days after implantation. Histologic sections prepared from the skin specimens were stained with H&E, toluidine blue, Masson trichrome, and Congo red. The data were statistically analyzed with 1-way analysis of variance and paired t tests. The P value for significance was set at .05.

Results: After 7 days, MTA produced a significantly greater inflammatory reaction that involved the deposition of amyloidlike protein and an increase in the mast cell population compared with ERRM (P < .05). After 30 days, the ERRM group exhibited significantly reduced inflammatory reactions compared to the MTA groups (P < .05). Areas of mononuclear cell aggregation, abscess formation, and necrosis were observed more frequently in the MTA group. The thickness of the fibrous capsule was significantly increased in the MTA compared with the ERRM groups (P < .05). Amyloidlike proteins were more frequently observed around the fibrous capsule and subdermal blood vessels and were more frequently deposited in the MTA than the ERRM specimens.

Conclusions: The findings of the present study suggest that both ERRM and MTA cause an injurious effect when implanted in rat subcutaneous tissues after 7 and 30 days. ERRM is significantly less injurious to tissues than MTA.



| Desserved Title | Can Raisins Ameliorate The Hypercholesterolaemia-Induced | |
|----------------------------------|--|--|
| Research The: | Cardiac Affection? | |
| | Folia Morphologica | |
| Source: | Via Medica | |
| | Vol. 74, Issue 1, Page: 106-117 | |
| ISSN: | 1644-3284 | |
| Month and Year of | EED 2015 | |
| Publication: | TED 2015 | |
| Impact Factor: | 0.524 | |
| Affiliated Department(s): | Anatomy | |
| Author(s): | Ga Abdel-Hamid, Nn Ayuob | |
| Correspondent's Email: | Ghada169@Hotmail.Com | |

ABSTRACT

Raisins were investigated for their protective role on cardiac muscle both biochemically and histopathologically in high cholesterol diet (HCD)-fed rats. Wister male rats were randomly divided into four groups (n = 10): control, raisin-fed, HCD-fed and HCD-raisin fed group. Animals were anaesthetized after 13 weeks. Hearts were dissected and processed for histopathological examination. Raisins administration with HCD significantly decreased the animals' blood glucose, insulin, cholesterol, triglycerides, and low density lipoprotein levels; while increased their high density lipoprotein levels compared with rats fed HCD alone. They also decreased cardiomyocytes' degeneration, cellular infiltration, haemorrhages and blood vessels affection. Raisins reduced fibrosis by decreasing the immuno-expression of alpha smooth muscle actin marker, whereas they significantly increased the immuno-expression of endothelial nitric oxide synthase. Raisins showed a cardioprotective effect and were able to alleviate the biochemical and the histopathological changes induced by the HCD. Consumption of raisins or their pharmaceutical product should be recommended specially for those eating a high-fat diet.



| Research Title: | Chemosensitizing and nephroprotective effect of resveratrol |
|----------------------------------|---|
| | in cisplatin -treated animals. |
| Source: | Cancer Cell International |
| | Biomed Central Ltd |
| | Vol. 15, Issue 6, Page: 1-8 |
| ISSN: | 1475-2867 |
| Month and Year of | FEB 2015 |
| Publication: | |
| Impact Factor: | 1.989 |
| Affiliated Department(s): | Anatomy; Pharmacology |
| Author(s): | Osman AM, Telity SA, Damanhouri ZA, Al-Harthy SE, Al- |
| | Kreathy HM, Ramadan WS, Elshal MF, Khan LM, Kamel F |
| Correspondent's Email: | n/a |

ABSTRACT

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

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

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

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



| Research Title: | Dimethylsulfoxide excerbates cisplatin-induced cytotoxicity |
|----------------------------------|---|
| | In Enrich asches carcinolita cens |
| Source: | Cancer Cell International |
| | Biomed Central Ltd |
| | Vol. 15, Page: 104-108 |
| ISSN: | 1475-2867 |
| Month and Year of | OCT 2015 |
| Publication: | 001 2013 |
| Impact Factor: | 2.766 |
| Affiliated Department(s): | Anatomy; Pharmacology |
| Author(s): | Abdel-Moneim M Osman, Ali A Alqahtani, Zoheir A |
| | Damanhouri, Sameer E Al-Harthy, Mohamed F ElShal, |
| | Wafaa S Ramadan, Fatemah Kamel, Mohamed AM Osman, |
| | Lateef M Khan |
| Correspondent's Email: | moneimosman@hotmail.com |

ABSTRACT

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

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

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

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



| Research Title: | Does allicin combined with vitamin B-complex have |
|---------------------------|---|
| | superior potentials than α -tocopherol alone in ameliorating |
| | lead acetate-induced Purkinje cell alterations in rats? An |
| | immunohistochemical and ultrastructural study |
| Source: | Folia Morphologica |
| | Via Medica |
| | Vol. 2015, Page: 1-27 |
| ISSN: | 0015-5659 |
| Month and Year of | SEPT 2015 |
| Publication: | |
| Impact Factor: | 0.336 |
| Affiliated Department(s): | Anatomy |
| Author(s): | Hesham N Mustafa, Adel M Hussein |
| Correspondent's Email: | hesham977@hotmail.com |

ABSTRACT

Background: The current article aims to explore the protective potentials of α -tocopherol alone and the combination of allicin and vitamin B-complex against lead-acetate neurotoxicity on the cerebellar cortex.

Materials And Methods: Forty rats were divided into four groups (n=10). Group 1 was the control group. Group 2 received 10 mg/kg body weight (BW) of lead acetate. Group 3 was exposed to 10 mg/kg BW of lead acetate plus a combination of allicin (100 mg/kg BW) and vit. B-complex (40 mg/kg BW). Group 4 was administered lead acetate (10 mg/kg BW) and α -tocopherol (100 mg/kg BW). The animals received treatment for sixty days by oral gavage. All the groups were studied ultrastructurally and immunohistochemically with glial fibrillary acidic protein (GFAP).

Results: The affected groups revealed shrunken and degenerated Purkinje cells with irregular nuclei. The cytoplasm comprised several lysosomes, unhealthy mitochondria, and dilated Golgi saccules. The myelinated nerve fibers demonstrated breaking of the myelin sheaths, apparent vacuoles, and broad axonal spaces. Immunohistochemically, there was a tremendous surge in GFAP-positive astrocytes in the lead acetate-treated group. These histological and ultrastructural variations were ameliorated by the administration of α -tocopherol and the combination of allicin and vit. B complex. Moreover, an apparent decrease in the number of GFAP-positive astrocytes was obvious in the protected groups.

Conclusions: Although both α -tocopherol and the combination of allicin and vit. B-complex can be used as possible adjuvant therapies to ameliorate nervous system ailments attributable to lead acetate, α -tocopherol showed more protective potential.



| Research Title: | Does the maternal age affect the mesenchymal stem cell markers and gape expression in the human placenta? What is |
|----------------------------------|--|
| | the evidence? |
| Source: | Tissue and Cell |
| | Elsevier B.V. |
| | Vol. 47, Issue 4, Page: 406-419 |
| ISSN: | 0040-8166 |
| Month and Year of | AUG 2015 |
| Publication: | |
| Impact Factor: | 1.252 |
| Affiliated Department(s): | Anatomy |
| Author(s): | Saleh Al-Karim, Nasra Naeim Ayuob, Soad Shaker Ali |
| Correspondent's Email: | nasraayuob@gmail.com |

ABSTRACT

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

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

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

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

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



| Research Title: | Effect of Diabetes on Skin and Brown Fat of Rat |
|---------------------------|--|
| | Macrosomic Fetuses: Histological and Histochemical Study |
| Source: | Cytologia |
| | Univ Tokyo Cytologia |
| | Vol. 80, Issue 1, Page: 101-110 |
| ISSN: | 0011-4545 |
| Month and Year of | MAR 2015 |
| Publication: | |
| Impact Factor: | 0.205 |
| Affiliated Department(s): | Anatomy |
| Author(s): | Noor Ahmed Mubarak Ben Zakar, Soad Shaker Ali, Nasra |
| | Naeim Ayuob, Fatma Al Qudsi, Saleh Karim |
| Correspondent's Email: | nasraayuob@gmail.com |

ABSTRACT

Fetal macrosomia is one of the major clinical problems that carry health hazards for both mother and fetus. Diabetic mothers with mild hyperglycemia or gestational diabetes are at a high risk of having macrosomic babies. This study aimed to describe the cellular changes of skin and brown fat of macroscomic fetuses born to mildly diabetic rats. This experimental study used 36 adult female rats divided into control (n=12) and experimental (n=24) groups. The latter were injected intra-peritoneally with Alloxan (100 mg/kg) and animals with blood glucose (130-250)mg/mL (n=16) were designated as diabetic and were housed with known fertile males. On day 21 of gestation, pregnant females were sacrificed and fetuses were weighted and processed for histological and histochemical examination. A significant increase in body weight of macrosomic fetuses born to diabetic mothers (6.6+/-0.37) was recorded. Mean dermal thickness (7.9+/-0.2) and brown fat mass (451.8+/-11.2) were significantly increased (p=0.004 and p=0.04) in macrosomic fetuses. Brown fat adipocytes showed earlier transformation into white fat adiopocytes. Lipid and polysaccharide accumulation as well as significant cell proliferation were observed in both tissues of macrosomic fetuses. Increased thickness of skin and mass of fat brown fat of macrosomic fetuses of mild diabetic rats could be attributed to increased deposition of polysaccharides and lipids as well proliferation of their cells.



| Research Title: | Effect of metformin and pioglitazone on beta-catenin and |
|----------------------------------|--|
| | biochemical markers in sitagliptin-induced pancreatitis in |
| | diabetic rats |
| Source: | International Journal of Diabetes in Developing Countries |
| | Springer India |
| | Vol. 35, Issue 3, Page: 332-339 |
| ISSN: | 1998-3832 |
| Month and Year of | SEPT 2015 |
| Publication: | |
| Impact Factor: | 0.343 |
| Affiliated Department(s): | Anatomy; Pharmacology |
| Author(s): | Hussam AS Murad, Hamid A Saleh, Gamal S Abdulaziz, |
| | May A Abdulsattar, Soad S Ali |
| Correspondent's Email: | muradha2000@yahoo.com |

ABSTRACT

This study was designed to investigate effect of metformin or pioglitazone on beta-catenin and biochemical indicators in sitagliptin-induced pancreatitis. Type 2 diabetes mellitus was induced by high-fat diet/low-dose streptozotocin. Six groups (n = 8) were used: diabetic control group and five treated groups given, for 6 weeks by oral gavage, metformin (100 mg/kg/day), pioglitazone (20 mg/kg/day), sitagliptin (30 mg/kg/day), metformin + sitagliptin (MS), and pioglitazone + sitagliptin (PS). Body weight (BW) and biochemical parameters (fasting blood sugar (FBS), glycated hemoglobin (HbA1c), insulin, total cholesterol (TC), triglycerides (TG), malondialdehyde (MDA), and amylase) were measured. Pancreatic sections were examined using hematoxylin and eosin staining and immunohistochemical staining for beta-catenin protein. Only pioglitazone significantly increased BW. All treatments significantly decreased FBS, HbA1c, TC, TG, MDA, and amylase minimally with sitagliptin and maximally with combination therapies. Moreover, all treatments significantly increased insulin except pioglitazone which showed a nonsignificant decrease. Both metformin and pioglitazone ameliorated the diabetic-induced changes while sitagliptintreated rats showed signs suggestive of pancreatitis. Sitagliptin failed to inhibit the inappropriately increased beta-catenin expression predisposing for pancreatitis but helping regenerate streptozotocin-damaged islets. Metformin and pioglitazone alone or combined with sitagliptin decreased the inappropriate beta-catenin expression. In conclusion, the decrease in beta-catenin seems to be involved in reversal of sitagliptin-associated pancreatitis by metformin or pioglitazone. The better regeneration of islets with metformin and pioglitazone, than sitagliptin, may be due to better effectiveness in controlling diabetes. Sitagliptin should be used in combination with metformin or pioglitazone. Further studies are needed to determine mechanisms underlying role of Wnt/beta-catenin in regeneration of islets and exocrine pancreas.


| Research Title: | Effects of Combined Administration of Nicotine and |
|----------------------------------|--|
| | Caffeine on Adult Rat Prostate |
| | Saudi Journal of Internal Medicine |
| Source: | Saudi Society of Internal Medicine |
| | Vol. 5, Issue 1, Page: 31-39 |
| ISSN: | 1658-5763 |
| Month and Year of | APR 2015 |
| Publication: | |
| Impact Factor: | n/a |
| Affiliated Department(s): | Anatomy |
| Author(s): | Nesreen A Rajeh, Bodour M Bashykh |
| Correspondent's Email: | nrajeh@kau.edu.sa, nisreenrajeh@hotmail.com |

ABSTRACT

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

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

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

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



| Research Title: | Effects of different routes of nicotine administration on |
|----------------------------------|---|
| | gastric morphology and hormonal secretion in rats |
| Source: | Experimental Physiology |
| | Wiley-Blackwell |
| | Vol. 100, Issue 8, Page: 881-895 |
| ISSN: | 1469-445X |
| Month and Year of | AUG 2015 |
| Publication: | |
| Impact Factor: | 2.871 |
| Affiliated Department(s): | Anatomy; Pharmacology |
| Author(s): | Ali SS, Hamed EA, Ayuob NN, Shaker Ali A, Suliman MI |
| Correspondent's Email: | nasraayuob@gmail.com |

ABSTRACT

New Findings:

What is the central question of this study? Does chronic administration of nicotine by different routes affect gastric hormonal secretions and morphology in rats? What is the main finding and its importance? Chronic nicotine administration increased levels of gastrin, ghrelin and histamine but decreased prostaglandin E2. Nicotine administered orally and by inhalation had a marked negative impact on the histological structure of the gastric mucosa compared with intraperitoneal administration. The negative impact of nicotine administration on gastric structure was associated with an increased concentration of gastrin and decreased prostaglandin E2, which might be the cause of gastric/peptic ulcers in heavy smokers. The increase in ghrelin concentration and its effect following chronic nicotine administration needs further investigation. The aim was to assess the effects of different routes of chronic nicotine administration on gastric morphology and hormonal secretion; mainly gastrin, ghrelin, histamine and prostaglandin E2 (PGE2). Forty adult male albino rats were randomly assigned into four groups (10 rats per group), treated for 21 days as follows: control group (given standard rat pellets and water only); oral nicotine-treated group [50 µg (ml drinking water)(-1)]; intraperitoneal nicotine-treated group [0.5 mg (kg body weight)(-1)]; and inhaled nicotine-treated group [0.5 mg (kg body weight)(-1)]. Concentrations of gastrin, ghrelin, PGE2 and histamine in serum and gastric tissue homogenates were assessed using ELISA kits. Stomach fundus was processed for histopathology and immunohistochemistry using light and electron microscopy. Different routes of chronic nicotine administration resulted in a significant increase in serum and gastric homogenate gastrin and ghrelin concentrations and a significant decrease in serum and homogenate PGE2 concentrations compared with the control group. Moreover, nicotine administration via oral and inhalation routes caused gastric erosion, transformation of peptic cells into the mucous variety, a significant increase in parietal cell numbers and an increase in expression of gastrin. In conclusion, the negative impact of nicotine administration on gastric structure that is associated with an increased concentration of gastrin and decreased concentration PGE2 might be the leading cause of gastric/peptic ulcers in heavy smokers. The increased ghrelin concentration and its effect following nicotine chronic administration needs further investigation. Based on these findings, we suggest that the alteration in gastric structure following chronic administration of nicotine can be prevented by reducing gastrin secretion and/or targeting its receptors.



| Research Title: | Effects of low dose acrylamide on the rat reproductive |
|----------------------------------|--|
| | organs structure, fertility and gene integrity |
| | Asian Pacific Journal of Reproduction |
| Source: | Elsevier B.V. |
| | Vol. 4, Issue 3, Page: 1-7 |
| ISSN: | 2305-0500 |
| Month and Year of | LAN 2015 |
| Publication: | JAN 2015 |
| Impact Factor: | n/a |
| Affiliated Department(s): | Anatomy |
| Author(s): | Saleh ALKarim, Sufyan ElAssouli, Soad Ali, Nasra |
| | Ayuob, Zaki ElAssouli |
| Correspondent's Email: | n/a |

ABSTRACT

Objective: To assesses the effects of long term exposure to low dose of acrylamide (0.4 μ g /g) in post-weaning Sprague-Dawley rats on the structure of the reproductive organ as well as DNA integrity.

Methods: The histological changes in the male and female reproductive organs the morphological changes in sperms as well as the genotoxic effect of acrylamide were assessed. The effect acrylamide on pregnancyoutcome was evaluated.

Results: Testes of acrylamide-fed rats showed decreased number of seminiferous tubules containing mature sperms and degenerative changes in sperm germ cell layers. Some sperms of epididymal cauda showed head deformity. In female, acrylamide included cystic ovarian changes, degenerative changes of zona pelluida, granulosa cells and oocytes. Post implantation loss and decrease in the number of full term fetuses were detected. Resorption sites showed necrotic fetal tissue with vacuolation of amniotic cells.

Conclusion: Acrylamide cause harmful effect on the reproductive organ structure, fertility and cause extensive DNA damage in peripheral blood lymphocytes.



| Research Title: | Effects of maternal age on the expression of mesenchymal stem cell markers in the components of human umbilical cord |
|-----------------------------------|--|
| Source: | Folia Histochemica Et Cytobiologica Via Medica Vol. 53, Issue 3, Page: 259-271 |
| ISSN: | 1897-5631 |
| Month and Year of Publication: | JAN 2015 |
| Impact Factor: | 1.364 |
| Affiliated Department(s): | Anatomy |
| Author(s): | Ghadeer I Alrefaei, Nasra N Ayuob, Soad S Ali, Saleh Al- Karim |
| Correspondent's Email: | nasraayuob@gmail.com |

ABSTRACT

Introduction: Although the human umbilical cord (UC) has been previously considered a medical waste, its use as a main source of fetal stem cells for regenerative medicine applications has increased over the past few years. The aim of the study was to assess the impact of the maternal age on the expression of mesenchymal stem cells (MSC) markers CD105 and CD29 in the different areas of human UC.

Material and methods: In this comparative cross sectional study, one hundred term UCs from five maternal age groups (20-45 years) were collected after delivery from healthy mothers and were processed to assess both immuno-and gene expression of CD105 and CD29 surface antigen markers using immunohistochemical and RT-PCR techniques.

Results: The immunoexpression of CD105 and CD29 in the amniotic membrane (AM) and Wharton's jelly (WJ), the umbilical artery (UA) and the umbilical vein (UV) showed significant negative correlation with the maternal age (p < 0.001). Reduced amount of cells as well as the studied MSC markers and their gene expression levels were documented in older age mothers. CD105-positive MSCs were more abundant in the UA, whereas CD29-positive MSCs were more abundant in the AM and WJ.

Conclusion: The decreased expression of CD105 and CD29 MSCs markers with age suggests that selective isolation of MSCs from Wharton's jelly, umbilical artery or umbilical vein of younger mothers should be recommended.



| Research Title: | Evaluation of the Anti-Inflammatory, Antioxidant and |
|---------------------------|---|
| | Immunomodulatory Effects of the Organic Extract of the |
| | Red Sea Marine Sponge Xestospongia testudinaria against |
| | Carrageenan Induced Rat Paw Inflammation |
| | PLOS One |
| Source: | Public Library Science |
| | Vol. 10, Issue 9, Article No. 0138917 |
| ISSN: | 1932-6203 |
| Month and Year of | SEDT 2015 |
| Publication: | SEF 1 2015 |
| Impact Factor: | 3.234 |
| Affiliated Department(s): | Anatomy |
| | Nagla A El-Shitany, Lamiaa A Shaala, Aymn T Abbas, |
| Author(s): | Umama A Abdel-dayem, Esam I Azhar, Soad S Ali, Rob |
| | WM van Soest, Diaa TA Youssef |
| Correspondent's Email: | moc.oohay@22aaid |

ABSTRACT

Marine sponges are found to be a rich source of bioactive compounds which show a wide range of biological activities including antiviral, antibacterial, and anti-inflammatory activities. This study aimed to investigate the possible anti-inflammatory, antioxidant and immunomodulator effects of the methanolic extract of the Red Sea marine sponge Xestospongia testudinaria. The chemical composition of the Xestospongia testudinaria methanolic extract was determined using Gas chromatography-mass spectroscopy (GC-MS) analysis. DPPH (2, 2-diphenyl-1-picryl-hydrazyl) was measured to assess the antioxidant activity of the sponge extract. Carrageenan-induced rat hind paw edema was adopted in this study. Six groups of rats were used: group1: Control, group 2: Carrageenan, group 3: indomethacin (10mg/kg), group 4-6: Xestospongia testudinaria methanolic extract (25, 50, and 100 mg/kg). Evaluation of the anti-inflammatory activity was performed by both calculating the percentage increase in paw weight and hisopathologically. Assessment of the antioxidant and immunomodulatory activity was performed. GC-MS analysis revealed that there were 41 different compounds present in the methanolic extract. Sponge extract exhibited antioxidant activity against DPPH free radicals. Xestospongia testudinaria methanolic extract (100 mg/kg) significantly decreased % increase in pawweightmeasured at 1, 2, 3 and 4 h after carrageenan injection. Histopathologically, the extract caused a marked decrease in the capillary congestion and inflammatory cells infiltrate. The extract decreased paw malondialdehyde (MDA) and nitric oxide (NO) and increased the reduced glutathione (GSH), glutathione peroxidase (GPx), and catalase (CAT) activity. It also decreased the inflammatory cytokines, tumor necrosis factor-alpha (TNF-alpha), interleukin-1 beta(IL-1 beta) and IL-6. The results of this study demonstrated the antiinflammatory, antioxidant, and immunomodulatory effects of the methanolic extract of the Red Sea sponge Xestospongia testudinaria (100 mg/kg).



| Research Title: | Ginsenoside Rb1 inhibits fibrillation and toxicity of alpha- |
|---------------------------|--|
| | synuclein and disaggregates preformed fibrils |
| | Neurobiology Of Disease |
| Source: | Academic Press Inc Elsevier Science |
| | Vol. 74, Page: 89-101 |
| ISSN: | 1095-953X |
| Month and Year of | EED 2015 |
| Publication: | TED 2015 |
| Impact Factor: | 5.202 |
| Affiliated Department(s): | Anatomy; Medicine |
| Author(s): | Mustafa T Ardah, Katerina E Paleologou, Guohua Lv, |
| | Sindhu A Menon, Salema B Abul Khair, Jia-Hong Lu, Bared |
| | Safieh-Garabedian, Abdulmonem A Al-Hayani, David |
| | Eliezer, Min Li, Omar MA El-Agnaf |
| Correspondent's Email: | n/a |

ABSTRACT

Compelling evidence indicates that a-synuclein (alpha syn) aggregation plays a central role in the pathogenesis of Parkinson's disease (PD) and other synucleinopathies. Identification of compounds that inhibit or reverse the aggregation process may thus represent a viable therapeutic strategy against PD and related disorders. Ginseng is a well-known medicinal plant that has been used in East Asia for more than two thousand years to treat several conditions. It is now understood that the pharmacological properties of ginseng can be attributed to its biologically active components, the ginsenosides, which in turn have been shown to have neuroprotective properties. We therefore sought to determine for the first time, the potential of the most frequently used and studied ginsenosides, namely Rg1, Rg3 and Rb1, as anti-amyloidogenic agents. The effect of Rg1, Rg3 and Rb1 on alpha-syn aggregation and toxicity was determined by an array of biophysical, biochemical and cell-culture-based techniques. Among the screened ginsenosides, only Rb1 was shown to be a potent inhibitor of alpha-syn fibrillation and toxicity. Additionally, Rb1 exhibited a strong ability to disaggregate preformed fibrils and to inhibit the seeded polymerization of alpha-syn. Interestingly, Rb1 was found to stabilize soluble non-toxic oligomers with no (beta-sheet content, that were susceptible to proteinase K digestion, and the binding of Rb1 to those oligomers may represent a potential mechanism of action. Thus, Rb1 could represent the starting point for designing new molecules that could be utilized as drugs for the treatment of PD and related disorders.



| | Impaired expression of sex hormone receptors in male |
|----------------------------------|---|
| Research Title: | reproductive organs of diabetic rat in response to oral |
| | antidiabetic drugs |
| | Folia Histochemica Et Cytobiologica |
| Source: | Via Medica |
| | Vol. 53, Issue 1, Page: 35-48 |
| ISSN: | 1897-5631 |
| Month and Year of | IAN 2015 |
| Publication: | JAN 2015 |
| Impact Factor: | 1 |
| Affiliated Department(s): | Anatomy |
| Author(s): | Nasra Naeim Ayuob, Hussam AS Murad, Soad Shaker Ali |
| Correspondent's Email: | n/a |

ABSTRACT

Introduction: Few oral antidiabetic drugs have been evaluated for their reproductive complication. This study aimed to evaluate the effect of metformin, pioglitazone and sitagliptin on the structure of male reproductive system through an immunohistopathological study.

Material and methods: Sprague-Dawley male rats were injected with streptozotocin. The diabetic rats were divided into four groups (n = 8/each group); diabetic control, metformin-, pioglitazone- and sitagliptin-treated groups in addition to a normal control group (n = 8). At the end of the experiment, blood samples were collected for biochemical assessment. Testis, epididymis and seminal vesicle were dissected and processed for histopathological examination using routine and immune-staining.

Results: All drugs significantly (p < 0.05) decreased fasting blood glucose, glycated hemoglobin, total cholesterol, triglycerides and malondialdehyde compared to the diabetic control group. Metformin has induced the least pathologic changes on the structure of the testis, epididymis and seminal vesicle among the studied drugs. Metformin succeeded to restore weights of testis, epididymis and seminal vesicle as well as testosterone hormone level back to values of the NC group while the pioglitazone and sitagliptin failed to do that. A significant reduction (p < 0.05) in testicular ER alpha and ER beta immunoexpression of pioglitazone-treated group as well as suppression of ER beta and AR immunoreactivity in in epididymus and seminal vesicles of pioglitazone-and sitagliptin-treated rats were observed compared to the control animals.

Conclusions: Histological structure as well ER and AR expression in the system organs were negatively and significantly affected with all studied drugs. Metformin has the least effect on the structure of the studied male reproductive organs. Thus, pioglitazone and sitagliptin treatment should be avoided in young male diabetic patients.



| Research Title: | Lycopene treatment against loss of bone mass, |
|---------------------------|--|
| | microarchitecture and strength in relation to regulatory |
| | mechanisms in a postmenopausal osteoporosis model |
| | Bone |
| Source: | Elsevier |
| | Vol. 83, Page: 127-140 |
| ISSN: | 8756-3282 |
| Month and Year of | NOV 2015 |
| Publication: | NOV 2013 |
| Impact Factor: | 3.973 |
| Affiliated Department(c): | Anatomy; Clinical Biochemistry; Hematology; Ob-Gyne; |
| Affinated Department(s): | Center of Excellence for Osteoporosis Research |
| Author(s): | Mohammed-Salleh M Ardawi, Mohammed H Badawoud, |
| | Sherif M Hassan, Abdulrahim A Rouzi, Jumanah MS |
| | Ardawi, Nouf M AlNosani, Mohammed H Qari, Shaker A |
| | Mousa |
| Correspondent's Email: | msmardawi@yahoo.com |

ABSTRACT

Lycopene supplementation decreases oxidative stress and exhibits beneficial effects on bone health, but the mechanisms through which it alters bone metabolism in vivo remain unclear. The present study aims to evaluate the effects of lycopene treatment on postmenopausal osteoporosis. Six-month-old female Wistar rats (n = 264) were sham-operated (SHAM) or ovariectomized (OVX). The SHAM group received oral vehicle only and the OVX rats were randomized into five groups receiving oral daily lycopene treatment (mg/kg body weight per day): 0 OVX (control), 15 OVX, 30 OVX, and 45 OVX, and one group receiving alendronate (ALN) (2 µg/kg body weight per day), for 12 weeks. Bone densitometry measurements, bone turnover markers, biomechanical testing, and histomorphometric analysis were conducted. Micro computed tomography was also used to evaluate changes in microarchitecture. Lycopene treatment suppressed the OVX-induced increase in bone turnover, as indicated by changes in biomarkers of bone metabolism: serum osteocalcin (s-OC), serum N-terminal propeptide of type 1 collagen (s-PINP), serum crosslinked carboxyterminal telopeptides (s-CTX-1), and urinary deoxypyridinoline (u-DPD). Significant improvement in OVX-induced loss of bone mass, bone strength, and microarchitectural deterioration was observed in lycopene-treated OVX animals. These effects were observed mainly at sites rich in trabecular bone, with less effect in cortical bone. Lycopene treatment down-regulated osteoclast differentiation concurrent with up-regulating osteoblast together with glutathione peroxidase (GPx) catalase (CAT) and superoxide dismutase (SOD) activities. These findings demonstrate that lycopene treatment in OVX rats primarily suppressed bone turnover to restore bone strength and microarchitecture.



| Research Title: | Potential Alleviation of Chlorella vulgaris and Zingiber |
|----------------------------------|--|
| | officinale on Lead-Induced Testicular Toxicity: an |
| | Ultrastructural Study |
| Source: | Folia Biologica-Krakow |
| | Polish Acad Sciences |
| | Vol. 63, Issue 4, Page: 269-278 |
| ISSN: | 1734-9168 |
| Month and Year of | LANI 2015 |
| Publication: | JAN 2015 |
| Impact Factor: | 0.882 |
| Affiliated Department(s): | Anatomy |
| Author(s): | Hesham Noaman Mustafa |
| Correspondent's Email: | hesham977@hotmail.com |

ABSTRACT

Natural products were studied to combat reproductive alterations of lead. The current work aimed to disclose the efficacy of Chlorella vulgaris and Zingiber officinale to alleviate lead acetate induced toxicity. Sixty adult male Wistar rats were distributed into four groups. Group 1 was considered control, group 2 received 200 mg/l PbAc water, group 3 received 50 mg/kg/rat of C. vzilgaris extract and 200 mg/l PbAc water, and group 4 received 100 mg/kg/rat of Z. officinale and 200 mg/l PbAc water for 90 days. Testis samples were subjected to ultrastructural examination. It was observed that PbAc caused degenerative alterations in the spermatogenic series in many tubules, with a loss of germ cells and vacuoles inside the cytoplasm and between the germ cells. Mitochondria exhibited ballooning, with lost cristae and widening of the interstitial tissue, while nuclear envelopes of primary spermatocytes were broken up, and axonemes of the mid-pieces of the sperms were distorted. with the treatment with C. vulgaris or Z. officinale, there were noticeable improvements in these modifications. It was concluded that both C. vulgaris and Z. officinale represent convincing medicinal components that may be used to ameliorate testicular toxicity in those exposed to lead in daily life with superior potentials revealed by C. vulgaris due to its chelating action.



| Research Title: | Prophylactic role of coenzyme Q10 and Cynara scolymus L |
|---------------------------|--|
| | on doxorubicin-induced toxicity in rats: Biochemical and |
| | immunohistochemical study |
| | Indian Journal of Pharmacology |
| Source: | Medknow Publications & Media Pvt Ltd |
| | Vol. 47, Issue 6, Page: 649-656 |
| ISSN: | 1998-3751 |
| Month and Year of | NOV 2015 |
| Publication: | NOV 2013 |
| Impact Factor: | 0.691 |
| Affiliated Department(s): | Anatomy; Clinical Biochemistry |
| Author(s): | Hesham N Mustafa, Sally A El Awdan, Gehan A Hegazy, |
| | Gehad A Abdel Jaleel |
| Correspondent's Email: | hesham977@hotmail.com |

ABSTRACT

Objective: The study aims to evaluate the protective effects of coenzyme Q10 (CoQ10) and Cynara scolymus L (CS) on doxorubicin (dox)-induced toxicity.

Materials and Methods: Sixty male rats were divided into six groups. Group 1 as a control. Group 2 received dox (10 mg/kg) intraperitoneally. Group 3 received CoQ10 (200 mg/kg). Group 4 received CS (500 mg/kg). Group 5 received CoQ10 (200 mg/kg) and dox (10 mg/kg). Group 6 received CS (500 mg/kg) and dox (10 mg/kg). The rats were then evaluated biochemically and immunohistochemically.

Results: Dox produced a significant deterioration of hepatic and renal functional parameters. Moreover, an upsurge of oxidative stress and nitrosative stress markers. The expression of alpha-smooth muscle actin (alpha-SMA) was increased and proliferating cell nuclear antigen (PCNA) expression was decreased. Administration of CoQ10 and CS resulted in a significant improvement of hepatic and renal functional parameters, and an improvement of both alpha-SMA and PCNA.

Conclusion: It is concluded that pretreatment with CoQ10 and CS is associated with upregulation of favorable protective enzymes and down-regulation of oxidative stress. That can be advised as a supplement to dox-treated patients.



| Research Title: | The ameliorative potential of Hyphaene thebaica on streptozotocin-induced diabetic nephropathy |
|---------------------------|--|
| | Folia Biologica-Krakow |
| Source: | Via Medica |
| | Vol. 74, Issue 4, Page: 447-457 |
| ISSN: | 0015-5659 |
| Month and Year of | NOV 2015 |
| Publication: | |
| Impact Factor: | 0.336 |
| Affiliated Department(s): | Anatomy |
| Author(s): | M AbdEl-Moniem, HN Mustafa, HA Megahed, MH |
| | Agaibyi, GA Hegazy, MA El-Dabaa |
| Correspondent's Email: | hesham977@hotmail.com |

ABSTRACT

Background: Diabetic nephropathy (DN) is the leading cause of end-stage renal disease. The aim of the current study is to investigate the possible beneficial effects of Hyphaene thebaica in DN.

Materials And Methods: For this, 50 male albino rats were divided into five groups: group I - represented the control group; group II - received Hyp-haene thebaica extracts of 150 mg/kg BW by oral gavage for 6 weeks; group III - received single intraperitoneal injections of streptozotocin (50 mg/kg BW) to induce type-2 diabetes mellitus; group IV (protective) - diabetic rats recei-ved Hyphaene thebaica extract (150 mg/kg BW) orally for 6 weeks; group V (curative) - received Hyphaene thebaica extract (150 mg/kg BW) orally after the diagnosis of DN.

Results: In the DN protected group, blood glucose, urea, and creatinine decreased significantly, while insulin and C-peptide increased significantly. Moreover, cystatin C and neutrophil gelatinase-associated lipocalin decreased. Collagen fibre deposition is increased with an apparent thickening of the parietal layer of Bowman's capsules and the basal lamina of convoluted tubules, as well as increase of the immune-reaction of caspase-3 and desmin. The introduction of Hyphaene thebaica led to greater amelioration in the biochemical markers, apoptotic alterations, and podocyte injuries of the protected group than in the curative group.

Conclusions: Hyphaene thebaica may be advised as a good choice that can delay diabetic renal complications.



| Research Title: | Using the balance between proliferation and apoptosis to |
|----------------------------------|---|
| | assess the cryopreservation and thawing protocol in mouse |
| | 4-cell embryos |
| | Journal of Anatomy and Embryology |
| Source: | Edorium |
| | Vol. 2015, Issue 2, Page: 6-13 |
| ISSN: | n/a |
| Month and Year of | MAY 2015 |
| Publication: | |
| Impact Factor: | n/a |
| Affiliated Department(s): | Anatomy; Ob-Gyne |
| Author(s): | Mostafa M El-Naggar, Hassan Nasrat, Hassan Jamal, Samar |
| | Al-Saggaf, Mohamed H Badawod |
| Correspondent's Email: | n/a |

ABSTRACT

Aims: the criteria used to assess the optimal conditions for cryopreservation of the embryos in the in vitro fertilization (IVF) protocols are still a matter of discussion. this study aimed at evaluating the use of cell proliferation and apoptosis to assess the optimal conditions for cryopreservation/thawing of the 4-cell embryos.

Methods: Fertilized ova were collected from mated female MF1 mice 24 hours after hcG injection. they were cultured in KsOM medium and kept in cO2 incubator at 37°c and 5% cO2 up to the stage of the 4-cells. two methods of cryopreservation were used; the step-rate and the ultra-rapid vitrification. slow and fast thawing was done. slides were prepared from samples of the embryos, and stained immunohistochemically for proliferative and apoptotic cells. the proliferative capacity was measured by labeling with bromodeoxyuridine (brdU) and the apoptotic ability was measured with tUNEL technique.

Results: Vitrification with fast thawing of the 4-cell embryos gave better morphology, higher proliferative capacity, and lower apoptotic ability. Following step-rate cryopreservation with slow or fast thawing, cell labeling index for brdU was 0% and 17%, respectively and was 66% and 83%, respectively following vitrification. the incidence of apoptosis following step rate cryopreservation with slow or fast thawing was 96% and 89%, respectively and was 42% and 13%, respectively following vitrification.

Conclusion: It is concluded that cell proliferation and apoptosis could be used to assess the cryopreservation/thawing protocol for early embryos.



| Research Title: | Vitamin D-3 improves decline in cognitive function and cholinergic transmission in prefrontal cortex of |
|---------------------------|--|
| | streptozotocin-induced diabetic rats |
| | Behavioural Brain Research |
| Source: | Elsevier Science Bv |
| | Vol. 287, Page: 156-162 |
| ISSN: | 1872-7549 |
| Month and Year of | JUL 2015 |
| Publication: | |
| Impact Factor: | 3.391 |
| Affiliated Department(s): | Anatomy; Physiology |
| Author(s): | Zienab Alrefaie, Abdulmone'em Alhayani |
| Correspondent's Email: | z.elrefay@yahoo.com, zalrfae@kau.edu.sa |

ABSTRACT

Complications of diabetes mellitus include cognitive impairments and functional changes in the brain. The present study aimed to investigate the possible beneficial effect of vitamin D-3 on episodic memory and cholinergic transmission in the prefrontal cortex of streptozotocin-induced diabetic rats.

Thirty male Wistar rats (150-200g) were included into control, diabetic and diabetic supplemented with vitamin D3 groups. Diabetes was induced by single intraperitoneal injection of streptozotocin 45 mg/kg in citrate buffer. Vitamin D-3 was administered orally in a dose of 500 IU/kg/day in corn oil for 10 weeks. Then rats were subjected to novel object recognition test to examine for episodic memory. Animals were sacrificed under diethyl ether anesthesia and prefrontal cortices were dissected to measure the activity of choline acetyl transferase (CAT) and acetyle choline esterase (ACE) enzymes to assess for cholinergic transmission.

Diabetic rats spent significantly less time exploring the novel object compared to control animals. Vitamin D-3 significantly attenuated the diabetes-induced impairment so that animals again spent significantly more time exploring the novel object. The CAT activity was significantly decreased in diabetic animals while the ACE activity was significantly increased compared to control non-diabetic animals. Diabetes-induced alterations in enzyme activity in the prefrontal cortex were mitigated by vitamin D-3 supplementation.

The present findings demonstrate the potential effect of vitamin D-3 supplementation on cognitive function in diabetic animals. It is possible that this effect is mediated through enhancing the prefrontal cortex cholinergic transmission.



Department of Anesthesia

Department of Anesthesia

<u>Head of Department</u>

د. مازن شمس الدين يعقوب فادن

<u>Members</u>

عبد الله محمد أحمد كعكي جمال عبد الولى محمد عبد الحق الهاشمى عبد العزيز محمد علي بوكر انيس أحمد سراج سندي عادل محمد خان أمين قاضى مخدوم عبير أحمد حسن عرب مازن شمس الدين يعقوب فادن هيفاء مسفر علي القثامي وديعه خالد محمد باحاذق ابرار شمس الدين يعقوب فادن احمد عدنان حسن باشويه احمد معتوق احمد بدري الاء عبدالاله عبدالرحيم صباحي اياد فريد زكي السيد براء أسامة صادق طيب تركى عبدالله محمد خليل السبحى حسام عبدالرحمن محمد على غبرة حسان عبدالعزيز عبدالله موريا دانيه غريب عبدالرحيم ضيف الله سارة حسن محمد علي فارسي سميه حاتم احمد شفي عبدالحميد محمد صالح محمد شريف عرضاوي عبدالرحمن عدنان عبدالله المزروع عبدالرحمن ياسر محمد المنصوري عبدالعزيز هشام عبدالعزيز القين عمر عبدالجبار أحمد اليمانى لميس محمد علي احمد قطان محمد طارق رشاد سبحى محمد كامل عبدالرحمن باشراحيل نزار محمد بشير قرقوري



| Research Title: | Added Value of MRI over CT of the Brain in Intensive Care |
|---------------------------|---|
| | Unit Patients |
| | Canadian Journal of Neurological Sciences |
| Source: | Cambridge University Press |
| | Vol. 42, Issue 5, Page 324-332 |
| ISSN: | 0317-1671 |
| Month and Year of | SEPT 2015 |
| Publication: | |
| Impact Factor: | 1.599 |
| Affiliated Department(s): | Anesthesia |
| Author(s): | Haifa M Algethamy, Mohamed Alzawahmah, G Bryan |
| | Young, Seyed M Mirsattari |
| Correspondent's Email: | halgethamy2020@gmail.com |

ABSTRACT

Background: Intensive care unit (ICU) patients with neurological impairments often require neuroimaging. However, the relative sensitivity of various imaging modalities of the brain has not yet been explored in this population.

Methods: In this study, we compare the findings of CT and MRI scans in ICU patients to (1) identify the number and rate of clinically relevant lesion detected by MRI while missed by CT and vice versa and (2) determine specific lesion types for which CT versus MRI discrepancies exist. A review of medical records included CT and MRI reports of patients who underwent these procedures while they were patients in our ICUs between July 2004 and July 2009. MRI and CT were compared regarding their ability to detect clinically relevant abnormalities. Odds ratios with 95% confidence limits were calculated to compare diagnostic categories regarding the rate of discrepant MRI versus CT findings, followed by power analyses to estimate sample sizes necessary to allow for further testing in a larger trial.

Results: MRI revealed clinically relevant additional abnormalities over CT in 129 of 136 patients (95%) that included the detection of additional finding for 15/27 hemorrhagic lesions (55.6%), 33/36 (92%) ischemic strokes, 19/27 (70%) traumatic lesions, 8/14 (57%) infections, 15/24 (62.5%) metabolic abnormalities, and all seven neoplasms. Odds ratio analysis revealed the added sensitivity of MRI to be greater for ischemic and neoplastic lesions than for trauma, metabolic-related abnormalities, infection, or hemorrhage.

Conclusions: MRI is more sensitive than CT in identifying clinically meaningful lesions in at least a subset of ICU patients, regardless of pathology.



| Research Title: | Fluid type and the use of renal replacement therapy in sepsis: |
|---------------------------|--|
| | a systematic review and network meta-analysis |
| | Intensive Care Medicine |
| Source: | Springer |
| | Vol. 41, Issue 9, Page: 1561-1571 |
| ISSN: | 1432-1238 |
| Month and Year of | SEDT 2015 |
| Publication: | SEF1 2015 |
| Impact Factor: | 7.214 |
| Affiliated Department(s): | Anesthesia |
| Author(s): | B Rochwerg, W Alhazzani, A Gibson, CM Ribic, A Sindi, D |
| | Heels-Ansdell, L Thabane, A Fox-Robichaud, L Mbuagbaw, |
| | W Szczeklik, F Alshamsi, S Altayyar, W Ip, G Li, M Wang, |
| | A Włudarczyk, Q Zhou, D Annane, DJ Cook, R Jaeschke, |
| | GH Guyatt, FISSH Group |
| Correspondent's Email: | n/a |

ABSTRACT

Fluid resuscitation, along with the early administration of antibiotics, is the cornerstone of treatment for patients with sepsis. However, whether differences in resuscitation fluids impact on the requirements for renal replacement therapy (RRT) remains unclear. To examine this issue, we performed a network meta-analysis (NMA), including direct and indirect comparisons, that addressed the effect of different resuscitation fluids on the use of RRT in patients with sepsis. The data sources MEDLINE, EMBASE, ACPJC, CINAHL and Cochrane Central Register were searched up to March 2014. Eligible studies included randomized trials reported in any language that enrolled adult patients with sepsis or septic shock and addressed the use of RRT associated with alternative resuscitation fluids. The risk of bias for individual studies and the overall certainty of the evidence were assessed. Ten studies (6664 patients) that included a total of nine direct comparisons were assessed. NMA at the four-node level showed that an increased risk of receiving RRT was associated with fluid resuscitation with starch versus crystalloid [odds ratio (OR) 1.39, 95 % credibility interval (CrI) 1.17-1.66, high certainty]. The data suggested no difference between fluid resuscitation with albumin and crystalloid (OR 1.04, 95 % CrI 0.78-1.38, moderate certainty) or starch (OR 0.74, 95 % CrI 0.53-1.04, low certainty). NMA at the six-node level showed a decreased risk of receiving RRT with balanced crystalloid compared to heavy starch (OR 0.50, 95 % CrI 0.34-0.74, moderate certainty) or light starch (OR 0.70, 95 % CrI 0.49-0.99, high certainty). There was no significant difference between balanced crystalloid and saline (OR 0.85, 95 % CrI 0.56-1.30, low certainty) or albumin (OR 0.82, 95 % CrI 0.49-1.37, low certainty). Of note, these trials vary in terms of case mix, fluids evaluated, duration of fluid exposure and risk of bias. Imprecise estimates contributed to low confidence in most estimates of effect. Among the patients with sepsis, fluid resuscitation with crystalloids compared to starch resulted in reduced use of RRT; the same may be true for albumin versus starch.



| Research Title: | Optimizing the modified laparoscopic Vecchietti procedure |
|----------------------------------|---|
| Source: | Clinical and Experimental Obstetrics & Gynecology |
| | IROG Canada |
| | Vol. 42, Issue 3, Page: 352-354 |
| ISSN: | 0390-6663 |
| Month and Year of | LAN 2015 |
| Publication: | JAN 2015 |
| Impact Factor: | 0.424 |
| Affiliated Department(s): | Anesthesia; Ob-Gyne |
| Author(s): | AA Rouzi, N Sahly, S Kafy, O Bajouh, A Kaki, H |
| | Abduljabbar |
| Correspondent's Email: | aarouzi@gmail.com |

ABSTRACT

Objective: To enhance the modified laparoscopic Vecchietti procedure.

Materials and Methods: A case series of five women with Mayer-Rokitansky-Kuster-Hauser syndrome at the Department of Obstetrics and Gynecology, King Abdulaziz University Hospital, Jeddah, Saudi Arabia underwent the modified laparoscopic Vecchietti procedure with intraperitoneal placement of sutures. This involved perforation of the vaginal dimple by a straight thread guide with two threads attached to the olive followed by pulling the two threads intra-peritoneally and through the abdominal wall to the traction device by grasping instruments under laparoscopic control.

Results: Intraperitoneal placement of the sutures was easily done without complications in all five women. The operative time was 50 10 (mean SD) minutes. After five postoperative days, the average vaginal length was seven to 7.5 cm. Two women were able to have vaginal intercourse without problems. After six months to one year of follow up, the vaginal length was at least ten cm and no postoperative complications occurred.

Conclusions: Intraperitoneal placement of sutures makes the modified laparoscopic Vecchietti procedure easy and appealing. Furthermore, it avoids potential damage to the vital structures at the pelvic side walls.



| Research Title: | Potential Relevance of Melatonin Against Some Infectious Agents: A Review and Assessment of Recent Research |
|-----------------------------------|--|
| Source: | Current Medicinal Chemistry Bentham Science Publ Ltd Vol. 22, January 23, Page 2848, 2861 |
| ISSN: | 1875-533X |
| Month and Year of Publication: | JAN 2015 |
| Impact Factor: | 3.853 |
| Affiliated Department(s): | Anesthesia |
| Author(s): | Ehab Kotb Elmahallawy, Javier Ortega Luque, Abdelkarim Saleh Aloweidi, Jose Gutierrez-Fernandez, Antonio Sampedro-Martinez, Javier Rodriguez-Granger, Abdullah Kaki, Ahmad Agil |
| Correspondent's Email: | anasehab2010@gmail.com; aagil@ugr.es |

ABSTRACT

Melatonin, a tryptophan-derived neurohormone found in animals, plants, and microbes, participates in various biological and physiological functions. Among other properties, numerous in vitro or in vivo studies have reported its therapeutic potential against many parasites, bacteria and viruses. In this concern, melatonin was found to be effective against many parasites such as Plasmodium, Toxoplasma gondii, and Trypansoma cruzi, via various mechanisms such as modulation of calcium level and/or host immune system. Likewise, a recent investigation has reported in vitro activity of melatonin against Leishmania infantum promastigotes which is the causative agent of fascinating visceral Leishmaniasis. This review was initially undertaken to summarize some facts about certain physiological and therapeutic effects of melatonin. It also reviews the effects and action mechanisms of melatonin in bacterial and viral infection besides biology of different parasites which may provide a promising strategy for control of many diseases of public health importance.



Department of Clinical Biochemistry

Department of Clinical Biochemistry

<u>Head of Department</u> أ.د / محمد صالح محمد شريف صالح العرضاوى <u>Members</u>

الاء عبدالله عمر باقيص

زهير محمد حامد محمد المرزوقي زينى محمد عبد الله بنجر سهاد معتوق عبد الله باحجرى عبد الوهاب عبد الرحمن عبد القادر نورولي محمد زيلعي علي زيلعي محمد صالح محمد شريف صالح العرضاوى إيمان مقبل عبد العزيز العيسى ايمن زكى السيد السمنودى فايده حسن على بامانع هدی جاد محمد جاد أمينة محمد الغريب النورى جيهان عبدالفتاح محمد حجازي زهير احمد يحيى اوان علياء عمرو محمد حسين العامودى عنايات محمد هاشم على غادة محمد على عجب نور فايزة فواز علي الفايز علياء محمد على احمد صبان محمد شعيب شمس الدين جارالله أحمد سمير على جمال احمد محمد مديس الزهراني اسماء على صادق صوان

بسمه مدحت محمد الدخاخنى حسام محمد احمد داغستانى دارين محمد سعيد اليوسفي ريم فؤاد محمد غزالى عبدالهادى إبراهيم حسين بيما عماد احمد عبدالوهاب نقلى ماجد اسامه حسين المنصوري محمد عبدالله هاشم منشى مراد سعيد محمد باعباد ولاء عيد عوده الاحمدى يوسف محمد سعد الدين المغربى أحمد صالح مصلح آل مصلح الشمرانى احمد عبدالله جبارة السريحي الاء عبدالسلام القرشى رحاب ابوبكر العيدروس زين محمد جابر الشريف صالحه عبدالله محمد المطيري نايف محسن حاسن السفياني ندى صالح عبدالله الصيخان هناء أحمد محمد باصفار يحيى محمد يحيى الشهراني



| Research Title: | 6-Gingerol alleviates exaggerated vasoconstriction in |
|----------------------------------|---|
| | diabetic rat aorta through direct vasodilation and nitric oxide |
| | generation |
| | Drug Design Development and Therapy |
| Source: | Dove Medical Press Ltd |
| | Vol. 9, Page: 6019-6026 |
| ISSN: | 1177-8881 |
| Month and Year of | OCT 2015 |
| Publication: | |
| Impact Factor: | 3.028 |
| Affiliated Department(s): | Clinical Biochemistry; Pediatrics |
| | Salah A Ghareib, Hany M El-Bassossy, Ahmed A Elberry, |
| Author(s): | Ahmad Azhar, Malcolm L Watson, Zainy Mohammed |
| | Banjar |
| Correspondent's Email: | berry_ahmed@yahoo.com |

ABSTRACT

The aim of the present study is to investigate the effect and potential mechanism of action of 6-gingerol on alterations of vascular reactivity in the isolated aorta from diabetic rats. Male Wistar rats were divided into two experimental groups, control and diabetics. Diabetes was induced by a single intraperitoneal injection of streptozotocin (50 mg kg(-1)), and the rats were left for 10 weeks to develop vascular complications. The effect of in vitro incubation with 6-gingerol (0.3-3 mu M) on the vasoconstrictor response of the isolated diabetic aortae to phenylephrine and the vasodilator response to acetylcholine was examined. Effect of 6gingerol was also examined on aortae incubated with methylglyoxal as an advanced glycation end product (AGE). To investigate the mechanism of action of 6-gingerol, the nitric oxide synthase inhibitor N omega-nitrol-arginine methyl ester hydrochloride (100 mu M), guanylate cyclase inhibitor methylene blue (5 mu M), calcium-activated potassium channel blocker tetraethylammonium chloride (10 mM), and cyclooxygenase inhibitor indomethacin (5 mu M) were added 30 minutes before assessing the direct vasorelaxant effect of 6gingerol. Moreover, in vitro effects of 6-gingerol on NO release and the effect of 6-gingerol on AGE production were examined. Results showed that incubation of aortae with 6-gingerol (0.3-10 mu M) alleviated the exaggerated vasoconstriction of diabetic aortae to phenylephrine in a concentration-dependent manner with no significant effect on the impaired relaxatory response to acetylcholine. Similar results were seen in the aortae exposed to methylglyoxal. In addition, 6-gingerol induced a direct vasodilation effect that was significantly inhibited by N omega-nitro-l-arginine methyl ester hydrochloride and methylene blue. Furthermore, 6gingerol stimulated aortic NO generation but had no effect on AGE formation. In conclusion, 6-gingerol ameliorates enhanced vascular contraction in diabetic aortae, which may be partially attributed to its ability to increase the production of NO and stimulation of cyclic guanosine monophosphate.



| Research Title: | A Randomized, Controlled Clinical Trial of Honey- Impregnated Dressing for Treating Diabetic Foot Ulcer |
|-----------------------------------|--|
| Source: | Jcpsp-Journal of The College of Physicians and Surgeons Pakistan Coll Physicians & Surgeons Pakistan Vol. 25, Issue 10, Page: 721-725 |
| ISSN: | 1681-7168 |
| Month and Year of Publication: | OCT 2015 |
| Impact Factor: | 0.318 |
| Affiliated Department(s): | Clinical Biochemistry; Microbiology and Medical Parasitology; Surgery |
| Author(s): | Muhammad Imran, Muhammad Barkaat Hussain, Mukhtiar Baig |
| Correspondent's Email: | surgeonimran@gmail.coin |

ABSTRACT

Objective: To investigate the effect of Ben-honey-impregnated dressing on diabetic foot ulcer and compare it with normal saline dressing.

Study Design: A randomized, controlled trial.

Place and Duration of Study: Sughra Shafi Medical Complex, Narowal, Pakistan and Bhatti International Trust (BIT) Hospital, Affiliated with Central Park Medical College, Lahore, from February 2006 to February 2010.

Methodology: Patients with Wagner's grade 1 and 2 ulcers were enrolled. Those patients were divided in two groups; group A (n=179) treated with honey dressing and group B (n=169) treated with normal saline dressing. Outcome measures were calculated in terms of proportion of wounds completely healed (primary outcome), wound healing time, and deterioration of wounds. Patients were followed-up for a maximum of 120 days.

Results: One hundred and thirty six wounds (75.97%) out of 179 were completely healed with honey dressing and 97 (57.39%) out of 169 with saline dressing (p=0.001). The median wound healing time was 18.00 (6 - 120) days (Median with IQR) in group A and 29.00 (7 - 120) days (Median with IQR) in group B (p <0.001).

Conclusion: The present results showed that honey is an effective dressing agent instead of conventional dressings, in treating patients of diabetic foot ulcer.



| Research Title: | Bone mineral density and cardiovascular risk factors in |
|-------------------------------|---|
| | postmenopausal women with coronary artery disease |
| | BoneKEy Reports |
| Source: | Nature Publishing Group |
| | Vol. 2015, Issue 4, Page: 1-7 |
| ISSN: | 2047-6396 |
| Month and Year of | NOV 2015 |
| Publication: | |
| Impact Factor: | n/a |
| Affiliated Department(s): | Clinical Biochemistry |
| Author(s): | Eman M Alissa, Wafa A Alnahdi, Nabil Alama, Gordon A |
| | Ferns |
| Correspondent's Email: | em_alissa@yahoo.com |

ABSTRACT

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



| Research Title: | Breast Cancer Knowledge Among Male High School |
|-------------------------------|--|
| | Students in Saudi Arabia |
| Source: | Journal of Cancer Education |
| | Springer US |
| | Page 1-5 |
| ISSN: | 1543-0154 |
| Month and Year of | NOV 2015 |
| Publication: | NOV 2015 |
| Impact Factor: | 1.054 |
| Affiliated Department(s): | Clinical Biochemistry; Medicine, Medical Education; Sheikh |
| | Mohammed Hussien AL-Amoudi Center of Excellence in |
| | Breast Cancer |
| Author(s): | Samia Al-Amoudi, Moaiad Tariq Abdul-Aziz AlHomied, |
| | Nasser Youssef Nasser AlSayegh, Osama Naseem Ismail |
| | Radi, Mohammed Majed Suliman Zagzoog, Omar Faisal |
| | Mubarak Aloufi, Abdullah Abdulkarim Ali Al-Harbi, |
| | Safwan Tayeb, Mohammed Hassanien, Mahmoud Al-Ahwal, |
| | Basem Eldeek, Steve Harakeh |
| Correspondent's Email: | dr.samia_amoudi@hotmail.com |

ABSTRACT

Breast cancer (BC) accounts for 24 % of all women cancer cases diagnosed in Saudi Arabia each year. Awareness is extremely important in combating this disease. This study was undertaken to assess male high school students' response to BC. This cross-sectional survey was performed on male high school students across schools in Jeddah. A questionnaire gathered data on respondent demographics, beliefs about BC, BC risk factors, early screening methods, and role of men in BC. Statistical analysis was done using SPSS 20. A total of 824 students participated, with an average age of 17.0 years. There was more than 50 % agreement that early detection of BC enhances the chances of recovery, that BC is treatable, and that clinical breast examination and breastfeeding provide protection from BC. Around half the survey population thought that BC was fatal and contagious. Fewer than 50 % thought that BC was inherited and related to smoking, consumption of contraceptive pills, repeated exposure to radiation, obesity, and wearing a bra and that breast tumors were all malignant and spread to different parts of the body. Others knew that mammograms should be performed periodically. A high percentage persuaded their relatives to have mammograms and provided them with psychological support. Knowledge of BC among male high school students in Saudi Arabia is still limited, and, therefore, programs and activities need to be established to increase awareness among high school students.



| Research Title: | Bronchial asthma and hypovitaminosis D in Saudi |
|----------------------------------|--|
| | children |
| | Asia Pacific Allergy |
| Source | Asia Pacific Association of Allergy, Asthma and Clinical |
| Source: | Immunology |
| | Vol. 5, Issue 2, Page: 103-113 |
| ISSN: | 2233-8276 |
| Month and Year of | APR 2015 |
| Publication: | |
| Impact Factor: | n/a |
| Affiliated Department(s): | Clinical Biochemistry; Pediatrics |
| Author(s): | Huria M Aldubi, Eman M Alissa, Hayat Z Kamfar, |
| | Osama Gaber, Zuhair M Marzouki |
| Correspondent's Email: | em_alissa@yahoo.com |

ABSTRACT

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

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

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

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

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



| Research Title: | Cancellation of operations in Saudi Arabian hospitals: |
|----------------------------------|--|
| | riequency, reasons and suggestions for improvements |
| | Pakistan Journal of Medical Sciences |
| Source: | Professional Medical Publications |
| | Vol. 31, Issue 5, Page 1027-1032 |
| ISSN: | 1682-024X |
| Month and Year of | SEDT 2015 |
| Publication: | SEF 1 2015 |
| Impact Factor: | 0.231 |
| Affiliated Department(s): | Clinical Biochemistry; Medicine |
| Author(s): | Khalid O Dhafar, Mutaliq A Ulmalki, Mohammad A |
| | Felemban, Mohammed Eid Mahfouz, Mostafa J Baljoon, |
| | Zohair J Gazzaz, Mukhtiar Baig, Noha Mansoor Hamish, |
| | Saeed A AlThobaiti, Fouzia Talea Al-Hothali |
| Correspondent's Email: | research@healthcareexpertise.org |

ABSTRACT

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

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

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

Conclusions: Present study found 7.6% cancelation rate in Makkah region hospitals and three most common causes for cancellations were patients related, facility related and improper work-up.



| Research Title: | Chicory (Cichorium intybus L.) Root Extract Regulates the |
|----------------------------------|--|
| | Oxidative Status and Antioxidant Gene Transcripts in CCl4- |
| | Induced Hepatotoxicity |
| | Plos One |
| Source: | Public Library Science |
| | Vol. 10, Issue 3, Page: 1-12 |
| ISSN: | 1932-6203 |
| Month and Year of | MAD 2015 |
| Publication: | MAR 2015 |
| Impact Factor: | 3.234 |
| Affiliated Department(s): | Clinical Biochemistry |
| Author(s): | Yasser S El-Sayed, Mohamed A Lebda, Mohammed |
| | Hassinin, Saad A Neoman |
| Correspondent's Email: | yasser_tf@yahoo.com |

ABSTRACT

The ability of Cichorium intybus root extract (chicory extract) to protect against carbon tetrachloride (CCl4)-induced oxidative stress and hepatotoxicity was evaluated in male rats. The rats were divided into four groups according to treatment: saline (control); chicory extract (100 mg/kg body weight daily, given orally for 2 weeks); CCl4 (1 ml/kg body weight by intraperitoneal injection for 2 consecutive days only); or chicory extract (100 mg/kg body weight daily for 2 weeks) + CCl4 injection on days 16 and 17. The levels of hepatic lipid peroxidation, antioxidants, and molecular biomarkers were estimated twenty-four hours after the last CCl4 injection. Pretreatment with chicory extract significantly reduced CCl4-induced elevation of malondialdehyde levels and nearly normalized levels of glutathione and activity of glutathione S-transferase, glutathione peroxidase (GPx), glutathione reductase, catalase (CAT), paraoxonase-1 (PON1), and arylesterase in the liver. Chicory extract also attenuated CCl4-induced downregulation of hepatic mRNA expression levels of GPx1, CAT and PON1 genes. Results of DNA fragmentation support the ability of chicory extract to ameliorate CCl4-induced liver toxicity. Taken together, our results demonstrate that chicory extract is rich in natural antioxidants and able to attenuate CCl4-induced hepatocellular injury, likely by scavenging reactive free radicals, boosting the endogenous antioxidant defense system, and overexpressing genes encoding antioxidant enzymes.



| Research Title: | Development and Validation of a Gradient Elution High-Performance Liquid Chromatographic Method for Determination of Talinolol in Rat Plasma: Application to a Preclinical Food-Drug Interaction Study |
|----------------------------------|--|
| Source: | Acta Chromatographica Akademiai Kiado Rt Vol. 27, Issue 1, Page: 67-79 |
| ISSN: | 2083-5736 |
| Month and Year of Publication: | MAR 2015 |
| Impact Factor: | 0.485 |
| Affiliated Department(s): | Clinical Biochemistry |
| Author(s): | H Mahgoub, A Hanafy, F Bamane, A Radwan |
| Correspondent's Email: | n/a |

ABSTRACT

A sensitive and reproducible high-performance liquid chromatographic (HPLC) method for determination of talinolol (TAL) in rat plasma was developed and validated using pindolol (PIN) as an internal standard. Both TAL and PIN were separated on a Zorbax Eclipse XDB C18 column by gradient elution with 0.1% aqueous formic acid and acetonitrile as the mobile phase. Detection was performed using fluorescence measurement at lambda(ex) 249 nm and lambda(em) 333 nm. The method was validated and found to be linear in the range of 10-2000 ng mL(-1). The limit of quantification was 10 ng mL(-1) based on 100 mu L of plasma. The variations for intra- and inter-day precision were less than 10%, and the accuracy values were between 92% and 102.9%. The extraction recoveries were more than 82%. The assay was successfully applied to an in-vivo pharmacokinetic study of TAL in rats that were administered a single oral dose of 10 mg kg(-1) TAL. The maximum concentration (C-max) and the area under the plasma concentration-time curve (AUC(0-12)) were 0.369 +/- 0.024 mu g mL(-1) and 1.429 +/-0.027 mu g h mL(-1), respectively. The modulatory effect of apricot juice on Pglycoprotein-related efflux carriers was also investigated. Co-administration of apricot juice resulted in a significant increase of the amount of TAL in plasma (C-max and AUC(0-12) were 0.679 +/- 0.021 and 2.357 +/- 0.079, respectively; p < 0.05).



| Research Title: | Dimensions of physical wellness among medical |
|----------------------------------|--|
| | students of public and private medical colleges in |
| | Pakistan |
| Source: | Saudi Medical Journal |
| | Saudi Med J |
| | Vol. 36, Issue 6, Page: 753-757 |
| ISSN: | 0379-5284 |
| Month and Year of | H IN 2015 |
| Publication: | JUN 2013 |
| Impact Factor: | 0.554 |
| Affiliated Department(s): | Clinical Biochemistry; Medical Education |
| Author(s): | Rakhshaan Khan, Rehana Rehman, Mukhtiar Baig, |
| | Mehwish Hussain, Mariam Khan, Fatima Syed |
| Correspondent's Email: | n/a |

ABSTRACT

Objectives: To determine adherence to dimensions of physical wellness among medical students of public and private medical colleges in Pakistan.

Methods: This cross-sectional study was carried out from January to July 2011 among 820 students of private and public medical colleges in Karachi, Pakistan.

Results: Overall, medical students scored low in dimensions of physical wellness. Private medical colleges students were fond of vigorous activities such as aerobics and swimming, whereas public medical colleges students were involved in moderate intensity activities such as walking and use of stairs (p<0.0001). Private students reported to consume more fast food (p=0.0001), had less sleep (p=0.0001), but attended regular annual medical checkups (p=0.009) as compared with their public institute counterparts. Safe practices such as avoidance of tobacco were almost the same.

Conclusion: Comprehensive adherence to all dimensions of physical wellness was lacking among medical students.



| Research Title: | Effect of ibandronate therapy on serum homocysteine |
|----------------------------------|---|
| | and leptin in postmenopausal osteoporotic females |
| Source: | Osteoporosis International |
| | Springer London Ltd |
| | Vol. 26, Issue 3, Page: 1187-1192 |
| ISSN: | 1433-2965 |
| Month and Year of | MAR 2015 |
| Publication: | |
| Impact Factor: | 4.165 |
| Affiliated Department(s): | Clinical Biochemistry |
| Author(s): | S Tariq, SS Alam, M Baig |
| Correspondent's Email: | n/a |

ABSTRACT

A Summary A significant change in serum leptin level and no change in homocysteine were observed with ibandronate treatment. No correlation of homocysteine and leptin was found with bone mass density (BMD). Results indicate that ibandronate reduces serum leptin levels but how does it help in reducing the osteoporosis. It needs to be explored.

Introduction: The current study was planned to determine the effects of ibandronate on serum homocysteine and leptin levels in postmenopausal osteoporotic females and to correlate these with BMD.

Methods: Forty-two newly diagnosed and untreated postmenopausal osteoporotic females were selected on the basis of their BMD (BMD < -2.5) from Orthopaedic Out Patient Department of Shaikh Zayed Hospital, Lahore, Pakistan, and 36, age and BMI matched non-osteoporotic postmenopausal females, were also selected as a control group. Baseline physical and biochemical parameters were compared. In osteoporotic patients, changes in circulating leptin and homocysteine levels were studied after 6 months of therapy with ibandronate (150 mg). The collected data were analyzed on SPSS 16.

Results: There was no significant difference observed in the mean value of all baseline parameters except BMD in both groups. After 6 months of treatment with ibandronate (150 mg), a significant change was observed in serum leptin levels (19.48 +/- 1.60 ng/ml vs. 14.09 +/- 0.85 ng/ml, p < 0.002), while no considerable change observed in serum homocysteine levels (16.22 +/- 0.95 mu mol/l vs. 16.80 +/- 1.03 mu mol/l, p < 0.63). Serum leptin was found significantly correlated with anthropometric parameters. No correlation of serum leptin and homocysteine was found with BMD (r = 0.09, p value = 0.54; r = -0.17, p value = 0.27).

Conclusion: Our results show that ibandronate reduces serum leptin levels while it has no effect on serum homocysteine levels. Further studies are needed to explain how the decrease in serum leptin level may help in reducing the progression of osteoporosis.



| Research Title: | Effect of Ramadan fasting in Saudi Arabia on serum |
|---------------------------|---|
| | bone profile and immunoglobulins |
| Source: | Therapeutic Advances in Endocrinology and |
| | Metabolism |
| | SAGE Publications |
| | Page: 1-10 |
| ISSN: | 2042-0196 |
| Month and Year of | HH 2015 |
| Publication: | JUL 2015 |
| Impact Factor: | n/a |
| | Clinical Biochemistry; Medical Genetics; Princess Al- |
| Affiliated Department(s): | Jawhara Albrahim Center of Excellence in Hereditary |
| | Disorders Research |
| Author(s): | Suhard M Bahijri, Ghada M Ajabnoor, Anwar Borai, |
| | Jumana Y Al-Aama, George P Chrousos |
| Correspondent's Email: | sbahijri@gmail.com |

ABSTRACT

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

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

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

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



| Research Title: | Effect of Three Calmodulin Antagonists on |
|----------------------------------|---|
| | Subpopulations of CD44/CD24 Immunophenotypes in |
| | Breast Cancer Cell Lines |
| Source: | Tropical Journal of Pharmaceutical Research |
| | Pharmacotherapy Group |
| | Vol. 14, Issue 8, Page: 1393-1398 |
| ISSN: | 1596-9827 |
| Month and Year of | AUC 2015 |
| Publication: | AUG 2013 |
| Impact Factor: | 0.495 |
| Affiliated Department(s): | Clinical Biochemistry |
| Author(s): | Abdulwahab Noor Wali, MFE Shal, Mayson H |
| | Alkhatib, Laila A Damiati |
| Correspondent's Email: | n/a |

ABSTRACT

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

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

Results: A-7, W-7 and W-13 caused alterations in the subpopulation of CD44+CD24in MDA-MB-231 cells. The most potent antagonist was W-13 as it reduced the proportion of tumorigenic CD44+CD24- to 0.64 ± 0.05 at a concentration of 80 μ M. In contrast, the subpopulation of MDA-MB-468 cells, which had a low fraction of CD44+CD24-, was not altered when administered with W-7 but showed variations when incubated with W-13. Specifically, when the concentration of W-13 increased from 20 – 100 μ M, the proportion of CD44+CD24+ was reduced from 92.93 \pm 3.2 to 60.96 \pm 2.4. The effect of W-13 on the subpopulations of CD44+CD24- and CD44+CD24+ in MDA-MB-231 and MDA-MB-468, respectively, reduced the invasion properties of the cells.

Conclusion: The calmodulin antagonist, W-13, has a significant antitumor effect on MDA-MB-231 and MDA-MB-468 breast cancer cells.



| Research Title: | Ehrenasterol and biemnic acid; new bioactive |
|----------------------------------|---|
| | compounds from the Red Sea sponge Biemna |
| | ehrenbergi |
| Source: | Phytochemistry Letters |
| | Elsevier Science Bv |
| | Vol. 12, Page 296-301 |
| ISSN: | 1876-7486 |
| Month and Year of | HIN 2015 |
| Publication: | JUN 2013 |
| Impact Factor: | 1.542 |
| Affiliated Department(s): | Clinical Biochemistry |
| Author(s): | Diaa TA Youssef, Jihan M Badr, Lamiaa A Shaala, |
| | Gamal A Mohamed, Faida H Bamanie |
| Correspondent's Email: | n/a |

ABSTRACT

In continuation of our efforts to identify bioactive compounds from the Red Sea marine sponges, we have recently investigated the organic extract of the sponge Biemna ehrenbergi. This study resulted in the isolation of eight compounds including a new sterol, ehrenasterol (1), a new C-24-acetylenic acid, biemnic acid (2), together with six known compounds including a hopanoid, three steroids and two nucleosides. The isolated compounds were identified as (22E)-ergosta-22-ene-8,14-epoxy-3,7-dione (1), (E)-tetracos-8-en-5-ynoic acid (2), (22E)-ergosta-5,8,22-trien-7-one-3 beta-ol (3), 32,35-anhydrobacteriohopanetetrol (4), (24R)-ergosta-6,22-diene-5,8-epidioxy-3-ol (5), melithasterol B (6), thymidine (7) and 2'-deoxyuridine (8). The structures of the isolated compounds were assigned by different spectral data including 1D and 2D NMR (COSY, HSQC, and HMBC) and high-resolution mass spectrometry. Compound 1 displayed inhibition zone of 20 mm at 100 mg/disc against Escherichia coli in the disc diffusion assay. Similarly, compounds 2 and 4 displayed inhibition zones of 20 and 18 mm respectively against Candida albicans at the same concentration. Compounds 1-3 displayed weak cytotoxic activity against human colon adenocarcinoma (HCT-116) cancer cell line. (C) 2015 Phytochemical Society of Europe.



| Research Title: | Exome Sequencing in Suspected Monogenic |
|---------------------------|---|
| | Dyslipidemias |
| Source: | Circulation-Cardiovascular Genetics |
| | Lippincott Williams & Wilkins |
| | Vol. 8, Issue 2, Page: 343 |
| ISSN: | 1942-3268 |
| Month and Year of | |
| Publication: | APR 2015 |
| Impact Factor: | 4.631 |
| Affiliated Department(s): | Clinical Biochemistry |
| Author(s): | Nathan O Stitziel, Gina M Peloso, Marianne Abifadel, Angelo B Cefalu, Sigrid Fouchier, M Mahdi Motazacker, Hayato Tada, Daniel B Larach, Zuhier Awan, Jorge F Haller, Clive R Pullinger, Mathilde Varret, Jean-Pierre Rabès, Davide Noto, Patrizia Tarugi, Masa-aki Kawashiri, Atsushi Nohara, Masakazu Yamagishi, Marjorie Risman, Rahul Deo, Isabelle Ruel, Jay Shendure, Deborah A Nickerson, James G Wilson, Stephen S Rich, Namrata Gupta, Deborah N Farlow, Benjamin M Neale, Mark J Daly, John P Kane, Mason W Freeman, Jacques Genest, Daniel J Rader, Hiroshi Mabuchi, John JP Kastelein, G Kees Hovingh, Maurizio R Averna, Stacey Gabriel, Catherine Boileau, Sekar Kathiresan |
| Correspondent's Email: | skathiresan1@partners.org |

ABSTRACT

Background: Exome sequencing is a promising tool for gene mapping in Mendelian disorders. We used this technique in an attempt to identify novel genes underlying monogenic dyslipidemias.

Methods and Results: We performed exome sequencing on 213 selected family members from 41 kindreds with suspected Mendelian inheritance of extreme levels of low-density lipoprotein cholesterol (after candidate gene sequencing excluded known genetic causes for high low-density lipoprotein cholesterol families) or high-density lipoprotein cholesterol. We used standard analytic approaches to identify candidate variants and also assigned a polygenic score to each individual to account for their burden of common genetic variants known to influence lipid levels. In 9 families, we identified likely pathogenic variants in known lipid genes (ABCA1, APOB, APOE, LDLR, LIPA, and PCSK9); however, we were unable to identify obvious genetic etiologies in the remaining 32 families, despite follow-up analyses. We identified 3 factors that limited novel gene discovery: (1) imperfect sequencing coverage across the exome hid potentially causal variants; (2) large numbers of shared rare alleles within families obfuscated causal variant identification; and (3) individuals from 15% of families carried a significant burden of common lipid-related alleles, suggesting complex inheritance can masquerade as monogenic disease.

Conclusions: We identified the genetic basis of disease in 9 of 41 families; however, none of these represented novel gene discoveries. Our results highlight the promise and limitations of exome sequencing as a discovery technique in suspected monogenic dyslipidemias. Considering the confounders identified may inform the design of future exome sequencing studies.


| | Geraniol And 10-Gingerol Restore Normal |
|---------------------------|---|
| Research Title: | Vascular Reactivity In Aorta Isolated From Diabetic |
| | Rats |
| | Journal of Hypertension |
| Source: | Wolters Kluwer Health |
| | Vol. 33, Issue 14, Page: 249-249 |
| ISSN: | 1473-5598 |
| Month and Year of | II IN 2015 |
| Publication: | JUN 2013 |
| Impact Factor: | 4.222 |
| Affiliated Department(s): | Clinical Biochemistry; Medicine |
| Author(g) | H El-Bassossy, S Ghareib, A Elberry, A Azhar, Z |
| Author(s): | Banjar, M Watson |
| Correspondent's Email: | n/a |

ABSTRACT

Objective: Alterations in vascular reactivity play important roles in diabetic vascular complications which, in turn, can develop into further serious complications. Geraniol and 10-gingerol are two ginger ingredients with reported anti-inflammatory and antioxidant activities. The present work investigates the effect of geraniol and 10-gingerol on the changes in vascular reactivity associated with diabetes.

Design and method: Diabetes was induced in rats by single intraperitoneal injection of streptozotocin (50 mg.kg-1). Animals were left for 8 weeks after streptozotocin injection to develop vascular complications. Then, rings of rat isolated thoracic aorta were used to measure the vasoconstrictor responses to cumulative concentrations of phenylephrine (PE) and the relaxation responses to the endothelial dependent relaxant acetylcholine (ACh).

Results: Streptozotocin injection induced moderate hyperglycemia that lasts for 8 weeks. Aortic rings isolated from diabetic animals (C) showed exaggerated contractility responses to PE while showing impaired dilatation responses to ACh compared with control animals (C). While not affecting basal aortic contractility, incubating diabetic aorta for 1 hour with geraniol (R) or 10-gingerol (G) in a concentration range (0.01–1 M) reduced the exaggerated response to PE. In addition, geraniol or 10-gingerol incubation improved the impaired relaxation response to ACh in a dose dependent manner.

Conclusions: In conclusion, both geraniol and 10-gingerol restore normal vascular reactivity in aorta isolated from diabetic rats. Addition of geraniol and 10-gingerol to diabetic therapy may provide superior to alleviate the associated vascular complications.



| Research Title: | Lifestyle Factors and their Relation to Measures of Obesity Amongst Adults Living in Jeddah- Saudi Arabia: A Cross- |
|---------------------------|--|
| | Sectional Study |
| Sources | Current Research in Nutrition and Food Science |
| Source: | Vol. 3, Issue 2, Page: 98-11 |
| ISSN: | 2322-0007 |
| Month and Year of | AUC 2015 |
| Publication: | AUG 2015 |
| Impact Factor: | n/a |
| Affiliated Department(s): | Clinical Biochemistry; Internal Medicine; Mohammed |
| | Hussein Al-Amoudi Chair for Diabetic Foot Research |
| Author(s): | Sarah Bandar Aljoudi, Eman Talal Kotbi, Fatimah Abdulaziz |
| | Alsomali, Yasser Haddawi, Emtenan Mansour Meer, Anas |
| | Binsalman |
| Correspondent's Email: | n/a |

ABSTRACT

Objective: Alterations in vascular reactivity play important roles in diabetic vascular complications which, in turn, can develop into further serious complications. Geraniol and 10-gingerol are two ginger ingredients with reported anti-inflammatory and antioxidant activities. The present work investigates the effect of geraniol and 10-gingerol on the changes in vascular reactivity associated with diabetes.

Design and method: Diabetes was induced in rats by single intraperitoneal injection of streptozotocin (50 mg.kg-1). Animals were left for 8 weeks after streptozotocin injection to develop vascular complications. Then, rings of rat isolated thoracic aorta were used to measure the vasoconstrictor responses to cumulative concentrations of phenylephrine (PE) and the relaxation responses to the endothelial dependent relaxant acetylcholine (ACh).

Results: Streptozotocin injection induced moderate hyperglycemia that lasts for 8 weeks. Aortic rings isolated from diabetic animals (C) showed exaggerated contractility responses to PE while showing impaired dilatation responses to ACh compared with control animals (C). While not affecting basal aortic contractility, incubating diabetic aorta for 1 hour with geraniol (R) or 10-gingerol (G) in a concentration range (0.01–1 M) reduced the exaggerated response to PE. In addition, geraniol or 10-gingerol incubation improved the impaired relaxation response to ACh in a dose dependent manner.

Conclusions: In conclusion, both geraniol and 10-gingerol restore normal vascular reactivity in aorta isolated from diabetic rats. Addition of geraniol and 10-gingerol to diabetic therapy may provide superior to alleviate the associated vascular complications.



| Research Title: | Lycopene treatment against loss of bone mass, |
|---------------------------|--|
| | microarchitecture and strength in relation to regulatory |
| | mechanisms in a postmenopausal osteoporosis model |
| | Bone |
| Source: | Elsevier |
| | Vol. 83, Page 127-140 |
| ISSN: | 8756-3282 |
| Month and Year of | NOV 2015 |
| Publication: | NOV 2013 |
| Impact Factor: | 3.973 |
| Affiliated Department(g): | Clinical Biochemistry; Anatomy; Hematology; Ob-gyne; |
| Affinated Department(s): | Center of Excellence for Osteoporosis Research |
| Author(s): | Mohammed-Salleh M Ardawi, Mohammed H Badawoud, |
| | Sherif M Hassan, Abdulrahim A Rouzi, Jumanah MS |
| | Ardawi, Nouf M AlNosani, Mohammed H Qari, Shaker A |
| | Mousa |
| Correspondent's Email: | msmardawi@yahoo.com |

ABSTRACT

Lycopene supplementation decreases oxidative stress and exhibits beneficial effects on bone health, but the mechanisms through which it alters bone metabolism in vivo remain unclear. The present study aims to evaluate the effects of lycopene treatment on postmenopausal osteoporosis. Six-month-old female Wistar rats (n = 264) were sham-operated (SHAM) or ovariectomized (OVX). The SHAM group received oral vehicle only and the OVX rats were randomized into five groups receiving oral daily lycopene treatment (mg/kg body weight per day): 0 OVX (control), 15 OVX, 30 OVX, and 45 OVX, and one group receiving alendronate (ALN) (2 µg/kg body weight per day), for 12 weeks. Bone densitometry measurements, bone turnover markers, biomechanical testing, and histomorphometric analysis were conducted. Micro computed tomography was also used to evaluate changes in microarchitecture. Lycopene treatment suppressed the OVX-induced increase in bone turnover, as indicated by changes in biomarkers of bone metabolism: serum osteocalcin (s-OC), serum N-terminal propeptide of type 1 collagen (s-PINP), serum crosslinked carboxyterminal telopeptides (s-CTX-1), and urinary deoxypyridinoline (u-DPD). Significant improvement in OVX-induced loss of bone mass, bone strength, and microarchitectural deterioration was observed in lycopene-treated OVX animals. These effects were observed mainly at sites rich in trabecular bone, with less effect in cortical bone. Lycopene treatment down-regulated osteoclast differentiation concurrent with up-regulating osteoblast together with glutathione peroxidase (GPx) catalase (CAT) and superoxide dismutase (SOD) activities. These findings demonstrate that lycopene treatment in OVX rats primarily suppressed bone turnover to restore bone strength and microarchitecture.



| Research Title: | New purine alkaloids from the Red Sea marine tunicate |
|---------------------------|---|
| | Symplegma rubra |
| | Phytochemistry Letters |
| Source: | Elsevier Science Bv |
| | Vol. 13, Page: 212-217 |
| ISSN: | 1874-3900 |
| Month and Year of | SEDT 2015 |
| Publication: | SEP1 2015 |
| Impact Factor: | 1.542 |
| Affiliated Department(s): | Clinical Biochemistry |
| Author(s): | Diaa TA Youssef, Gamal A Mohamed, Lamiaa A Shaala, |
| | Jihan M Badr, Faida H Bamanie, Sabrin RM Ibrahim |
| Correspondent's Email: | n/a |

ABSTRACT

Investigation of the Red Sea marine tunicate Symplegma rubra Monniot, 1972 gave three new purine alkaloids namely 6-methoxy-7,9-dimethyl-8-oxoguanine (1), 6-methoxy-9-methyl-8-oxoguanine (2), and 2-methoxy-7-methyl-8-oxoadenine (4) together with seven known compounds: 6-methoxy-7-methyl-8-oxoguanine (3), 9-methyl-8-oxoadenine (5), 7-methyl-8-oxoadenine (6), 8-oxoadenine (7), 3-methylxanthine (8), inosine (9), and homarine (pyridinium-2-carboxylic acid-1-methyl) (10). Compound 6 was reported here for the first time from a natural source. The structure determination of the compounds was accomplished by extensive interpretation of their spectroscopic data including 1D (1H and 13C) and 2D (1H–1H COSY, HSQC, and HMBC) NMR and high-resolution mass spectral data. The isolated compounds were evaluated for their protein kinase inhibitory activity against different kinases (CDK5, CK1, DyrK1A, and GSK3) at 10 μ g/mL. The compounds showed moderate activity against these kinases.



| Research Title: | Prevalence of obesity and hypertension among University students' and their knowledge and attitude towards risk factors of Cardiovascular Disease (CVD) in Jeddah, Saudi Arabia |
|--------------------------------|--|
| Source: | Pakistan Journal of Medical Sciences Professional Medical Publications Vol. 31, Issue 4, Page: 816-820 |
| ISSN: | 1682-024X |
| Month and Year of Publication: | JUL 2015 |
| Impact Factor: | 0.231 |
| Affiliated Department(s): | Clinical Biochemistry; Medicine |
| Author(s): | Mukhtiar Baig, Zohair J Gazzaz, Mamdooh A Gari, Haidar G Al-Attallah, Khaled S Al-Jedaani, Amjad TA Mesawa, Abdulrahman A Al-Hazmi |
| Correspondent's Email: | n/a |

ABSTRACT

Objectives: To investigate the prevalence of obesity and hypertension among University students' and their knowledge and attitude towards risk factors of cardiovascular disease (CVD) in Jeddah, Saudi Arabia.

Methods: A total of 610 male students were selected for present cross sectional study and their blood pressure (BP) and body mass index (BMI) was determined, other data was gathered through a questionnaire, and SPSS-16 was used for analyzing data.

Results: Out of 610 students, 7.5% were hypertensive (systolic 2.6% and diastolic 6.3%) while the BM! of 51.6% was in the normal range, 29.8% were overweight and 10.7% were moderately obese and 7.9% were severely obese. Majority of the participants considered that smoking, increased fatty food intake, obesity, high BP, and increased LDL-cholesterol level, are the main causes of the CVD. Most of the participants agreed that one should know his BP, blood sugar, serum cholesterol and one should maintain normal body weight and should do regular exercise. They were also aware that healthy lifestyle could prevent CVD. However, majority of the participants were not practicing healthy lifestyle.

Conclusion: A huge gap exists in the knowledge, attitude and practice regarding risk factors of CVD among the university students.



| Research Title: | Prophylactic role of coenzyme Q10 and Cynara scolymus L |
|---------------------------|--|
| | on doxorubicin-induced toxicity in rats: Biochemical and |
| | immunohistochemical study |
| | Indian Journal of Pharmacology |
| Source: | Medknow Publications & Media Pvt Ltd |
| | Vol. 47, Issue 6, Page: 649-656 |
| ISSN: | 1998-3751 |
| Month and Year of | NOV 2015 |
| Publication: | NOV 2013 |
| Impact Factor: | 0.691 |
| Affiliated Department(s): | Clinical Biochemistry; Anatomy |
| Author(s): | Hesham N Mustafa, Sally A El Awdan, Gehan A Hegazy, |
| | Gehad A Abdel Jaleel |
| Correspondent's Email: | hesham977@hotmail.com |

ABSTRACT

Objective: The study aims to evaluate the protective effects of coenzyme Q10 (CoQ10) and Cynara scolymus L (CS) on doxorubicin (dox)-induced toxicity.

Materials and Methods: Sixty male rats were divided into six groups. Group 1 as a control. Group 2 received dox (10 mg/kg) intraperitoneally. Group 3 received CoQ10 (200 mg/kg). Group 4 received CS (500 mg/kg). Group 5 received CoQ10 (200 mg/kg) and dox (10 mg/kg). Group 6 received CS (500 mg/kg) and dox (10 mg/kg). The rats were then evaluated biochemically and immunohistochemically.

Results: Dox produced a significant deterioration of hepatic and renal functional parameters. Moreover, an upsurge of oxidative stress and nitrosative stress markers. The expression of alpha-smooth muscle actin (alpha-SMA) was increased and proliferating cell nuclear antigen (PCNA) expression was decreased. Administration of CoQ10 and CS resulted in a significant improvement of hepatic and renal functional parameters, and an improvement of both alpha-SMA and PCNA.

Conclusion: It is concluded that pretreatment with CoQ10 and CS is associated with upregulation of favorable protective enzymes and down-regulation of oxidative stress. That can be advised as a supplement to dox-treated patients.



| Research Title: | Quality by Design Coupled with Near Infrared in |
|-------------------------------|--|
| | Formulation of Transdermal Glimepiride Liposomal Films |
| | Journal of Pharmaceutical Sciences |
| Source: | Wiley-Blackwell |
| | Vol. 104, Issue 6, Page: 2062-2075 |
| ISSN: | 1520-6017 |
| Month and Year of | HIN 2015 |
| Publication: | JUN 2013 |
| Impact Factor: | 3.007 |
| Affiliated Department(s): | Clinical Biochemistry |
| | Osama Abdelhakim Aly Ahmed, Mallesh Kurakula, Zainy |
| Author(s): | Mohamed Banjar, Mohsen Ibrahim Afouna, Ahmed Samir |
| | Zidan |
| Correspondent's Email: | aszidan@kau.edu.sa, azidoon@yahoo.com |

ABSTRACT

This study is aimed at developing glimepiride (GMD) liposomal films using quality by design (QbD) and process analytical technology (PAT) principles. Risk analysis and Plackett-Burman design were utilized to evaluate formulation variables in two paths. Internal path included liposomal parameters (phosphatidylserine, cholesterol and drug concentrations, and pH of hydration medium). External path constituted films parameters, namely, polymer, plasticizer, and permeation enhancer percentages. As a PAT tool, near infrared (NIR)-based chemometric analysis was used in quantifying GMD contents. Liposomal formulations showed maximum GMD entrapment capacity of 41.9% with vesicular size of 0.51 m at phospholipid to cholesterol to drug weight ratio of 2:1:0.8. Its transdermal films showed elongation ratio of 75%, folding endurance of 700-fold, 16.6% and 26.8% drug release after 1 and 12 h, respectively. Moreover, 3D response spaces for GMD entrapment and release characteristics were established. Regarding NIR analysis, partial-least-square regression model was accurate in quantifying drug content as indicated by the low root-mean-squared error of calibrations and prediction of 0.031 and 0.032, and bias values of 0.0015 and 0.0021, respectively. In conclusion, this study highlights the level of understanding that can be accomplished through a well-designed research based on QbD and PAT paradigms.



| Research Title: | Risk factors for falls in a longitudinal cohort study of Saudi |
|---------------------------|--|
| | postmenopausal women: the Center of Excellence for |
| | Osteoporosis Research Study |
| | Menopause: The Journal of The North American Menopause |
| Source | Society |
| Source: | The North American Menopause Society |
| | Vol. 22, Issue 9, Page: 1012-1020 |
| ISSN: | 1072-3714 |
| Month and Year of | SEDT 2015 |
| Publication: | SEF 1 2015 |
| Impact Factor: | 3.361 |
| Affiliated Department(s): | Clinical Biochemistry; Ob-Gyne; Hematology; Surgery |
| | Abdulrahim A Rouzi, Mohammed-Salleh M Ardawi, |
| Author(s): | Mohammed H Qari, Talal M Bahksh, Rajaa M Raddadi, |
| | Ahmed Y Ali, Mona M Jalal, Amal A Taha, Heba S Kary |
| Correspondent's Email: | n/a |

ABSTRACT

Objective: This study aims to identify possible risk factors for falls among Saudi postmenopausal women in a population-based study.

Methods: Seven hundred seven postmenopausal women aged 50 years or older were followed in a prospective cohort study. Participant demographic characteristics, medical history, lifestyle factors, past-year history of falls, and physical activity (PA) scores were assessed. We recorded single and multiple falls, anthropometric parameters, five special physical performance tests, hormone levels, and bone mineral density measurements. Data on knee osteoarthritis (OA), lumbar spondylosis, and osteopenia were collected. Knee and lower back pain were assessed by interview, and cognition was assessed with Mini-Mental State Examination.

Results: During the mean (SD) follow-up of 5.2 (1.3) years, 164 women (23.2%) reported at least one fall, of whom 73 women (10.3%) reported multiple falls. Six independent predictors of all falls were identified: PA score of 12.61 or lower (lowest quartile; odds ratio [OR], 4.10; 95% CI, 1.82-8.90); past-year history of falls (OR, 2.44; 95% CI, 2.30-2.90); age 65 years or older (OR, 2.16; 95% CI, 1.30-3.12); presence of knee OA (OR, 1.56; 95% CI, 1.03- 2.34); handgrip strength of 13.88 kg or lower (lowest quartile; OR, 1.33; 95% CI, 1.09-1.64); and 8-ft walk test of 3.94 s or longer (highest quartile; OR, 1.18; 95% CI, 1.07-1.35).

Conclusions: Poor PA score, past-year history of falls, age 65 years or older, presence of knee OA, poor handgrip strength, and prolonged time on the 8-ft walk test are risk factors for all falls among Saudi postmenopausal women.



| Research Title: | Role of Interleukin-I beta in conception after |
|---------------------------|--|
| | intracytoplasmic sperm injection |
| Source: | Journal of The Pakistan Medical Association |
| | Pakistan Medical Assoc |
| | Vol. 65, Issue 1, Page: 49-53 |
| ISSN: | 0030-9982 |
| Month and Year of | LAN 2015 |
| Publication: | JAN 2015 |
| Impact Factor: | 0.403 |
| Affiliated Department(s): | Clinical Biochemistry |
| Author(s): | Rehana Rehman, Shireen Jawed, Syed Faisal Zaidi, |
| | Mukhtiar Baig, Kanwal Ahmed |
| Correspondent's Email: | drrehana7@gmail.com |

ABSTRACT

Objective: To identify the role of Interleukin-I Beta(IL- I beta) in patients undergoing intracytoplasmic sperm injection.

Methods: The quasi-experimental study was conducted at an infertility clinic in Islamabad from June 2010 to August 2011, and comprised couples opting for intracytoplasmic sperm injection. Down regulation of ovaries was followed by calculated stimulation, ovulation induction, oocytes retrieval, intracytoplasmic sperm injection, in vitro maturation of embryos and embryo transfer. Serum Interleukin-I Beta was measured by enzyme-linked immunosorbent assay onovulation induction day. Patients were grouped as non-pregnant with beta human chorionic gonadotropin 5-25 mIU/ml, pre-clinical abortion; beta human chorionic gonadotropin >25 mIU/ml with no cardiac activity and clinical pregnancy with foetal heart confirmation by trans-vaginal scan after 4 weeks of transfer. SPSS 15 was used for statistical analysis.

Results: Of the total 323 patients initially registered, embryo transfer could be carried out in 282(87.30%). Clinical pregnancy was achieved in 101(36%) patients, clinical abortions was the result in 61(22%) cases, while 120(42%) subjects did not conceive at all. Clinical pregnancy was achieved in subjects with high mean Interleukin-I Beta levels; 155.84 +/-51.65 compared to 41.81 +/- 11.77and 118.46 +/- 35.62pg/mlin non-pregnant, preclinical abortion groups respectively (p=0.001).

Conclusion: The production of Interleukin-I Beta was associated with oocyte maturation, fertilisation, endometrial receptivity and implantation in patients undergoing intracytoplasnnic sperm injection."



| Research Title: | Serum homocysteine level in vegetarians in District |
|---------------------------|---|
| | Tharparker, Sindh |
| | Pakistan Journal of Medical Sciences |
| Source: | Professional Medical Publications |
| | Vol. 31, Issue 1, Page: 127-130 |
| ISSN: | 1682-024X |
| Month and Year of | LAN 2015 |
| Publication: | JAN 2015 |
| Impact Factor: | 0.098 |
| Affiliated Department(s): | Clinical Biochemistry |
| Author(s): | Aneel Kapoor, Nudrat Anwar Zuberi, M Imran Rathore, |
| | Mukhtiar Baig |
| Correspondent's Email: | n/a |

ABSTRACT

Objectives: The aim of present study was to investigate serum homocysteine levels in apparently healthy vegetarians and ominvores in Mithi, district Tharparker, Sindh, Pakistan.

Methods: This study was conducted in the Department of Biochemistry, Basic Medical Sciences Institute (BMSI), Jinnah Postgraduate Medical Center (JPMC), Karachi and blood samples were collected from Mithi, district Tharparker, Sindh, Pakistan, in 2012. One hundred vegetarian and one hundred omnivores (age ranging from 20-40 years) were enrolled for this study. Serum honnocysteine levels were measured by the chemilunninescence enzyme immunoassay method.

Results: Serum homocysteine (Hcy) level was considerably higher (p<0.001) in vegetarian group compared to omnivores. We further grouped and analyzed our study subjects according to their gender and according to Hey level (greater than or lower than 15 mu mol/L). A considerable number of vegetarian subjects 30% were having Hcy >15 mu mol/L compared to omnivores 6%, (p<0.001). Gender-wise comparison showed that 27.02% male and 38.46% females had >15 mu mol/L serum Hcy level in vegetarian group and 6.9% male and 3.5% females had >15 mu mol/L serum Hcy level in omnivores group, but the difference was not significant in any group.

Conclusion: Vegetarians are more prone to develop hyperhomoeysteinemia, so they are at high risk to develop cardiovascular disease.



| Research Title: | Solid lipid nanoparticles loaded with iron to overcome |
|-------------------------------|--|
| | barriers for treatment of iron deficiency anemia |
| Source: | Drug Design Development and Therapy |
| | Dove Medical Press Ltd |
| | Vol. 9, Page: 313-320 |
| ISSN: | 1177-8881 |
| Month and Year of | LAN 2015 |
| Publication: | JAN 2015 |
| Impact Factor: | 3.028 |
| Affiliated Department(s): | Clinical Biochemistry |
| Author(s): | Khaled Mohamed Hosny, Zainy Mohammed Banjar, Amani |
| | H Hariri, Ali Habiballah Hassan |
| Correspondent's Email: | kmhomar@kau.edu.sa |

ABSTRACT

According to the World Health Organization, 46% of the world's children suffer from anemia, which is usually treated with iron supplements such as ferrous sulfate. The aim of this study was to prepare iron as solid lipid nanoparticles, in order to find an innovative way for alleviating the disadvantages associated with commercially available tablets. These limitations include adverse effects on the digestive system resulting in constipation and blood in the stool. The second drawback is the high variability in the absorption of iron and thus in its bioavailability. Iron solid lipid nanoparticles (Fe-SLNs) were prepared by hot homogenization/ultrasonication. Solubility of ferrous sulfate in different solid lipids was measured, and effects of process variables such as the surfactant type and concentration, homogenization and ultrasonication times, and charge-inducing agent on the particle size, zeta potential, and encapsulation efficiency were determined. Furthermore, in vitro drug release and in vivo pharmacokinetics were studied in rabbits. Results indicated that Fe-SLNs consisted of 3% Compritol 888 ATO, 1% Lecithin, 3% Poloxamer 188, and 0.2% dicetylphosphate, with an average particle size of 25 nm with 92.3% entrapment efficiency. In vivo pharmacokinetic study revealed more than fourfold enhanced bioavailability. In conclusion, Fe-SLNs could be a promising carrier for iron with enhanced oral bioavailability.



| Research Title: | Subclinical Hypovitaminosis D and Osteoporosis in Breast |
|----------------------------------|--|
| | Cancer Patients |
| | Middle East Journal of Internal Medicine |
| Source: | Medi+WORLD International |
| | Vol. 8, Issue 2, Page: 12-17 |
| ISSN: | 1837 9060 |
| Month and Year of | MAY 2015 |
| Publication: | |
| Impact Factor: | n/a |
| Affiliated Department(s): | Clinical Biochemistry |
| Author(s): | Tamer Gheita, Safaa Sayed, Waleed Hammam, Gehan A |
| | Hegazy |
| Correspondent's Email: | n/a |

ABSTRACT

Objective: This study was designed to detect 25-hydroxy vitamin D serum levels and bone mineral density (BMD) status in breast cancer patients, and to determine their relation to treatment and disease stages.

Patients and methods: The study included 74 female patients with breast cancer and 52 healthy volunteers as the control group. Serum levels of 25-hydroxy vitamin D, calcium, phosphorus, and alkaline phosphatase were measured using ELISA kits, while dual energy x-ray absorptiometry (DXA) was performed to assess the BMD. Twelve patients received chemotherapy only; 12 received chemotherapy and hormonal therapy, 22 received chemotherapy and radiotherapy while 28 received chemotherapy, hormonal therapy and radiotherapy.

Results: Serum levels of phosphorous and 25-hydroxy vitamin D were significantly lower (p =0.0001), and alkaline phosphatase was significantly increased (p =0.0001) in patients compared to the control. Hip, spine, and forearm DXA were significantly lower in patients than in controls (p =0.0001). The worst bone status was in those receiving both chemotherapy and hormonal therapy. The grade of tumor significantly correlated with the serum phosphorus level (p =0.048) and negatively with the serum 25- hydroxyl vitamin D level (p =0.03) as well as with the DXA of hip (p =0.01) and spine (p =0.0001).

Conclusion: Our study supports findings of increased incidence of hypovitaminosis D, osteoporosis and osteopenia in breast cancer patients. Hence, we throw light on the importance of offering calcium and vitamin D supplements to breast cancer patients. It is recommended that breast cancer patients have a DXA scan on a yearly basis.



| Research Title: | The Effect of Parity and Lactation on Bone Mineral Density |
|----------------------------------|--|
| | among Saudi Women, Jeddah |
| Source | 3rd World Congress, on Controversies, Debates & |
| Source: | Consensus, in Bone, Muscle & Joint Diseases |
| ISSN: | n/a |
| Month and Year of | A DD 2015 |
| Publication: | AFK 2013 |
| Impact Factor: | n/a |
| Affiliated Department(s): | Clinical Biochemistry; Physiology |
| Author(s): | Rajaa M Al-Raddadi, Hanan A Al Kadi, Fanar F Hakim, |
| | Mohammad SM Ardawi |
| Correspondent's Email: | n/a |

ABSTRACT

Background: Osteoporosis is a major public health problem in Saudi Arabia. Low bone mineral density (BMD) is a major predictor for osteoporosis and fractures. Parity and lactation are suggested as two risk factors for Low BMD.

Aim: The aim of this study is to assess the relation between parity, lactation and bone mineral density among Saudi women.

Methods: This cross sectional study was conducted at Centre of Excellence for Osteoporosis Research (CEOR), Jeddah City, Saudi Arabia on a sample of 321 women. Women who delivered within the past two years were excluded. A total of 283 women were included in the final analysis. Dual- Energy-X-Ray Absorptiometry (DEXA) was used for BMD measurements using Lunar DPX-IQ Machine. The measurements included: Lumbar spine , total hip and total wrist. The data collected was age, number of children, duration of lactation, height and weight for body mass index (BMI) calculation. Multiple logistic regression was used to identify the effect of parity and lactation on BMD.

Results: A sample of 283 women ranging in age from 23 to 58 years, mead (SD) 39.1(6.4). Number of pregnancies ranged from 0 to 12, with a median of 4 pregnancies and Inter Quartile Range (IQR) 2-5. Lactation was reported by 79.7% of those who have live births. Median duration of lactation was 20 months IQR 2-24. After adjustment for confounding variables, a decrease in wrist BMD was significantly associated with increase duration of lactation.

Conclusion: The results of the current study suggest that duration of lactation is one of the determinants of BMD at wrist joint.



| Research Title: | The use of fresh frozen plasma for reproduction in severe |
|---------------------------|---|
| | factor V deficiency |
| | Clinical and Experimental Obstetrics & Gynecology |
| Source: | IROG Canada |
| | Vol. 42, Issue 3, Page: 384-385 |
| ISSN: | 0390-6663 |
| Month and Year of | LAN 2015 |
| Publication: | JAN 2015 |
| Impact Factor: | 0.424 |
| Affiliated Department(s): | Clinical Biochemistry; Hematology; Ob-gyne |
| Author(s): | AA Rouzi, MH Qari, MS Ardawi |
| Correspondent's Email: | aarouzi@gmail.com |

ABSTRACT

Objective: Severe factor V (FV) deficiency is rare. There are case reports describing pregnancy outcomes in women with FV deficiency and one case report of successful pregnancy following the use of fresh frozen plasma (FFP) in several cycles of ovulation induction and intrauterine insemination and at delivery. The authors report another case to support the use of FFP for reproduction.

Case: A 27-year-old woman with severe FV deficiency was given FFP at the time of ovulation induced with clomiphene citrate, human menopausal gonadotropin (hMG), and human chorionic gonadotropin. Intrauterine insemination (IUI) was done 35 hours later. She became pregnant with twins and delivered vaginally at 36 weeks of gestation with the prophylactic use of FFP.

Conclusion: Fresh frozen plasma can be offered for reproduction to women with severe FV deficiency.



Department of Dermatology

Department of Dermatology

<u>Head of Department I Head of Department أ.د. سمير خضر محمد زمو Members</u>

سمير خضر محمد زمو سارا عبدالهادي عبدالفتاح قاري محمد صالح بن عبدالفتاح عبداللطيف قاري محمد هيثم محمد عبدالجبار هيفاء عبدالرحمن حمزة المرزوقي بدر سمير خضر زمو جهاد أسامة صالح حريري رحاب حامد محمد الحربي سعود محمد عبدالله العيسى لجين غازي محمد صالح الغانمي ميسون عبدالملك عبدالله القين نوف طلال محمد سالم مليح



| Research Title: | Identification of Two Homozygous Sequence Variants in the |
|---------------------------|---|
| | COL7A1 Gene Underlying Dystrophic Epidermolysis |
| | Bullosa by Whole-Exome Analysis in a Consanguineous |
| | Family |
| | Annals of Human Genetics |
| Source: | Wiley-Blackwell |
| | Vol. 79, Issue 5, Page: 350-356 |
| ISSN: | 0003-4800 |
| Month and Year of | SEDT 2015 |
| Publication: | SEP1 2015 |
| Impact Factor: | 1.926 |
| | Dermatology; Medical Genetics; Princess Al-Jawhara |
| Affiliated Department(s): | Albrahim Center of Excellence in Hereditary Disorders |
| | Research |
| Author(s): | Rehab Serafi, Musharraf Jelani, Mona M Almramhi, Hussein |
| | SA Mohamoud, Saleem Ahmed, Yaser M Alkhiary, Jianguo |
| | Zhang, Huanming Yang, Jumana Y Al-Aama |
| Correspondent's Email: | mjelani@kau.edu.sa |

ABSTRACT

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



| Research Title: | Whole-exome sequencing reveals a recurrent mutation in the cathepsin C gene that causes Papillon–Lefevre syndrome in a Saudi family |
|-----------------------------------|--|
| Source: | Saudi Journal of Biological Sciences Elsevier B.V. Vol. 2015, Page 1-6 |
| ISSN: | 1319-562X |
| Month and Year of Publication: | JUN 2015 |
| Impact Factor: | 0.741 |
| Affiliated Department(s): | Dermatology; Medical Genetics |
| Author(s): | Yaser Mohammad Alkhiary, Musharraf Jelani, Mona Mohammad Almramhi, Hussein Sheikh Ali Mohamoud, Rayan Al-Rehaili, Hams Saeed Al-Zahrani, Rehab Serafi, Huanming Yang, Jumana Yousuf Al-Aama |
| Correspondent's Email: | n/a |

ABSTRACT

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



Department of Family and Community Medicine

Department of Family and Community Medicine

<u>Head of Department</u> أ.د. بهاء عبد الرحمن عبد الله أبا الخيل <u>Members</u>

إسماعيل عبدالمنعم احمد السيد بهاء عبد الرحمن عبد الله أبا الخيل توفيق محمد على عبد الله غبره عدنان أحمد حسن البار وليد عبد الله علي ملعاط إيمان كمال احمد رمضان ايمان محمد وهبى حمبوطه حسين محمد سالم علي البار محمد ناجى سليمان كردي إكرام عبد الرحيم حافظ جلالى امل احمد محمد حجازي جميل إسماعيل أبو الحسن بشاوري جواهر رباح مسلم الأحمدي راحيله افتخار رانية علوي صلاح غمري سلطان حسن ظافر العمرى عبدالمنعم مختار محمد مختار مجدي محمد على تاج قطب ناريمان أسعد نمر حجازي نهلة خميس رجب إبراهيم هاشم رضا عبدالكريم فدأ اسيل غازى محمد صالح الغانمى اماني هاشم سعدي الشمراني

اويس حسن على حسن الزهراني بنان محمد عبدالقادر العمودي بيان عبدالله سعد الاحمدى حسام احمد فراج الدهيمي البقمي خالد عبدالرحمن محمد الطاسان خالد عبد الرؤوف محمود يغمور رؤى عدنان عبدالمعطى مرداد ريم محمد سلطان القحطانى سامى حمدان عطيه الزهرانى سحر شفيق عبدالحكيم عثمان سعد جلال الدين غلام محى الدين سمرقندى عهود عدنان عباس عدس عماد محمد محمد صلواتي محمد طلال محمد خيمى محمود عبدالقادر محمود قدوري مها طالب على العطاس مهند عبداللطيف احمد الزين مى صدقة محمد يوسف قاضى نسيبه حسين محمدسالم البار وائل بن نبيل أحمد يار يزيد عبدالحميد يحيى خوجه ضيف الله احمد عمر العرياني معاذ مصطفى علي حكمي



| Research Title: | Development and cognitive functions in Saudi pre-school |
|----------------------------------|---|
| | children with feeding problems without underlying |
| | medical disorders |
| | Journal of Paediatrics and Child Health |
| Source: | Wiley-Blackwell |
| | Vol. 51, Issue 9, Page: 906-912 |
| ISSN: | 1034-4810 |
| Month and Year of | ADD 2015 |
| Publication: | AFK 2015 |
| Impact Factor: | 1.151 |
| Affiliated Department(s): | Family and Community Medicine; Medicine |
| Author(s): | Moustafa A Hegazi, Mohammad G Sehlo, Albandari |
| | Al-Jasir, Basem S El-Deek |
| Correspondent's Email: | mhegazi712003@yahoo.co.uk |

ABSTRACT

Aim: This study was conducted to assess development and cognitive functions in relation to growth in Saudi pre-school children with feeding problems (FPs) without underlying medical disorders.

Methods: Three hundred fifteen pre-school children with FPs (221 with normal growth (FP-N), 62 with failure to thrive (FTT) (FP-FTT), 32 with overweight (FP-OW)) and 100 healthy children (Ref group) underwent in-depth assessment by anthropometric measurements, dietetic history, Behavioral Pediatrics Feeding Assessment Scale, Denver Developmental Screening test (DDST) and Stanford Binet fifth edition intelligence scales (SB-5).

Results: The main FPs detected in Saudi children were picky eating in 85.5% of FP-N group, infantile anorexia and poor eating in more than 90% of FP-FTT group and overeating in 53% of FP-OW group. FPs were not due to evident psychosocial factors but were mostly related to unhealthy feeding behaviours. FP-N children were still having normal growth parameters, but they had significantly lower growth parameters than healthy children. Failed screening with DDST was only more significantly recorded in FP-FTT children than in Ref children (P = 0.04). The overall IQ value by SB-5 was significantly lower in FP-FTT group compared with FP-N group (P = 0.01), in FP-FTT group compared with Ref group (P < 0.001) as well as in FP-OW group compared with Ref group (P < 0.001).

Conclusions: Persistent FPs resulted in significant negative impact not only on growth status but also on developmental milestones and cognitive functions of pre-school children. Healthy feeding habits are mandatory to prevent serious consequences of FPs on growth and development of Saudi pre-school children.



| Research Title: | Dysmenorrhea among female medical students in King |
|----------------------------------|--|
| | Abdulaziz University: Prevalence, Predictors and |
| | outcome |
| | Pakistan Journal of Medical Sciences |
| Source: | Professional Medical Publications |
| | Volo. 31, Issue 6, Page: 1312-1317 |
| ISSN: | 1682-024X |
| Month and Year of | NOV 2015 |
| Publication: | NOV 2015 |
| Impact Factor: | 0.231 |
| Affiliated Department(s): | Family and Community Medicine; Medicine |
| | Nahla Khamis Ragab Ibrahim, Manar S AlGhamdi, |
| Author(s): | Alanoud N Al-Shaibani, Fatima A Al-Amri, Huda A |
| | Alharbi, Arwa K Al-Jadani, Raghad A Alfaidi |
| Correspondent's Email: | n/a |

ABSTRACT

Objective: To determine the prevalence, predictors and outcome of dysmenorrhea among female medical students in King Abdulaziz University (KAU), Jeddah, Saudi Arabia.

Methods: A cross-sectional study was conducted among 435 medical students at KAU, Jeddah selected through stratified random sample method. A pre-constructed, validated, self-administered questionnaire was used to collect personal and sociodemographic information. Data about menstrual history, stress, smoking were also collected. The severity of dysmenorrhea was scored by the ""Visual Analogue Scale (VAS)"". Descriptive and analytical statistics were conducted.

Results: The prevalence of dysmenorrhea was 60.9%. Logistic regression showed that heavy period was the first predictor of dysmenorrhea (aOR=1.94; 95% CI: 1.29-2.91), followed by stress (aOR=1.90; 95% C. I.: 1.19-3.07). The prevalence of severe dysmenorrhea among the sufferers was 38.6%. Depressed mood was the commonest (80.8%) symptom accompanying dysmenorrhea. Regarding the outcome of dysmenorrhea, 67.5% of the sufferes reported emotional instability, while 28.3% reported absenteeism from the university.

Conclusions: A high prevalence of dysmenorrhea was prevalent among medical students in King Abdulaziz University (KAU), Health promotion, screening programs, and stress management courses are recommended."



| Research Title: | Factors associated with antenatal and delivery care in Sudan: |
|---------------------------|---|
| | analysis of the 2010 Sudan household survey |
| Source: | BMC Health Services Research |
| | Biomed Central Ltd |
| | Vo. 15, Page: 452 |
| ISSN: | 1472-6963 |
| Month and Year of | OCT 2015 |
| Publication: | 001 2013 |
| Impact Factor: | 1.712 |
| Affiliated Department(s): | Family and Community Medicine |
| Author(s): | Muna H Mustafa, Abdel M Mukhtar |
| Correspondent's Email: | n/a |

ABSTRACT

Background: Every day, globally approximately a thousand women and girls needlessly die as a result of complications during pregnancy, childbirth or the 6 weeks following delivery. The majority of maternal deaths are avoidable and could be prevented with proven interventions to prevent or manage complications during pregnancy and child birth. The aim of this study was to examine factors associated with underutilization of maternal health services in Sudan.

Methods: Data was obtained from the Sudan Household Health Survey 2010(SHHS). The SHHS collected data from 5730 women, aged 15-49 years and who were pregnant in the last 2 years preceding the survey. The selection of the respondents was through a multi-stage cluster sampling technique. Interviews were conducted with respondents to collect data about their demographic characteristics, reproductive history, pregnancy and child delivery. Univariate analysis and logistic regression were used to analyze the data.

Results: The factors associated with receiving antenatal care were, higher educational level (odds ratio (OR) = 3.428, 95 % CI 2.473-4.751 - p value 0.001), higher household wealth (OR 1.656, 95 % CI: 1.484-1.855 - p value 0.001) and low parity (OR = 1.214, 95 % CI: 1.035-1.423 -p value 0.017). The factors associated with institutional delivery were higher educational level (OR = 1.929, 95 % CI: 1.380-2.697 - p value 0.001), high household wealth (OR = 2.293, 95 % CI: 1.988-2.644 p value 0.001), urban residence (OR = 1.364, 95 % CI: 1.081-1.721 p value 0.009), low parity (OR = 2.222, 95 % CI: 1/786-2.765 p value 0.001), receiving ANC (OR = 3.342, 95 % CI: 2.306-4.844 p value 0.001) and complications during pregnancy (OR = 1.606, 95 % CI: 1.319-1.957 p value 0.001).

Conclusions: The factors associated with both antenatal care use and institutional delivery are similar and interventions to target these include expanding female education and improving coverage and affordability of health services.



| Research Title: | Impact of Physiological Symptoms and Complications of Colorectal Cancer on the Quality of Life of Patients at King Abdulaziz University Hospital |
|-----------------------------------|--|
| Source: | Journal of Cancer Education Springer International Publishing AG Vol. 2015, Page: 1-7 |
| ISSN: | 1543-0154 |
| Month and Year of Publication: | MAY 2015 |
| Impact Factor: | 1.054 |
| Affiliated Department(s): | Family and Community Medicine; Medicine |
| Author(s): | Faisal F Alabbas, Ssakher M Al-Otaibi, Majed H Chamsi Pasha, Abdullah M Alghamdi, Hisham M Al-Hindi, Mahmoud S Al-Ahwal, Basem S El-Deek |
| Correspondent's Email: | n/a |

ABSTRACT

Colorectal cancer (CRC) is common worldwide. The high prevalence of the disease raises concerns about how CRC influences the health-related quality of life (OoL). To explore the impact of physiological symptoms and complications of CRC on patients' QoL, we conducted a cross-sectional survey using the FACT-C self-report instrument. The chi-square test was used to compare qualitative data. We found that pain was reported by most of the patients (n = 31; 77.5 %). Furthermore, male patients were more likely to complain of pain "mostly" as compared with females (P = .032). We found no significant differences between genders regarding general health-related questions. A greater proportion of male patients often complained of abdominal cramps (P = .542), weight loss (P = .086), and diarrhea (P = .408). More than half of the patients (n = 26; 65 %) reported having a good appetite; a greater proportion of males reported having a good appetite "mostly" (P = .014). Social and psychological qualities of life were not significantly different between male and female patients. Male and female patients did not differ in their report of disease acceptance (P = .420) and ability to enjoy life (P = .744). No difference was also found between genders regarding contentment with QoL (P = .793) or ability to sleep well (P = .695). Furthermore, there were no differences between genders regarding job fulfillment (P = .272). Our results add to the growing body of knowledge about the effect of CRC on QoL. Importantly, the differences in self-reported pain and appetite between male and female patients in our study suggest the importance of gender-based treatments in improving patients' QoL.



| Research Title: | Knowledge, Attitude and Satisfaction of Health Care |
|---------------------------|--|
| | Providers Regarding Premarital Screening and Genetic |
| | Counseling Program in Jeddah |
| | Kuwait Medical Journal |
| Source: | Kuwait Medical Assoc |
| | Vol. 47, Issue 2, Page: 122-127 |
| ISSN: | 0023-5776 |
| Month and Year of | |
| Publication: | JUN 2013 |
| Impact Factor: | 0.098 |
| Affiliated Department(s): | Family and Community Medicine |
| Author(s): | Nahla Khamis Ibrahim, Bahaa Abalkhaeil, Jawaher Al |
| | Ahmadi, Hussein Al Bar, Waleed Milaat, Mahdi Qadi |
| Correspondent's Email: | n/a |

ABSTRACT

Objective(s): To determine level of knowledge and attitudes of health care providers (HCP) regarding premarital screening and genetic counseling (PMSGC), to identify the predictors of high knowledge score and to verify their satisfaction with and recommendations for improving the program

Design: Cross-sectional study conducted during the January 2010 - January 2011 period

Setting: Outpatient clinics of three governmental hospitals in Jeddah

Subjects: Three hundred and forty-five HCP

Intervention(s): A self-administered questionnaire containing personal and sociodemographic data, 30 PMSGC knowledge items, and 14 attitude statements were used. HCP working in the program were asked about their satisfaction and recommendations for improvement.

Main Outcome Measure(s): Knowledge, attitudes and satisfaction of the HCP Results: About one-half (51.6%) of the health care providers had satisfactory knowledge about PMSGC. After controlling for the confounding factors, the only predictor of satisfactory knowledge score was being a specialized provider (aOR = 2.86; 95% CI: 1.63 - 5.02). Regarding attitudes, almost all participants (99%) strongly agreed and agreed on the importance of the PMSGC program. Concerning satisfaction, half of HCP working in the program had excellent or very good scores for program confidentiality and higher percentages for counseling about discovered diseases.

Conclusions: HCP had good attitudes towards PMSGC program. However, there is some lack of knowledge. They recommended adding vaccinations, new screening and counseling to the current program. Formal training course(s) for HCP about the program were recommended.



| Research Title: | Knowledge about missed contraceptive pills among married |
|---------------------------|--|
| | women at King Abdulaziz University Hospital |
| | Patient Preference and Adherence |
| Source: | Dove Medical Press Ltd |
| | Vo. 9, Page: 401-411 |
| ISSN: | 1177-889X |
| Month and Year of | JAN 2015 |
| Publication: | |
| Impact Factor: | 1.491 |
| Affiliated Department(s): | Family and Community Medicine |
| Author(s): | Rahila Iftikhar, Bahaa Abdulrahman Aba Al Khail |
| Correspondent's Email: | n/a |

ABSTRACT

Background: Oral contraceptive pills (OCPs) are one of the most reliable methods of contraception. However, lack of knowledge about oral contraceptive use and inconsistent pill-taking might result in decreased efficacy. The study reported here aimed to explore women's knowledge about oral contraceptive use and assess the factors associated with knowledge about OCPs among users.

Methods: This cross-sectional survey was conducted at King Abdulaziz University Hospital, Jeddah, Saudi Arabia between April and June 2014. We included married, non-pregnant women >18 years old who had used a combined 21-day OCP for at least 3 months prior to recruitment. A questionnaire was used to collect the participants' demographic information. It also assessed their knowledge about OCPs. Data were entered into and analyzed using SPSS software.

Results: A total of 357 women were recruited. Of these, 57.7% reported they knew what to do after missing one or two pills, but only 18.3% knew exactly what to do after missing more than two pills consecutively. Postgraduate women had a significantly higher knowledge score than illiterate women (P=0.002) and those who had completed at least primary education (P=0.001). Conversely, there was no difference in knowledge scores between Saudi and expatriate women (P=0.2). Monthly incomes (P=0.2) and mode of OCP selection (P=0.2) were also not significantly associated with knowledge scores.

Conclusion: Women had poor knowledge about OCP use. Appropriate measures should be taken to educate women about proper oral contraceptive use.



| Research Title: | Near-peer-assisted learning (NPAL) in undergraduate medical students and their perception of having medical |
|----------------------------------|--|
| | interns as their near peer teacher |
| | Medical Teacher |
| Source: | Informa Healthcare |
| | Vol. 37, Issue 1, Page: 33-39 |
| ISSN: | 0142-159X |
| Month and Year of | APR 2015 |
| Publication: | |
| Impact Factor: | 2.045 |
| Affiliated Department(s): | Family and Community Medicine |
| Author(s): | Bahaa Aba Alkhail |
| Correspondent's Email: | n/a |

ABSTRACT

Introduction: A near-peer-assisted learning term (NPAL) is "a trainee one or more years senior to another trainee". The current study is aiming to determine the pattern of NPAL activities, to compare its effect on student's course achievement score and to determine the perception of students regarding having near-peer clinical teaching from their fellow medical interns.

Methods: A total of 189 third year medical students participated in the study. The study questionnaire contains three sections. The first is the focus group section, self-administered questions and lastly quality control section. Trained staff helped in conducting the data collection.

Results: Clinical teaching with mentoring was experienced by 116 students (61.4%) from their assigned interns in the early clinical experience course. The results of the study showed higher course achievement grades for students who experienced mentoring with clinical teaching compared to those students who experienced mentoring only, but it did not reach statistical significance. The study also found that most medical students acknowledged and agree that their near peers medical interns could provide unique input in helping them mastering clinical and communication skills competencies, the average percent for the seven opinion questions of the response agree combined with strongly agree was 62%.

Conclusion: In conclusion, third year medical students recognize the unique and important role of near peer teaching in under graduate medical education and its importance for their professional development. NPAL strategy should be encouraged and used in other medical schools. The benefits of NPAL to peer teacher and in late clinical medical years needed to be investigated in future studies.



| Research Title: | Perceptions of clinical years' medical students and interns |
|----------------------------------|---|
| | towards assessment methods used in King Abdulaziz |
| | University, Jeddah |
| Source: | Pakistan Journal of Medical Sciences |
| | E Journal System |
| | Vol. 31, Issue 4, Page: 757-762 |
| ISSN: | 1682-024X |
| Month and Year of | HIN 2015 |
| Publication: | JUN 2013 |
| Impact Factor: | 0.098 |
| Affiliated Department(s): | Family and Community Medicine; Medicine |
| Author(s): | Nahla Khamis Ibrahim, Budoor Mohammed Al-Sharabi, |
| | Rasha Abdullah Al-Asiri, Najat Abdullah Alotaibi, Wejdan |
| | Ibrahim Al-Husaini, Hussa Adel Al-Khajah, Reem |
| | Mohammad Rakkah, Afnan Mohammed Turkistani |
| Correspondent's Email: | n/a |

ABSTRACT

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

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

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

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



| Research Title: | Prevalence and predictors of habitual snoring in a sample |
|---------------------------|---|
| | of Saudi middle-aged adults |
| Source: | Saudi Medical Journal |
| | Saudi Med J |
| | Vol. 36, Issue 8, Page: 920-927 |
| ISSN: | 0379-5284 |
| Month and Year of | AUG 2015 |
| Publication: | |
| Impact Factor: | 0.554 |
| Affiliated Department(s): | Medicine; Family Medicine |
| Author(s): | Siraj O Wali, Bahaa A Abaalkhail |
| Correspondent's Email: | n/a |

ABSTRACT

Objectives: To determine the prevalence of habitual snoring among a sample of middleaged Saudi adults, and its potential predictors.

Methods: A cross-sectional study was conducted from March 2013 until June 2013 in randomly selected Saudi Schools in Jeddah, Kingdom of Saudi Arabia. The enrolled subjects were 2682 school employees (aged 30-60 years, 52.1% females) who were randomly selected and interviewed. The questionnaire used for the interview included: the Wisconsin Sleep Questionnaire to assess for snoring, medical history, and socio-demographic data. Anthropometric measurements and blood pressure readings were recorded using standard methods.

Results: Forty percent of the 2682 enrolled subjects were snorers: 23.5% were habitual snorers, 16.6% were moderate snorers, and 59.9%, were non-snorers. A multivariate analysis revealed that independent predictors of snoring were ageing, male gender, daytime sleepiness, hypertension, family history of both snoring and obstructive sleep apnea, water-pipe smoking, and consanguinity.

Conclusion: This study shows that snoring is a common condition among the Saudi population. Previously reported risk factors were reemphasized but consanguinity was identified as a new independent predictive risk factor of snoring. Exploring snoring history should be part of the clinical evaluation.



| Research Title: | Prevalence of restless legs syndrome and associated risk |
|---------------------------|--|
| | factors among middle-aged Saudi population |
| Source: | Annals of Thoracic Medicine |
| | Medknow Publications & Media Pvt Ltd |
| | Vol. 10, Issue 3, Page 193-198 |
| ISSN: | 1998-3557 |
| Month and Year of | JUL 2015 |
| Publication: | |
| Impact Factor: | 1.338 |
| Affiliated Department(s): | Family and Community Medicine; Medicine |
| Author(s): | Siraj Omar Wali, Bahaa Abaalkhail |
| Correspondent's Email: | as.ude.uak@ilawos |

ABSTRACT

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



| Research Title: | Resident physician's knowledge and attitudes toward |
|---------------------------|---|
| | biostatistics and research methods concepts |
| Source: | Saudi Medical Journal |
| | Saudi Med J |
| | Vol. 36, Issue 10, Page: 1236-1240 |
| ISSN: | 0379-5284 |
| Month and Year of | OCT 20015 |
| Publication: | |
| Impact Factor: | 0.588 |
| Affiliated Department(s): | Family and Community Medicine |
| Author(s): | Sami H Al-Zahrani, Bahaa A Aba Al-Khail |
| Correspondent's Email: | drsamihz@gmail.com |

ABSTRACT

Objectives: To assess the knowledge and attitudes of resident physicians toward biostatistics and research methodology concepts.

Methods: We conducted a cross-sectional study between November 2014 and October 2014 at King Abdulaziz University Hospital, Jeddah, Kingdom of Saudi Arabia. A self-administered questionnaire was distributed to all participants. The response rate was 90%.

Results: One hundred sixty-two resident completed the questionnaire. Most residents were well-informed in basic concepts, such as, ""P"" values, study power, and case control studies; more than half had confidence in interpreting the results of scientific papers. Conversely, more than 67% of the residents were not knowledgeable on more sophisticated terms in biostatistics. Residents with previous training in evidence-based medicine (EBM) (p=0.05) and non-specialist residents (p=0.003) were more likely to have better knowledge scores. Females (p=0.003), and those with previous training in biostatistics and epidemiology had positive attitude toward biostatistics (p<0.001 in both cases). Residents who read medical journals scored lower than those who never read journals (p=0.001).

Conclusion: Prior courses in EBM, as well as male gender were associated with knowledge scores. Reinforcing training after graduation from medical school with special focus on integrating biostatistics with epidemiology and research methods is needed.



Department of Hematology

Department of Hematology

<u>Head of Department I bepartment أ.د. محمد حسن محمد قاري Members</u>

سعاد خليل راتب الجاعوني فاتن محمد عمر علي سايس محمد حسن محمد قاري جليلة فيصل إبراهيم زاهر سلوى إبراهيم عبدالرزاق هنداوي سهير سعيد محمد على آدم باسم تحسين حسن ملص البيروتي سلوى عبدالرحمن أحمد النجار على حسن حميد القريقري غازي عبدالله حسين دمنهوري أحمد صالح أحمد بارفعه ايمان محسن احمد منصور حاتم محمود شاهين الأحول حسين حامد حسن ال الشيخ ابوبكر رؤى محمد عباس شعبان روان مروان عبدالواحد حماد سالم محمد سالم باخشوان عادل فهد مسعود المرزوقي عبدالله طلال عبدالله المحمدى عثمان عمر نعيم رضون على حسن حميد القريقري مها عبد الرزاق جمال بدوي نوف سعدي علي القرني



| Research Title: | Anticancer and apoptotic effects on cell proliferation of |
|---------------------------|---|
| | diosgenin isolated from Costus speciosus (Koen.) Sm |
| Source: | Bmc Complementary and Alternative Medicine |
| | Biomed Central Ltd |
| | Vol. 15, Issue 301, Page: 1-7 |
| ISSN: | 1472-6882 |
| Month and Year of | SEDT 2015 |
| Publication: | SEF 1 2015 |
| Impact Factor: | 2.02 |
| Affiliated Department(s): | Hematology; Yousef Abdullatif Jameel Research Chair for |
| | Prophetic Medicine |
| Author(s): | Samy Selim, Soad Al Jaouni |
| Correspondent's Email: | sadomm2003@yahoo.com |

ABSTRACT

Background: Diosgenin, a naturally occurring steroid saponin found abundantly in C. speciosus, is a well-known precursor of various synthetic steroidal drugs that are extensively used in the pharmaceutical industry.

Methods: The present study was conducted to evaluate the in vitro anticancer and apoptotic effects on cell proliferation of diosgenin isolated from C. speciosus (Koen.) Sm.

Results: The results indicated that the treatment of HepG2 cells with the sample resulted in a cytotoxic effect as concluded from the IC50 value 32.62 mu g/ml, while the treatment of HepG2 cells with paclitaxel, a known anti-cancer drug, resulted in an IC50 value of 0.48 mu g/ml. The treatment of MCF-7 cells with the tested sample resulted in high inhibition in the cell viability, and resulted in an IC50 value of 11.03 mu g/ml, while the treatment of MCF-7 cells with paclitaxel resulted in an IC50 value of 0.61 mu g/ml. The levels of DR4 and caspase-3 were significantly increased (P < 0.01) in MCF-7 cells treated with the tested sample compared to untreated cells and possessed a similar activity of paclitaxel in DR4 induction but lower induction in caspase-3. On the other hand the treatment of macrophages or lymphocytes with diosgenin (250 mu g/ml) resulted in an induction in the cell proliferation up to 3.2-fold and 2.1-fold of control, respectively.

Conclusions: The results presented here may suggest that diosgenin isolated from C. speciosus possess anticancer and apoptotic effects on cell proliferation, and therefore, can be used as pharmaceuticals drugs.



| Research Title: | Antimicrobial activities of Saudi honey against |
|-------------------------------|---|
| | Pseudomonas aeruginosa |
| Source: | Saudi Journal of Biological Sciences |
| | Elsevier B.V. |
| | Vol. 2015, Page: 1-5 |
| ISSN: | 1319-562X |
| Month and Year of | A DD 2015 |
| Publication: | AFK 2013 |
| Impact Factor: | 0.741 |
| Affiliated Department(s): | Hematology |
| Author(s): | Alaa AM Al-Nahari, Saad B Almasaudi, M El Sayed, Elie |
| | Barbour, Soad K Al Jaouni, Steve Harakeh |
| Correspondent's Email: | sharakeh@gmail.com |

ABSTRACT

Five types of imported and local honey were screened for both their bacteriocidal/bacteriostatic activities against both Imipenem resistant and sensitive Pseudomonas aeruginosa in both Brain Heart infusion broth and Mueller-Hinton agar. The results indicated that the effect was concentration and type of honey dependant. All types of honey tested exerted a full inhibition of bacterial growth at the highest concentration tested of 50% at 24 h of contact. The inhibitory effect of honey on bacterial growth was clear with concentrations of 20% and 10% and this effect was most evident in the case of Manuka honey as compared to Nigella sativa honey and Seder honey. Manuka honey UMF +20 showed a bacteriocidal activity on both Imipenem resistant and sensitive P. aeruginosa, while Seder honey and N. sativa honey exerted only a bacteriostatic effect. Manuka honey UMF +10 showed most effect on antimicrobial resistance. Manuka honey UMF +10 had an effect on modulation of Imipenem resistant P. aeruginosa. Conclusion: The results indicated that various types of honey affected the test organisms differently. Modulation of antimicrobial resistance was seen in the case Manuka honey UMF +10.


| Research Title: | Differential effects of anti-cancer and anti-hepatitis drugs on |
|----------------------------------|---|
| | liver cystatin |
| | Saudi Journal of Biological Sciences |
| Source: | Elsevier Science Bv |
| | Vol. 22, Issue 1, Page: 69-74 |
| ISSN: | 1319-562X |
| Month and Year of | LAN 2015 |
| Publication: | JAN 2015 |
| Impact Factor: | 0.741 |
| Affiliated Department(s): | Hematology |
| | Aaliya Shah, Medha Priyadarshini, Mohd Shahnawaz Khan, |
| Author(s): | Mohammad Aatif, Fakhra Amin, Shams Tabrez, Galila F |
| | Zaher, Bilqees Bano |
| Correspondent's Email: | n/a |

ABSTRACT

The drug-protein interaction has been the subject of increasing interest over the decades. In the present communication, the interaction of liver cystatin with anti-cancer (adriamycin) and anti-hepatitis (adevofir dipivoxil) drugs was studied by thiol-protease inhibitory assay, UV absorption, fluorescence spectroscopy and circular dichroism (CD). A static type of quenching was observed between the protein and the drug molecules. Binding constant (Ka) of adriamycin to liver cystatin (LC) was found to be 1.08 x 10(6) M-1. Moreover, binding site number was found to be 2. Importantly, cystatin loses its activity in the presence of adriamycin. However, intrinsic fluorescence studies in the presence of adevofir dipivoxil showed enhancement in the fluorescence intensity suggesting that binding of adevofir to LC caused unfolding of the protein. The unfolding of the test protein was also accompanied by significant loss of inhibitory activity. CD spectroscopy result showed, both adriamycin and adevofir dipivoxil caused perturbation in the secondary structure of liver cystatin. The possible implications of these results will help in combating drug induced off target effects.



| Research Title: | Essential Thrombocythemia: Current Molecular and |
|---------------------------|--|
| | Therapeutic Insights |
| | Saudi Journal of Internal Medicine |
| Source: | Saudi Society of Internal Medicine |
| | Vol. 5, Issue 1, Page: 5-10 |
| ISSN: | 1658-5763 |
| Month and Year of | JUN 2015 |
| Publication: | |
| Impact Factor: | n/a |
| Affiliated Department(s): | Hematology; Orthopedics |
| Author(s): | Kalamegam Gauthaman, Fatin M Al-Sayes |
| Correspondent's Email: | n/a |

ABSTRACT

Essential thrombocythemia is one of the Philadelphia chromosome negative, clonal myeloproliferative disorders involving the hematopoietic stem cells and is characterized by elevated platelet counts and attendant thromboembolic phenomenon. A point mutation in the Janus-Activated Kinase 2 gene (JAK2V617F) accounts for nearly 50% of Essential thrombocythemia patients while about 10% have mutations in the thrombopoetin receptor (MPL) gene (MPLW515L/K). Several other genes are implicated, clearly indicating the existence of drivers both common and uncommon in the causation of Essential thrombocythemia. Genotyping for mutations will therefore be a useful diagnostic tool for detection of Janus-Activated Kinase 2 negative, MPL negative, Essential thrombocythemia patients. An integrated approach of systematic analysis leading to accurate diagnosis will enable risk stratification and institution of therapy following the World Health Organization guidelines. In addition to Janus-Activated Kinase inhibitors, a combination of agents that has anti-inflammatory properties could help prevention and/or reversal of fibrosis.



| Research Title: | Evaluating the therapeutic efficacy, tolerability, and safety of |
|-------------------------------|--|
| | an aqueous extract of Costus speciosus rhizome in acute |
| | pharyngitis and acute tonsillitis. A pilot study |
| | Saudi Medical Journal |
| Source: | Saudi Med J |
| | Vol. 36, Issue 8, Page: 997-1000 |
| ISSN: | 0379-5284 |
| Month and Year of | AUC 2015 |
| Publication: | AUG 2015 |
| Impact Factor: | 0.554 |
| Affiliated Department(s): | Hematology; Otorhinolaryngology; Yousef Abdullatif |
| | Jameel Research Chair for Prophetic Medicine |
| Author(s): | Zainab A Bakhsh, Talal A Al-Khatib, Saad M Al-Muhayawi, |
| | Sufian M ElAssouli, Iman A Elfiky, Samiha A Mourad |
| Correspondent's Email: | zabakhsh@kau.edu.sa |

ABSTRACT

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

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

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

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



| Research Title: | Hydroxyurea For B-Thalassemia: A Meta-Analysis |
|---------------------------|--|
| | Haematologica |
| Source: | Ferrata Storti Foundation |
| | Vol. 100, Issue 1, Page 291-291 |
| ISSN: | 0390-6078 |
| Month and Year of | JUN 2015 |
| Publication: | |
| Impact Factor: | 5.814 |
| Affiliated Department(s): | Hematology |
| Author(s): | A. Algiraigri, N. Wright, A. Kassam |
| Correspondent's Email: | n/a |

ABSTRACT

Background: β -thalassemia is one of the most common inherited diseases worldwide. Severe forms of β -thalassemia require life-long blood transfusions, resulting in iron overload with multi-organ morbidity and mortality. Hydroxyurea (HU), an oral chemotherapeutic drug, is anticipated to decrease the need for transfusions, either completely or partially by raising hemoglobin levels and thus decreasing the short and long term complications of chronic transfusions.

Aims: To evaluate the clinical efficacy and safety of HU in β -thalassemic patients of any age.

Methods: Search strategy: We searched MEDLINE, EMBASE, Cochrane Central Register of Controlled Trials (CENTRAL), ongoing trials registers, and major preceding conferences. Hand searches were also conducted using reference lists from primary studies. Selection criteria: Randomized controlled trials (RCTs) and observational studies (sample size \geq 5) assessing the clinical efficacy of HU alone for three months or longer, for the treatment of patients with βthalassemia were included. Data collection and analysis: Two authors acted as reviewers and independently assessed study quality and extracted data from the included studies. β-thalassemia classification and response evaluation outlined in the following Table 1. Effect size was estimated as a proportion (responders over sample size). All data was analyzed using Stata, Version 13.0. Results: For β -TM, 11 observational studies involving 620 patients were included. HU was associated with a significant decrease in transfusion need with CR of 41% (95% CI, 25-58%) and OR of 71% (95% CI, 56-84%). In severe NTDBT, 8 (1 RCT & 7 observational) studies involving 305 patients were analyzed. HU was associated with a significant decrease in transfusion need with CR of 55% (95% CI, 34-75%) and OR of 79% (95% CI, 69-88%). For mild NTDBT, 14 (1 RCT and 13 observational) studies involving 344 patients were included. HU therapy was effective in raising Hb by 1g/dL from baseline in 54% (95% CI, 43- 65%). All of the studies had several limitations, such as small sample size, lack of comparison group, under-reporting of data and methods, and being mostly observational studies. Adverse events (AEs) were transient and improved with temporary cessation of the drug and/or adjustment of the dose.

Summary and Conclusions: HU appears to be effective in the management of β -thalassemia by decreasing the need for chronic blood transfusions completely or partially in a significant number of patients. It appears to be well tolerated and associated with mild and transient AEs. Patients with β -thalassemia may benefit from a trial of HU, though large RCT assessing efficacy should be done to confirm the findings of this meta-analysis.



| | - |
|----------------------------------|--|
| Research Title: | Hydroxyurea-induced oral ulceration |
| Source: | Oral Surgery, Oral Medicine, Oral Pathology and Oral |
| | Radiology |
| | Elsevier B.V. |
| | Vol. 120, Issue 6, Page: 232-234 |
| ISSN: | 2212-4403 |
| Month and Year of | DEC 2015 |
| Publication: | DEC 2015 |
| Impact Factor: | 1.261 |
| Affiliated Department(s): | Hematology |
| Author(s): | Maha Badawi, Soulafa Almazrooa, Fatima Azher, Fatin |
| | Alsayes |
| Correspondent's Email: | Salmazrooa@kau.edu.sa |

ABSTRACT

Hydroxyurea is an antimetabolite that is widely used in the treatment of many benign and malignant conditions. This drug is usually well tolerated but has a number of side effects that vary in incidence. In cases of clinically significant adverse events, hydroxyurea is usually discontinued either temporarily or permanently, depending on treatment need versus harm caused by side effects. Here, we report a case of oral ulceration associated with hydroxyurea treatment in a patient who had chronic myelogenous leukemia. The patient rapidly developed an oral ulcer 12 days after administration of the drug. Hydroxyurea was discontinued, and the oral lesion appreciably decreased in size and severity. Physicians and dentists should be aware of the association between hydroxyurea and oral lesions.



| Research Title: | Incidence and potential causative factors associated with chronic benign neutropenia in the Kingdom of Saudi Arabia |
|-----------------------------------|---|
| Source: | BMC Proceedings BioMed Central Ltd Vol. 9, Issue 2, Page: 1 |
| ISSN: | 1753-6561 |
| Month and Year of Publication: | JAN 2015 |
| Impact Factor: | n/a |
| Affiliated Department(s): | Hematology |
| Author(s): | Mamdooh Gari, Mohammed Dakhakhni, Abdullah Gari, Erada Alshihri, Rowan Al-Jahdali, Kothandaraman Narasimhan, Shen Liang, Fatin Al-Sayes, Gauthaman Kalamegam, Adeel Chaudhary, Adel Abuzenadah, Mohammed Al-Qahtani |
| Correspondent's Email: | mgari@kau.edu.sa |

ABSTRACT

Background: Benign neutropenia often presents in certain populations without any genotype nor phenotype. Middle East countries are among the regions where endemic cases of chronic benign neutropenia are reported in the general population with an incidence of approximately between 10-15%. Not many studies have been performed to ascertain the cause or burden associated with this condition. The objective of the current study was to identify the frequency and characterize the consequences of chronic benign neutropenia in the country of Saudi Arabia.

Results: Benign neutropenia was found to be high in the Saudi Arabia general population (up to 20%), with an average neutrophil count of 1.48 (range $0.99 - 1.95 \times 109$ cells/L), with Saudis having a higher incidence of chronic benign neutropenia compared to non-Saudis (p = <0.05). Complete blood count analyses showed significant difference in the total white cell count of neutrophils (p < 0.0001), WBC (p < 0.0001), lymphocytes (p < 0.001), monocytes (p < 0.001), eosinophils (p = 0.013) as well as the CD19 B cells (p = 0.008).

Conclusions: Our study is the first to carefully quantitate benign neutropenia in Saudi Arabia. We identified that this condition is prevalent in the middle aged population (18 years to 55 years). These individuals not only had lower neutrophil counts, but also reduced peripheral blood cells types, especially the B-lymphocyte population (CD19 subset). As B-lymphocytes are involved in antibody production and antigen recognition, a decrease might easily predispose the individuals to infectious agents. As such more mechanistic studies need to be undertaken to understand the cause and potential long-term consequences of benign neutropenia.



| Research Title: | Lycopene treatment against loss of bone mass, |
|---------------------------|--|
| | microarchitecture and strength in relation to regulatory |
| | mechanisms in a postmenopausal osteoporosis model |
| | Bone |
| Source: | Elsevier |
| | Vol. 83, Page 127-140 |
| ISSN: | 8756-3282 |
| Month and Year of | NOV 2015 |
| Publication: | NOV 2013 |
| Impact Factor: | 3.973 |
| Affiliated Department(c): | Hematology; Anatomy; Clinical Biochemistry; Ob-gyne; |
| Affinated Department(s): | Center of Excellence for Osteoporosis Research |
| | Mohammed-Salleh M Ardawi, Mohammed H Badawoud, |
| Author(a) | Sherif M Hassan, Abdulrahim A Rouzi, Jumanah MS |
| Author(s): | Ardawi, Nouf M AlNosani, Mohammed H Qari, Shaker A |
| | Mousa |
| Correspondent's Email: | msmardawi@yahoo.com |

ABSTRACT

Lycopene supplementation decreases oxidative stress and exhibits beneficial effects on bone health, but the mechanisms through which it alters bone metabolism in vivo remain unclear. The present study aims to evaluate the effects of lycopene treatment on postmenopausal osteoporosis. Six-month-old female Wistar rats (n = 264) were sham-operated (SHAM) or ovariectomized (OVX). The SHAM group received oral vehicle only and the OVX rats were randomized into five groups receiving oral daily lycopene treatment (mg/kg body weight per day): 0 OVX (control), 15 OVX, 30 OVX, and 45 OVX, and one group receiving alendronate (ALN) (2 µg/kg body weight per day), for 12 weeks. Bone densitometry measurements, bone turnover markers, biomechanical testing, and histomorphometric analysis were conducted. Micro computed tomography was also used to evaluate changes in microarchitecture. Lycopene treatment suppressed the OVX-induced increase in bone turnover, as indicated by changes in biomarkers of bone metabolism: serum osteocalcin (s-OC), serum N-terminal propeptide of type 1 collagen (s-PINP), serum crosslinked carboxyterminal telopeptides (s-CTX-1), and urinary deoxypyridinoline (u-DPD). Significant improvement in OVX-induced loss of bone mass, bone strength, and microarchitectural deterioration was observed in lycopene-treated OVX animals. These effects were observed mainly at sites rich in trabecular bone, with less effect in cortical bone. Lycopene treatment down-regulated osteoclast differentiation concurrent with up-regulating osteoblast together with glutathione peroxidase (GPx) catalase (CAT) and superoxide dismutase (SOD) activities. These findings demonstrate that lycopene treatment in OVX rats primarily suppressed bone turnover to restore bone strength and microarchitecture.



| Research Title: | Metabolic Analysis of Various Date Palm Fruit (Phoenix |
|------------------------|---|
| | dactylifera L.) Cultivars from Saudi Arabia to Assess Their |
| | Nutritional Quality |
| | Molecules |
| Source: | MDPI AG, Postfach |
| | Vol. 20, Issue 8, Article No.:13620 |
| ISSN: | 1420-3049 |
| Month and Year of | AUC 2015 |
| Publication: | AUG 2015 |
| Impact Factor: | 2.416 |
| | Hematology; Yousef Abdullatif Jameel Research Chair for |
| Annated Department(s): | Prophetic Medicine |
| | Ismail Hamad, Hamada AbdElgawad, Soad Al Jaouni, |
| Author(s): | Gaurav Zinta, Han Asard, Sherif Hassan, Momtaz Hegab, |
| | Nashwa Hagagy, Samy Selim |
| | ismailhamad@yahoo.com; |
| Correspondent's Email: | hamada.abdelgawad@uantwerpen.be; saljaouni@kau.edu.sa; |
| | gaurav.zinta@uantwerpen.be; |
| | hamada.abdelgawad@uantwerpen.be; |
| | abood127@yahoo.com; momtazyehya@hotmail.com; |
| | nashwa_hagag@hotmail.com; sabdulsalam@ju.edu.sa |

ABSTRACT

Date palm is an important crop, especially in the hot-arid regions of the world. Date palm fruits have high nutritional and therapeutic value and possess significant antibacterial and antifungal properties. In this study, we performed bioactivity analyses and metabolic profiling of date fruits of 12 cultivars from Saudi Arabia to assess their nutritional value. Our results showed that the date extracts from different cultivars have different free radical scavenging and anti-lipid peroxidation activities. Moreover, the cultivars showed significant differences in their chemical composition, e.g., the phenolic content (10.4-22.1 mg/100 g DW), amino acids (37-108 molg-1 FW) and minerals (237-969 mg/100 g DW). Principal component analysis (PCA) showed a clear separation of the cultivars into four different groups. The first group consisted of the Sokary, Nabtit Ali cultivars, the second group of Khlas Al Kharj, Khla Al Qassim, Mabroom, Khlas Al Ahsa, the third group of Khals Elshiokh, Nabot Saif, Khodry, and the fourth group consisted of Ajwa Al Madinah, Saffawy, Rashodia, cultivars. Hierarchical cluster analysis (HCA) revealed clustering of date cultivars into two groups. The first cluster consisted of the Sokary, Rashodia and Nabtit Ali cultivars, and the second cluster contained all the other tested cultivars. These results indicate that date fruits have high nutritive value, and different cultivars have different chemical composition.



| Research Title: | Nanomaterial Induced Immune Responses and Cytotoxicity |
|-------------------------------|--|
| Source: | Journal of Nanoscience and Nanotechnology |
| | American Scientific Publishers |
| | Vol. 2015, Issue 15, Page: 1-18 |
| ISSN: | 1533-4899 |
| Month and Year of | U IN 2015 |
| Publication: | JUN 2015 |
| Impact Factor: | 1.339 |
| Affiliated Department(s): | Hematology |
| Author(s): | Ashraf Ali, Mohd Suhail, Shilu Mathew, Muhammad Ali |
| | Shah34, Steve M Harakeh, Sultan Ahmad, Zulqarnain |
| | Kazmi, Mohammed Abdul Rahman Alhamdan, Adeel |
| | Chaudhary, Ghazi Abdullah Damanhouri, Ishtiaq Qadr |
| Correspondent's Email: | n/a |

ABSTRACT

Nanomaterials are utilized in a wide array of end user products such as pharmaceuticals, electronics, clothes and cosmetic products. Due to its size (<100 nm), nanoparticles have the propensity to enter through the airway and skin, making its path perilous with the potential to cause damages of varying severity. Once within the body, these particles have unconstrained access to different tissues and organs including the brain, liver, and kidney. As a result, nanomaterials may cause the perturbation of the immune system eliciting an inflammatory response and cytotoxicity. This potential role is dependent on many factors such as the characteristics of the nanomaterials, presence or absence of diseases, and genetic predisposition. Cobalt and nickel nanoparticles, for example, were shown to have inflammogenic properties, while silver nanoparticles were shown to reduce allergic inflammation. Just as asbestos fibers, carbon nanotubes were shown to cause lungs damage. Some nanomaterials were shown, based on animal studies, to result in cell damage, leading to the formation of pre-cancerous lesions. This review highlights the impact of nanomaterials on immune system and its effect on human health with toxicity consideration. It recommends the development of suitable animal models to study the toxicity and bio-clearance of nanomaterials and propose safety guidelines.



| Research Title: | Risk factors for falls in a longitudinal cohort study of Saudi |
|-------------------------------|--|
| | postmenopausal women: the Center of Excellence for |
| | Osteoporosis Research Study |
| | Menopause: The Journal of The North American Menopause |
| Source | Society |
| Source: | The North American Menopause Society |
| | Vol. 22, Issue 9, Page: 1012-1020 |
| ISSN: | 1072-3714 |
| Month and Year of | SEDT 2015 |
| Publication: | SEF 1 2015 |
| Impact Factor: | 3.361 |
| Affiliated Department(s): | Hematology; Clinical Biochemistry; Ob-gyne; Surgery |
| Author(s): | Abdulrahim A Rouzi, Mohammed-Salleh M Ardawi, |
| | Mohammed H Qari, Talal M Bahksh, Rajaa M Raddadi, |
| | Ahmed Y Ali, Mona M Jalal, Amal A Taha, Heba S Kary |
| Correspondent's Email: | n/a |

ABSTRACT

Objective: This study aims to identify possible risk factors for falls among Saudi postmenopausal women in a population-based study.

Methods: Seven hundred seven postmenopausal women aged 50 years or older were followed in a prospective cohort study. Participant demographic characteristics, medical history, lifestyle factors, past-year history of falls, and physical activity (PA) scores were assessed. We recorded single and multiple falls, anthropometric parameters, five special physical performance tests, hormone levels, and bone mineral density measurements. Data on knee osteoarthritis (OA), lumbar spondylosis, and osteopenia were collected. Knee and lower back pain were assessed by interview, and cognition was assessed with Mini-Mental State Examination.

Results: During the mean (SD) follow-up of 5.2 (1.3) years, 164 women (23.2%) reported at least one fall, of whom 73 women (10.3%) reported multiple falls. Six independent predictors of all falls were identified: PA score of 12.61 or lower (lowest quartile; odds ratio [OR], 4.10; 95% CI, 1.82-8.90); past-year history of falls (OR, 2.44; 95% CI, 2.30-2.90); age 65 years or older (OR, 2.16; 95% CI, 1.30-3.12); presence of knee OA (OR, 1.56; 95% CI, 1.03- 2.34); handgrip strength of 13.88 kg or lower (lowest quartile; OR, 1.33; 95% CI, 1.09-1.64); and 8-ft walk test of 3.94 s or longer (highest quartile; OR, 1.18; 95% CI, 1.07-1.35).

Conclusions: Poor PA score, past-year history of falls, age 65 years or older, presence of knee OA, poor handgrip strength, and prolonged time on the 8-ft walk test are risk factors for all falls among Saudi postmenopausal women.



| Research Title: | Selected Highlights of the IX International Symposium of |
|-------------------------------|--|
| | Clinicians for Endocrinopathies in Thalassemia and |
| | Adolescent Medicine (ICET-A) on Growth, and Endocrine |
| | Complications in Thalassaemia |
| | Endo-Thal |
| Source: | Endo-Thal |
| | Vol. 13, Issue 1, Page: 1-13 |
| ISSN: | n/a |
| Month and Year of | IAN 2015 |
| Publication: | JAN 2015 |
| Impact Factor: | n/a |
| Affiliated Department(s): | Hematology |
| | Vincenzo De Sanctis, Soad K Al Jaouni, Heba Elsedfy, |
| Author(s): | Mehran Karimi, Shaker Mousa, Ashraf T Soliman, |
| | Mohamed El Kholy |
| Correspondent's Email: | n/a |

ABSTRACT

The IX Symposium of the International Network of Clinicians for Endocrinopathies in Thalassemia and Adolescent Medicine (ICET-A) was held in the glamorous city of Abu Dhabi on the 6th of February, 2015 in the Course of IV Pan Arab Hematology Conference and XIII Saudi Society of Hematology Congress. Both meetings were merged with the highlights of the European Hematology Association (EHA). The symposium included four sessions on a wide range of topics covering growth disorders and endocrine complications in thalassaemia. The goals of the meeting were to provide an update on current research, to inspire younger investigators in this field, to promote interaction between different countries, and to introduce the ICET-A group, its aims and directions for its progress.



| Research Title: | The use of fresh frozen plasma for reproduction in severe |
|---------------------------|---|
| | factor V deficiency |
| | Clinical and Experimental Obstetrics & Gynecology |
| Source: | IROG Canada |
| | Vol. 42, Issue 3, Page: 384-384 |
| ISSN: | 0390-6663 |
| Month and Year of | LAN 2015 |
| Publication: | JAN 2015 |
| Impact Factor: | 0.424 |
| Affiliated Department(s): | Hematology; Clinical Biochemistry; Ob-Gyne |
| Author(s): | AA Rouzi, MH Qari, MS Ardawi |
| Correspondent's Email: | aarouzi@gmail.com |

ABSTRACT

Objective: Severe factor V (FV) deficiency is rare. There are case reports describing pregnancy outcomes in women with FV deficiency and one case report of successful pregnancy following the use of fresh frozen plasma (FFP) in several cycles of ovulation induction and intrauterine insemination and at delivery. The authors report another case to support the use of FFP for reproduction.

Case: A 27-year-old woman with severe FV deficiency was given FFP at the time of ovulation induced with clomiphene citrate, human menopausal gonadotropin (hMG), and human chorionic gonadotropin. Intrauterine insemination (IUI) was done 35 hours later. She became pregnant with twins and delivered vaginally at 36 weeks of gestation with the prophylactic use of FFP.

Conclusion: Fresh frozen plasma can be offered for reproduction to women with severe FV deficiency.



| Research Title: | Thrombin Generating Capacity and Phenotypic Association |
|----------------------------------|---|
| | in ABO Blood Groups |
| | PLOS One |
| Source: | Public Library Science |
| | Vol. 10, Issue 10, Article No.: e0141491 |
| ISSN: | 1932-6203 |
| Month and Year of | OCT 2015 |
| Publication: | |
| Impact Factor: | 3.234 |
| Affiliated Department(s): | Hematology; Pharmacology |
| | Romy MW Kremers, Abdulrahman BO Mohamed, Leonie |
| Author(s): | Pelkmans, Salwa Hindawi, H Coenraad Hemker, H Bas de |
| | Laat, Dana Huskens, Raed Al Dieri |
| Correspondent's Email: | r.kremers@thrombin.com |

ABSTRACT

Individuals with blood group O have a higher bleeding risk than non-O blood groups. This could be explained by the lower levels of FVIII and von Willebrand Factor (VWF) levels in O individuals. We investigated the relationship between blood groups, thrombin generation (TG), prothrombin activation and thrombin inactivation. Plasma levels of VWF, FVIII, antithrombin, fibrinogen, prothrombin and alpha(2)Macroglobulin (alpha M-2) levels were determined. TG was measured in platelet rich (PRP) and platelet poor plasma (PPP) of 217 healthy donors and prothrombin conversion and thrombin inactivation were calculated. VWF and FVIII levels were lower (75% and 78%) and alpha M-2 levels were higher (125%) in the O group. TG is 10% lower in the O group in PPP and PRP. Less prothrombin (126%). In conclusion, TG is lower in the O group due to lower prothrombin conversion, and a larger contribution of alpha M-2 to thrombin inactivation. The former is unrelated to platelet function because it is similar in PRP and PPP, but can be explained by the lower levels of FVIII.



Department of Medical Education

Department of Medical Education

<u>Head of Department</u> د.رضا عبدالله جمجوم <u>Members</u>

باسم سلامه عبدالحليم الديك لاما عدي فريد الشوا نصره نعيم رجب أيوب محمد أحمد محمد حسنين ريم علي بن علي العفاري بيان كامل حمزه رضوان عاصم طارق عبدالستار شريف مازن ابو الخير محمد صالح إسماعيل نبراس محمد رضا حسين ابو الحمايل نوره طلال مسلط الشريف دينا علي عبيدالله الغامدي شهد اسحاق حسن زيني



| Research Title: | A Novel Virtual Motor Rehabilitation System for Guillain- |
|-------------------------------|---|
| | Barre Syndrome Two Single Case Studies |
| | Methods of Information in Medicine |
| Source: | Schattauer Gmbh-Verlag Medizin Naturwissenschaften |
| | Vol. 54, Issue 2, Page: 127-135 |
| ISSN: | 0026-1270 |
| Month and Year of | LAN 2015 |
| Publication: | JAN 2015 |
| Impact Factor: | 1.083 |
| Affiliated Department(s): | Medical Education |
| | Albiol-Pérez S, Forcano-García M, Muñoz-Tomás MT, |
| Author(s): | Manzano-Fernández P, Solsona-Hernández S, Mashat MA, |
| | Gil-Gómez JA |
| Correspondent's Email: | n/a |

ABSTRACT

Introduction: This article is part of the Focus Theme of Methods of Information in Medicine on "New Methodologies for Patients Rehabilitation"".

Objectives: For Guillain-Barre patients, motor rehabilitation programs are helpful at the onset to prevent the complications of paralysis and in cases of persistent motor impairment. Traditional motor rehabilitation programs may be tedious and monotonous, resulting in low adherence to the treatments. A Virtual Motor Rehabilitation system has been tested in Guillain-Barre patients to increase patient adherence and to improve clinical results.

Methods: Two people with Guillain-Barre performed 20 rehabilitation sessions. We tested a novel system based on Motor Virtual Rehabilitation in three periods of time (baseline evaluation, final evaluation, and follow-up. In the training program, the participants carried out a specific treatment using the Active Balance Rehabilitation system (ABAR). The system is composed of customizable virtual games to perform static and dynamic balance rehabilitation.

Results: Significant improvements in clinical results were obtained by both participants, with significant results in the static balance clinical test of the Anterior Reach test in the standing position and unipedal stance time. Other significant results were found in dynamic balance clinical tests in the Berg Balance Scale test and the 30-second Sit-to-Stand test. With regard to acceptance of the system, both patients enjoyed the experience, and both patients thought that this system was helpful for their rehabilitation.

Conclusions: The results show that Virtual Motor Rehabilitation for Guillain-Barre patients provides clinical improvements in an entertaining way.



| Research Title: | Breast Cancer Knowledge Among Male High School |
|---------------------------|---|
| | Students in Saudi Arabia |
| | Journal of Cancer Education |
| Source: | Springer US |
| | Page: 1-5 |
| ISSN: | 1543-0154 |
| Month and Year of | NOV 2015 |
| Publication: | NOV 2013 |
| Impact Factor: | 1.054 |
| Affiliated Department(a). | Medical Education; Medicine; Ob-gyne; Sheikh Mohammed |
| Annated Department(s): | Hussien AL-Amoudi Center of Excellence in Breast Cancer |
| Author(s): | Samia Al-Amoudi, Moaiad Tariq Abdul-Aziz AlHomied, |
| | Nasser Youssef Nasser AlSayegh, Osama Naseem Ismail |
| | Radi, Mohammed Majed Suliman Zagzoog, Omar Faisal |
| | Mubarak Aloufi, Abdullah Abdulkarim Ali Al-Harbi, |
| | Safwan Tayeb, Mohammed Hassanien, Mahmoud Al-Ahwal, |
| | Basem Eldeek, Steve Harakeh |
| Correspondent's Email: | dr.samia_amoudi@hotmail.com |

ABSTRACT

Breast cancer (BC) accounts for 24 % of all women cancer cases diagnosed in Saudi Arabia each year. Awareness is extremely important in combating this disease. This study was undertaken to assess male high school students' response to BC. This cross-sectional survey was performed on male high school students across schools in Jeddah. A questionnaire gathered data on respondent demographics, beliefs about BC, BC risk factors, early screening methods, and role of men in BC. Statistical analysis was done using SPSS 20. A total of 824 students participated, with an average age of 17.0 years. There was more than 50 % agreement that early detection of BC enhances the chances of recovery, that BC is treatable, and that clinical breast examination and breastfeeding provide protection from BC. Around half the survey population thought that BC was fatal and contagious. Fewer than 50 % thought that BC was inherited and related to smoking, consumption of contraceptive pills, repeated exposure to radiation, obesity, and wearing a bra and that breast tumors were all malignant and spread to different parts of the body. Others knew that mammograms should be performed periodically. A high percentage persuaded their relatives to have mammograms and provided them with psychological support. Knowledge of BC among male high school students in Saudi Arabia is still limited, and, therefore, programs and activities need to be established to increase awareness among high school students.



| Research Title: | Cultural challenges to implementation of formative |
|---------------------------|---|
| | assessment in Saudi Arabia: An exploratory study |
| Source: | Medical Teacher |
| | Informa Healthcare |
| | Vol. 37, Issue 1, Page: 9-19 |
| ISSN: | 1466-187X |
| Month and Year of | APR 2015 |
| Publication: | |
| Impact Factor: | 1.679 |
| Affiliated Department(s): | Medical Education; Radiology |
| Author(s): | Rolina Al-Wassia, Omayma Hamed, Heidi Al-Wassia, Reem |
| | Alafari, Reda Jamjoom |
| Correspondent's Email: | n/a |

ABSTRACT

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

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

Results: The mean score of understanding FA concept was equal in faculty and students (p = 0.08). The general challenge that scored highest was the need to balance work and academic load in faculty and the need to balance study load and training and mental anxiety in students. There was no difference between faculty and students in perceiving ""learning is teacher-centered" (p = 0.481); and ""past learning and assessment experience" (p = 0.322). There was a significant difference between them regarding interaction with opposite gender (p50.001). Students showed higher value as regards the ""gap between learning theories and assessment practice", ""grade as a priority", and ""discrimination by same faculty gender".

Conclusion: The authors suggested a ""Framework of Innovation in Endorsing Assessment for Learning". It emphasizes a holisitic approach through all levels of the System: Government, Accreditation Bodies, Policy makers; Institution, and Classroom levels.



| Research Title: | Dimensions of physical wellness among medical students of public and private medical colleges in Pakistan |
|---------------------------|--|
| | Saudi Medical Journal |
| Source: | Saudi Med J Vol. 36. Issue 6. Page: 753-757 |
| ISSN: | 0379-5284 |
| Month and Year of | JUN 2015 |
| Publication: | |
| Impact Factor: | 0.554 |
| Affiliated Department(s): | Medical Education; Clinical Biochemistry |
| Author(s): | Rakhshaan Khan, Rehana Rehman, Mukhtiar Baig, Mehwish |
| | Hussain, Mariam Khan, Fatima Syed |
| Correspondent's Email: | n/a |

ABSTRACT

Objectives: To determine adherence to dimensions of physical wellness among medical students of public and private medical colleges in Pakistan.

Methods: This cross-sectional study was carried out from January to July 2011 among 820 students of private and public medical colleges in Karachi, Pakistan.

Results: Overall, medical students scored low in dimensions of physical wellness. Private medical colleges students were fond of vigorous activities such as aerobics and swimming, whereas public medical colleges students were involved in moderate intensity activities such as walking and use of stairs (p<0.0001). Private students reported to consume more fast food (p=0.0001), had less sleep (p=0.0001), but attended regular annual medical checkups (p=0.009) as compared with their public institute counterparts. Safe practices such as avoidance of tobacco were almost the same.

Conclusion: Comprehensive adherence to all dimensions of physical wellness was lacking among medical students.



| Research Title: | Factors potentially influencing academic performance |
|-------------------------------|---|
| | among medical students |
| | Advances in Medical Education and Practice |
| Source: | Dove Medical Press Ltd |
| | Vol. 2015, Issue 6, Page: 65-75 |
| ISSN: | 1179-7258 |
| Month and Year of | LAN 2015 |
| Publication: | JAN 2015 |
| Impact Factor: | n/a |
| Affiliated Department(s): | Medical Education |
| Author(s): | Lana Al Shawwa, Ahmad A Abulaban, Abdulrhman A |
| | Abulaban, Anas Merdad, Sara Baghlaf, Ahmed Algethami, |
| | Joullanar Abu-shanab, Abdulrahman Balkhoyor |
| Correspondent's Email: | n/a |

ABSTRACT

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

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

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

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



| Research Title: | How does the new developed curriculum affect the perception of medical graduates at King Abdulaziz |
|----------------------------------|---|
| | University about professionalism? |
| a | International Journal of Research in Medical Sciences |
| Source: | Dove Medical Press Ltd |
| | Vol. 3, Issue 7, Page: 1677-1682 |
| ISSN: | 2320-6012 |
| Month and Year of | JUL 2015 |
| Publication: | |
| Impact Factor: | n/a |
| Affiliated Department(s): | Medical Education; Medicine; Pathology |
| | Basem S Eldeek, Naif A Alghamdi, Sarah S Alghamdi, |
| Author(s): | Logain G Alghanemi, Wael H Almaghthawi, Lana Al |
| | Shawwa, Nasra Ayuob |
| Correspondent's Email: | n/a |

ABSTRACT

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

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

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

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



| Research Title: | Impact of High-Fidelity Transvaginal Ultrasound Simulation |
|----------------------------------|--|
| | for Radiology on Residents' Performance and Satisfacation |
| | Academic Radiology |
| Source: | Elsevier Science Inc |
| | Vol. 22, Issue 2, Page: 234-239 |
| ISSN: | 1076-6332 |
| Month and Year of | FEB 2015 |
| Publication: | |
| Impact Factor: | 2.077 |
| Affiliated Department(s): | Medical Education; Radiology |
| Author(s): | Rani Ahmad, Ghufran Alhashmi, Amr Ajlan, Bassem Eldeek |
| Correspondent's Email: | n/a |

ABSTRACT

Rationale and Objectives: Because of the intimate and uncomfortable nature of transvaginal ultrasound, training residents to perform this type of examination is a difficult task. As a consequence, residents may receive inadequate training that leads to a lack of the skills and confidence needed to perform this examination. The aim of the study was to assess the effectiveness of using simulation sessions to teach residents how to perform transvaginal ultrasound, enabling them to diagnose obstetric and gynecologic emergencies and helping them survive on-calls alone while keeping their patients safe.

Materials and Methods: We used an experimental study design to compare the confidence levels of 20 senior residents who received clinical training only to those of 25 junior residents who were enrolled in a simulation-based teaching session. We also compared the junior residents' levels of performance and confidence using transvaginal ultrasound before and after the sessions.

Results: The performance of transvaginal ultrasound by the junior residents and their confidence levels significantly improved after they attended the simulation sessions. They had higher levels of confidence than the senior residents who did not attend the session. It was also observed that the number of nondiagnostic transvaginal ultrasounds performed by the on-call resident that needed to be repeated the next day had significantly dropped.

Conclusions: Simulation-based teaching sessions are an effective method of education, which improve trainees' skills and confidence levels and improve patient safety.



| Research Title: | Neurophobia among medical students |
|----------------------------------|---|
| Source: | Neurosciences |
| | Riyadh Armed Forces Hospital |
| | Vol. 20, Issue 1, Page: 37-40 |
| ISSN: | 1319-6138 |
| Month and Year of | LANI 2015 |
| Publication: | JAN 2013 |
| Impact Factor: | 3.327 |
| Affiliated Department(s): | Medical Education |
| Author(s): | Ahmad A Abulaban, Tahir H Obeid, Hussein A Algahtani, |
| | Suleiman M Kojan, Ali M Al-Khathaami, Abdulrhman A |
| | Abulaban, Maryam F Bokhari, Anas A Merdad, Suhaib A |
| | Radi |
| Correspondent's Email: | neuroahmad@vahoo.com |

ABSTRACT

Objective: To assess the attitude of medical students and junior physicians toward neurology.

Methods: A self-administered, previously validated, questionnaire was distributed among 422 students and junior physicians at King Abdulaziz University, Jeddah, Saudi Arabia from September to December 2012. In this cross-sectional study, the questionnaire included demographic data and 12 statements to examine attitudes toward neurology using a Likert scale.

Results: The response rate among participants was 70.3%. The mean age was 22.35 (SD+/-1.28) years. Males comprised 46.2%. While 31.3% of students had not decided regarding their future career, 11.8% selected neurology as their first possible choice. Whereas 29.6% of students were not satisfied with their neurology teaching experience, 84.4% found neurology difficult, and 42.7% of the whole group thought that their neuroscience knowledge was insufficient. Advanced clinical year students (namely, interns) were less likely to consider neurology as a career choice (p=0.001).

Conclusion: Most of the students had an unfavorable attitude toward neurology on the Likert scale. New strategies are needed to change students' attitude toward this demanding specialty.



| Research Title: | Participation of Medical Students in Health Research: Local |
|----------------------------------|---|
| | and International Experiences |
| Source: | Scholars Journal of Applied Medical Sciences |
| | Scholars Academic and Scientific Publisher |
| | Vol. 2015, Issue 3, Page: 797-801 |
| ISSN: | 2320-6691 |
| Month and Year of | MAD 2015 |
| Publication: | MAR 2013 |
| Impact Factor: | n/a |
| Affiliated Department(s): | Medical Education; Medicine; Pathology |
| Author(s): | Yasmeen Zaki, Basem Eldeek, Nasra Ayuob, |
| | SafwanAltayeb, Reda Jamjoom |
| Correspondent's Email: | n/a |

ABSTRACT

Medical Students' role in health research is of great importance. It is trending worldwide that medical students learn and apply research skills early during their undergraduate studies. The objectives of this article are to explore the students research activities in national and international medical schools, and to postulate some actions to effectively enhance students' participation in research. In this review article, research conduction by medical students at some local and international studies were being surveyed; along with methods medical schools (including Faculty of Medicine, King Abdulaziz University) are using to improve the medical students' involvement in research. Many studies have proved effectiveness of specific approaches for enhancing students' research. There were still many actions to be taken by the medical schools which are willing to improve their students' participation in research. Depending on this review we suggest that efforts, finance and time should be appropriately invested to promote and early student's involvement in research. Integrating the research further in the curriculum, promoting the extracurricular research activities, providence of research protected time for students and the establishment of a student medical research unit is all recommended.



| Research Title: | Personal, Cultural and Academic Factors Affecting Empathy |
|---------------------------|---|
| | Score in Third Year Medical Students |
| Source: | International Journal of Education and Research |
| | Contemporary Research Center CRC Publications |
| | Vol. 3, Issue 3, Page: 727-740 |
| ISSN: | 2201-6740 |
| Month and Year of | MAR 2015 |
| Publication: | |
| Impact Factor: | n/a |
| Affiliated Department(s): | Medical Education |
| Author(s): | Omayma Aboulella Hamed, Abdullah Mahmoud Shaheen, |
| | Afnan Basri, Byan Bukhari |
| Correspondent's Email: | n/a |

ABSTRACT

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

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

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

Conclusion: Many personal, cultural and academic factors affect students' empathy scores. In this study, students' attitudes towards empathy carry a predominantly emotional rather than a cognitive component. Further studies are needed to evaluate all components of empathy to select those which could be teachable.



| Research Title: | Specialty selection satisfaction and regret among medical school postgraduates and faculty at King Abdulaziz University |
|-----------------------------------|---|
| Source: | International Journal of Research in Medical Sciences Medip Academy Vol. 3, Issue 4, Page: 899-904 |
| ISSN: | 2320-6012 |
| Month and Year of Publication: | APR 2015 |
| Impact Factor: | n/a |
| Affiliated Department(s): | Medical Education; Medicine |
| Author(s): | Muhammed A Mashat, Nawaf T Aboalfaraj, Hussam Daghistani, Basem S Eldeek, Nasra N Ayuob, Lana A Alshawa |
| Correspondent's Email: | n/a |

ABSTRACT

Background: In the field of medicine, specialty selection is a life-altering decision that plays a crucial role in career satisfaction, and in turn patient-care. This study explores the significant factors affecting specialty selection satisfaction and regret from the perspective of medical postgraduates and faculty in King Abdulaziz University (KAU).

Methods: A cross sectional study was carried out on a sample of 172 medical school postgraduates and faculty working at KAU using self-administered questionnaire.

Results: The majority of the participants were residents (51.7%), The analysis showed that 11% of the participants regret their choice of specialty. The results showed that the level of satisfaction increases as the academic degree of the participants increase. Among the significant factors affected specialty selection satisfaction and regret were; income (P = 0.003), long length of training (P = 0.027), vast options of sub-specialties (P = 0.001) and interesting and exciting field.

Conclusion: These results identify the essential factors that have a potential impact on specialty satisfaction and regret among medical school postgraduates and faculty. This highlights the importance of career counseling for the proper specialty selection.



Department of Medical Genetics

Department of Medical Genetics

<u>Head of Department</u> د. جمانة بنت أديب الاعمى <u>Members</u>

ابتسام محمد عبدالله نصر أشرف عبدالرحمن مصطفى الحاروني جمانة يوسف أديب الأعمى براشانت كومار فرما نجوى السيد عفيفي جابون نور احمد شيخ امامه آصف احمد جي مان فطاني دلال سمير ابراهيم الشاعر ديمه مسفر مزيد الجعيد عبدالمجيد تميم سعد آل زعير غاده عبدالحليم ابراهيم بتاوي محمود نزار محمود المتدارس مصعب سعد عبدالله الصاعدي وداد محمد احمد فلاته وسام ظاهر محمد سعيد حبحب



| Research Title: | APSC2015-1309 Genetic Analysis of Cardiac Arrhythmias |
|---------------------------|--|
| | in Patients From Saudi Arabia |
| Source: | Global Heart |
| | Elsevier B.V. |
| | Vol.10, Issue 2, Page: 1-7 |
| ISSN: | 2211-8160 |
| Month and Year of | JUN 2015 |
| Publication: | |
| Impact Factor: | n/a |
| Affiliated Department(s): | Medical Genetics |
| Author(s): | Jumana Al-Aama, Amnah Bdeir, Alaa Al-Qarawi, Salih Al- |
| | Ghamdi, Khalid Dagriri, Zahurul Bhuiyan, Arthur Wilde |
| Correspondent's Email: | n/a |

ABSTRACT

Most primary arrhythmias are hereditary due to mutations in genes responsible for normal cardiac rhythm generation and propagation such as KCNQ1 gene. Detection of a mutation leads to proper clinical diagnosis, gene targeted therapy, behavioral management, and family screening. This may decrease the incidence of sudden cardiac death.

Our center took the pioneering initiative to set up a comprehensive cardiac arrhythmia genetic research and diagnostic laboratory. Our aim is to provide specialized cardiogenetic clinical services to patients from Saudi Arabia and neighboring countries. We started to create a database of local mutations, which would be used to develop a "genomic chip" to be used in routine screening for cardiac arrhythmia patients in these countries.

During the last 3 years, we consulted 46 Families with arrhythmias, and genetic analysis was performed in our lab. Arrhythmogenic mutations were found in 29 index patients (63%). Cascade screening of the family members identified 176 family members with mutations, 80% which were founder mutations. Some were more common in specific provinces.



| Research Title: | Birth prevalence of non-syndromic orofacial clefts in Saudi Arabia and the effects of parental consanguinity |
|---------------------------|---|
| Source: | Saudi Medical Journal |
| | Saudi Med J |
| | Vol. 36, Issue 9, Page: 1076-1083 |
| ISSN: | 1658-3175 |
| Month and Year of | SEPT 2015 |
| Publication: | |
| Impact Factor: | 0.554 |
| Affiliated Department(s): | Medical Genetics; Princess Al-Jawhara Albrahim Center of |
| | Excellence in Hereditary Disorders Research |
| Author(s): | Heba J Sabbagh, Nicola P Innes, Bahauddin I Sallout, Najlaa |
| | M Alamoudi, Mustafa A Hamdan, Nasir Alhamlan, Amaal I |
| | Al-Khozami, Fatma D Abdulhameed, Jumana Y Al-Aama, |
| | Peter A Mossey |
| Correspondent's Email: | n/a |

ABSTRACT

Objectives: To describe the characteristics and prevalence of non-syndromic orofacial clefting (NSOFC) and assess the effects of parental consanguinity on NSOFC phenotypes in the 3 main cities of Saudi Arabia.

Methods: All infants (114,035) born at 3 referral centers in Riyadh, and 6 hospitals in Jeddah and Madinah between January 2010 and December 2011 were screened. The NSOFC cases (n=133) were identified and data was collected through clinical examination and records, and information on consanguinity through parent interviews. The diagnosis was confirmed by reviewing medical records and contacting the infants' pediatricians. Control infants (n=233) matched for gender and born in the same hospitals during the same period, were selected.

Results: The prevalence of NSOFC was 1.07/1000 births in Riyadh, and 1.17/1000 births overall; cleft lip (CL) was 0.47/1000 births, cleft lip and palate (CLP) was 0.42/1000 births, and cleft palate (CP) was 0.28/1000 births. Cleft palate was significantly associated with consanguinity (p=0.047, odds ratio: 2.5, 95% confidence interval: 1 to 6.46), particularly for first cousin marriages.

Conclusion: The birth prevalence of NSOFC in Riyadh alone, and in the 3 main cities of Saudi Arabia were marginally lower than the mean global prevalence. While birth prevalence for CLP was comparable to global figures, the CL:CLP ratio was high, and only CP was significantly associated with consanguinity.



| Research Title: | BRAF gene: From human cancers to developmental |
|-------------------------------|--|
| | syndromes |
| Source: | Saudi Journal of Biological Sciences |
| | Elsevier Science BV |
| | Vol. 22, Issue 4, Page: 359-373 |
| ISSN: | 1319-562X |
| Month and Year of | UU 2015 |
| Publication: | JUL 2013 |
| Impact Factor: | 1.257 |
| Affiliated Department(s): | Medical Genetics |
| Author(s): | Muhammad Ramzan Manwar Hussain, Mukhtiar Baig, |
| | Hussein Sheik Ali Mohamoud, Zaheer Ulhaq, Daniel C |
| | Hoessli, Ghaidaa Siraj Khogeer, Ranem Radwan Al-Sayed, |
| | Jumana Yousuf Al-Aama |
| Correspondent's Email: | geniouschemist26@gmail.com |

ABSTRACT

The BRAF gene encodes for a serine/threonine protein kinase that participates in the MAPK/ERK signalling pathway and plays a vital role in cancers and developmental syndromes (RASopathies). The current review discusses the clinical significance of the BRAF gene and other members of RAS/RAF cascade in human cancers and RAS/MAPK syndromes, and focuses the molecular basis and clinical genetics of BRAF to better understand its parallel involvement in both tumourigenesis and RAS/MAPK syndromes-Noonan syndrome, cardio-facio-cutaneous syndrome and LEOPARD syndrome.



| Research Title: | Case of Sjögren-Larsson syndrome with a large deletion |
|---------------------------|--|
| | in the ALDH3A2 gene confirmed by single nucleotide |
| | polymorphism array analysis |
| Source: | Journal of Dermatology |
| | Wiley-Blackwell |
| | Vol. 42, Issue 7, Page: 706-709 |
| ISSN: | 1346-8138 |
| Month and Year of | JUL 2015 |
| Publication: | |
| Impact Factor: | 2.354 |
| Affiliated Department(s): | Medical Genetics; Princess Al-Jawhara Albrahim Center |
| | of Excellence in Hereditary Disorders Research |
| Author(s): | Nagwa EA Gaboon, Musharraf Jelani, Mona M |
| | Almramhi, Hussein SA Mohamoud, Jumana Y Al-Aama |
| Correspondent's Email: | mjelani@kau.edu.sa |

ABSTRACT

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



| Research Title: | Concise Review: Cardiac Disease Modeling Using |
|-------------------------------|---|
| | Induced Pluripotent Stem Cells |
| Source: | Stem Cells |
| | Wiley-Blackwell |
| | Vol. 33, Issue 9, Page 2643-2651 |
| ISSN: | 1549-4918 |
| Month and Year of | SEDT 2015 |
| Publication: | SEF 1 2015 |
| Impact Factor: | 6.523 |
| Affiliated Department(s): | Medical Genetics; Princess Al-Jawhara Albrahim Center |
| | of Excellence in Hereditary Disorders Research |
| Author(s): | Yang, Chunbo; Al-Aama, Jumana; Stojkovic, Miodrag; |
| | Keavney, Bernard; Trafford, Andrew; Lako, Majlinda; |
| | Armstrong, Lyle |
| Correspondent's Email: | Lyle.Armstrong@ncl.ac.uk |

ABSTRACT

Genetic cardiac diseases are major causes of morbidity and mortality. Although animal models have been created to provide some useful insights into the pathogenesis of genetic cardiac diseases, the significant species differences and the lack of genetic information for complex genetic diseases markedly attenuate the application values of such data. Generation of induced pluripotent stem cells (iPSCs) from patient-specific specimens and subsequent derivation of cardiomyocytes offer novel avenues to study the mechanisms underlying cardiac diseases, to identify new causative genes, and to provide insights into the disease aetiology. In recent years, the list of human iPSC-based models for genetic cardiac diseases has been expanding rapidly, although there are still remaining concerns on the level of functionality of iPSC-derived cardiomyocytes and their ability to be used for modeling complex cardiac diseases in adults. This review focuses on the development of cardiomyocyte induction from pluripotent stem cells, the recent progress in heart disease modeling using iPSC-derived cardiomyocytes, and the challenges associated with understanding complex genetic diseases. To address these issues, we examine the similarity between iPSC-derived cardiomyocytes and their ex vivo counterparts and how this relates to the method used to differentiate the pluripotent stem cells into a cardiomyocyte phenotype. We progress to examine categories of congenital cardiac abnormalities that are suitable for iPSC-based disease modeling.



| | Dynamics and Stabilization of the Human Gut |
|------------------------|--|
| Research Title: | |
| | Microbiome during the First Year of Life |
| Source: | Cell Host & Microbe |
| | Cell Press |
| | Vol. 17, Issue 5, Page: 690-703 |
| ISSN: | 1934-6069 |
| Month and Year of | MAN 2015 |
| Publication: | MAY 2015 |
| Impact Factor: | 12.328 |
| | Medical Genetics; Princess Al-Jawhara Albrahim Center |
| Annateu Department(s): | of Excellence in Hereditary Disorders Research |
| | Fredrik Bäckhed, Josefine Roswall, Yangqing Peng, |
| Author(s): | Qiang Feng, Huijue Jia, Petia Kovatcheva-Datchary, Yin |
| | Li, Yan Xia, Hailiang Xie, Huanzi Zhong, Muhammad |
| | Tanweer Khan, Jianfeng Zhang, Junhua Li, Liang Xiao, |
| | Jumana Al-Aama, Dongya Zhang, Ying Shiuan Lee, |
| | Dorota Kotowska, Camilla Colding, Valentina Tremaroli, |
| | Ye Yin, Stefan Bergman, Xun Xu, Lise Madsen, Karsten |
| | Kristiansen, Jovanna Dahlgren, Wang Jun |
| Correspondent's Email: | fredrik.backhed@wlab.gu.se; |
| | jovanna.dahlgren@vgregion.se; wangj@genomics.org.cn |

ABSTRACT

The gut microbiota is central to human health, but its establishment in early life has not been quantitatively and functionally examined. Applying metagenomic analysis on fecal samples from a large cohort of Swedish infants and their mothers, we characterized the gut microbiome during the first year of life and assessed the impact of mode of delivery and feeding on its establishment. In contrast to vaginally delivered infants, the gut microbiota of infants delivered by C-section showed significantly less resemblance to their mothers. Nutrition had a major impact on early microbiota composition and function, with cessation of breast-feeding, rather than introduction of solid food, being required for maturation into an adult-like microbiota. Microbiota composition and ecological network had distinctive features at each sampled stage, in accordance with functional maturation of the microbiome. Our findings establish a framework for understanding the interplay between the gut microbiome and the human body in early life.


| Research Title: | Effect of Ramadan fasting in Saudi Arabia on serum bone |
|---------------------------|---|
| | profile and immunoglobulins |
| | Therapeutic Advances in Endocrinology and Metabolism |
| Source: | SAGE Publications |
| | Page: 1-10 |
| ISSN: | 2042-0196 |
| Month and Year of | II II 2015 |
| Publication: | JOL 2013 |
| Impact Factor: | n/a |
| Affiliated Department(s): | Medical Genetics; Clinical Biochemistry; Princess Al- |
| | Jawhara Albrahim Center of Excellence in Hereditary |
| | Disorders Research |
| Author(s): | Suhard M Bahijri, Ghada M Ajabnoor, Anwar Borai, |
| | Jumana Y Al-Aama, George P Chrousos |
| Correspondent's Email: | sbahijri@gmail.com |

ABSTRACT

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

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

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

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



| Research Title: | Evaluation of Gestational Diabetes Mellitus Risk in South |
|----------------------------------|---|
| | Indian Women Based on MTHFR (C677T) and FVL |
| | (G1691A) Mutations |
| Source: | Frontiers in Pediatrics |
| | Frontiers Media SA |
| | Vol. 3, Page 1-5 |
| ISSN: | 2296-2360 |
| Month and Year of | MAV 2015 |
| Publication: | MAI 2013 |
| Impact Factor: | n/a |
| Affiliated Department(s): | Medical Genetics |
| Author(s): | Imran Ali Khan, Noor Ahmad Shaik, Vasundhara |
| | Kamineni, Parveen Jahan, Qurratulain Hasan, Pragna Rao |
| Correspondent's Email: | drpraqnarao@gmail.com |

ABSTRACT

We aimed to scrutinize the extent to which single amino acid substitutions in the MTHFR and factor V Leiden (FVL) genes affect the risk of gestational diabetes mellitus (GDM) in pregnant women of South Indian descendant. This case–control study was implemented once the ethical approval has been obtained. Overall, 237 women were recruited in this study: 137 had been diagnosed with GDM and the remaining 100 women were used as normal controls or non-GDM. The diagnosis of GDM was confirmed with biochemical analysis, i.e., GCT and oral glucose tolerance tests. Five milliliters of peripheral blood was collected and used for biochemical and molecular analyses. DNA was isolated, and genotyping for MTHFR (C677T) and FVL (G1691A) mutations was performed using PCR–RFLP. FVL (G1691A) locus was not polymorphic in the investigated sample. There was no significant difference in the allele and genotype frequencies of C677T polymorphism between GDM and non-GDM women (p = 0.8892).



| Research Title: | Exome analysis identified a novel missense mutation in the CLPP gene in a consanguineous Saudi family expanding the clinical spectrum of Perrault Syndrome |
|---------------------------|--|
| | type-3 |
| | Journal of The Neurological Sciences |
| Source: | Elsevier Science BV |
| | Vol. 353, Issue 2, Page: 149-154 |
| ISSN: | 1878-5883 |
| Month and Year of | HIN 2015 |
| Publication: | JUN 2013 |
| Impact Factor: | 2.262 |
| | Medical Genetics; Pediatrics; Radiology; Princess Al- |
| Affiliated Department(s): | Jawhara Albrahim Center of Excellence in Hereditary |
| | Disorders Research |
| Author(s): | Saleem Ahmed, Musharraf Jelani, Nuha Alrayes, Hussein |
| | Sheikh Ali Mohamoud, Mona Mohammad Almramhi, |
| | Wasim Anshasi, Naushad Ali Basheer Ahmed, Jun Wang, |
| | Jamal Nasir, Jumana Yousuf Al-Aama |
| Correspondent's Email: | mjelani@kau.edu.sa |

ABSTRACT

Perrault syndrome (PRLTS) is a clinically and genetically heterogeneous disorder. Both male and female patients suffer from sensory neuronal hearing loss in early childhood, and female patients are characterized by premature ovarian failure and infertility after puberty. Clinical diagnosis may not be possible in early life, because key features of PRLTS, for example infertility and premature ovarian failure, do not appear before puberty. Limb spasticity, muscle weakness, and intellectual disability have also been observed in PRLTS patients. Mutations in five genes, HSD17B4, HARS2, CLPP, LARS2, and C10orf2, have been reported in five subtypes of PRLTS. We discovered a consanguineous Saudi family with the PRLTS3 phenotype showing an autosomal recessive mode of inheritance. The patients had developed profound hearing loss, brain atrophy, and lower limb spasticity in early childhood. For molecular diagnosis, we complimented genome-wide homozygosity mapping with whole exome sequencing analyses and identified a novel homozygous mutation in exon 6 of CLPP at chromosome 19p13.3. To our knowledge, early onset with regression is a unique feature of these PRLTS patients that has not been reported so far. This study broadens the clinical spectrum of PRLTS3.



| Research Title: | Femoral-facial syndrome in an infant of a diabetic mother |
|---------------------------|---|
| Source: | BMJ Case Reports |
| | BMJ Publishing Group Ltd |
| | Vol. 2015, Page 1 |
| ISSN: | 1757-790X |
| Month and Year of | HH 2015 |
| Publication: | JUL 2013 |
| Impact Factor: | n/a |
| Affiliated Department(s): | Medical Genetics; Pediatrics; Princess Al-Jawhara |
| | Albrahim Center of Excellence in Hereditary Disorders |
| | Research |
| Author(s): | Saleem Ahmed, Saad Abdullah Alsaedi, Heidi Al-Wassia, |
| | Jumana Yousef Al-Aama |
| Correspondent's Email: | n/a |

ABSTRACT

Femoral-facial syndrome (FFS) is a very rare multiple congenital anomaly syndrome. The authors describe a case of FFS in a 2-day-old infant of a diabetic mother. The phenotypic features include bilateral symmetrical femoral involvement with completely aplastic right-sided femur, severely hypoplastic left femur and unusual facial dysmorphic features without other skeleton/spinal and genitourinary anomalies. Cases of FFS need to be carefully evaluated because of the similarity between FFS and caudal dysgenesis, a condition frequently related to maternal diabetes and with other syndromes characterised by femoral hypoplasia and associated anomalies, which can pose a diagnostic challenge.



| Research Title: | Genotype-phenotype analysis of Jervell and Lange- |
|---------------------------|---|
| | Nielsen syndrome in six families from Saudi Arabia |
| Source: | Clinical Genetics |
| | Wiley-Blackwell |
| | Vol. 87, Issue 1, Page: 74-79 |
| ISSN: | 1399-0004 |
| Month and Year of | LANI 2015 |
| Publication: | JAN 2015 |
| Impact Factor: | 3.652 |
| Affiliated Department(s): | Medical Genetics; Medicine; Princess Al-Jawhara |
| | Albrahim Center of Excellence in Hereditary Disorders |
| | Research |
| Author(s): | JY Al-Aama, S Al-Ghamdi, AY Bdier, A AlQarawi, OA |
| | Jiman, N Al-Aama, J Al-Aata, AAM Wilde, ZA Bhuiyan |
| Correspondent's Email: | n/a |

ABSTRACT

We sought to explore the genotype-phenotype of Jervell and Lange-Nielsen syndrome (JLNS) patients in Saudi Arabia. We have also assessed the plausible effect of consanguinity into the pathology of JLNS. Six families with at least one JLNS-affected member attended our clinic between 2011 and 2013. Retrospective and prospective clinical data were collected and genetic investigation was performed. Pathogenic mutations in the KCNQ1 gene were detected in all JLNS patients. The homozygous mutations detected were Leu273Phe, Asp202Asn, Ile567Thr, and c.1486_1487delCT and compound heterozygous mutations were c.820_ 830del and c.1251+1G>T. All living JLNS patients except one had a QTc of >500ms and a history of recurrent syncope. -Blockers abolished the cardiac-related events in all patients except two siblings with homozygous Ile567Thr mutation. Four of the six mutations were originally reported in autosomal dominant long QT syndrome (LQTS) patients. Eighty percent of the heterozygote mutation carriers showed prolongation of QTc, but majority of these reported no symptoms attributable to arrhythmias. Mutations detected in this study will be advantageous in tribe and region-specific cascade screening of LQTS in Saudi Arabia.



| Research Title: | Identification of Two Homozygous Sequence Variants in |
|---------------------------|---|
| | the COL7A1 Gene Underlying Dystrophic Epidermolysis |
| | Bullosa by Whole-Exome Analysis in a Consanguineous |
| | Family |
| | Annals of Human Genetics |
| Source: | Wiley-Blackwell |
| | Vol. 79, Issue 5, Page: 350-356 |
| ISSN: | 0003-4800 |
| Month and Year of | SEDT 2015 |
| Publication: | SEF 1 2015 |
| Impact Factor: | 1.926 |
| Affiliated Department(s): | Medical Genetics; Dermatology; Princess Al-Jawhara |
| | Albrahim Center of Excellence in Hereditary Disorders |
| | Research |
| Author(s): | Rehab Serafi, Musharraf Jelani, Mona M Almramhi, |
| | Hussein SA Mohamoud, Saleem Ahmed, Yaser M |
| | Alkhiary, Jianguo Zhang, Huanming Yang, Jumana Y |
| | Al-Aama |
| Correspondent's Email: | mjelani@kau.edu.sa |

ABSTRACT

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



| Research Title: | Inference of Purifying and Positive Selection in Three |
|---------------------------|--|
| | Subspecies of Chimpanzees (Pan troglodytes) from |
| | Exome Sequencing |
| | Genome Biology and Evolution |
| Source: | Oxford Univ Press |
| | Vol. 7, Issue 4, Page: 1122-1132 |
| ISSN: | APR 2015 |
| Month and Year of | A DD 2015 |
| Publication: | APK 2015 |
| Impact Factor: | 4.532 |
| Affiliated Department(s): | Medical Genetics; Princess Al-Jawhara Albrahim Center |
| | of Excellence in Hereditary Disorders Research |
| Author(s): | Thomas Bataillon, Jinjie Duan, Christina Hvilsom, Xin |
| | Jin, Yingrui Li, Laurits Skov, Sylvain Glemin, Kasper |
| | Munch, Tao Jiang, Yu Qian, Asger Hobolth, Jun Wang, |
| | Thomas Mailund, Hans R Siegismund, Mikkel H |
| | Schierup |
| Comesnandant's Emails | tbata@birc.au.dk, hsiegismund@bio.ku.dk, |
| Correspondent's Email: | mheide@birc.au.dk |

ABSTRACT

We study genome-wide nucleotide diversity in three subspecies of extant chimpanzees using exome capture. After strict filtering, Single Nucleotide Polymorphisms and indels were called and genotyped for greater than 50% of exons at a mean coverage of 35x per individual. Central chimpanzees (Pan troglodytes troglodytes) are the most polymorphic (nucleotide diversity, theta(w) = 0.0023 per site) followed by Eastern (P. t. schweinfurthii) chimpanzees (theta(w) = 0.0016) and Western (P. t. verus) chimpanzees (theta(w) = 0.0008). A demographic scenario of divergence without gene flow fits the patterns of autosomal synonymous nucleotide diversity well except for a signal of recent gene flow from Western into Eastern chimpanzees. The striking contrast in X-linked versus autosomal polymorphism and divergence previously reported in Central chimpanzees is also found in Eastern and Western chimpanzees. We show that the direction of selection statistic exhibits a strong nonmonotonic relationship with the strength of purifying selection S, making it inappropriate for estimating S. We instead use counts in synonymous versus nonsynonymous frequency classes to infer the distribution of S coefficients acting on nonsynonymous mutations in each subspecies. The strength of purifying selection we infer is congruent with the differences in effective sizes of each subspecies: Central chimpanzees are undergoing the strongest purifying selection followed by Eastern and Western chimpanzees. Coding indels show stronger selection against indels changing the reading frame than observed in human populations.



| Research Title: | In-Silico Analysis of Inflammatory Bowel Disease (IBD) |
|---------------------------|--|
| | GWAS Loci to Novel Connections |
| Source: | PLOS One |
| | Public Library Science |
| | Vol. 10, Issue 3, Article No.: e0119420 |
| ISSN: | 1932-6203 |
| Month and Year of | MAD 2015 |
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| Impact Factor: | 3.534 |
| Affiliated Department(s): | Medical Genetics; Princess Al-Jawhara Albrahim Center |
| | of Excellence in Hereditary Disorders Research |
| Author(s): | Md Mesbah-Uddin, Ramu Elango, Babajan |
| | Banaganapalli, Noor Ahmad Shaik, Fahad A Al-Abbasi |
| Correspondent's Email: | n/a |

ABSTRACT

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



| Research Title: | Metagenomic analysis of faecal microbiome as a tool |
|---------------------------|---|
| | towards targeted non-invasive biomarkers for colorectal |
| | cancer |
| | Gut |
| Source: | BMJ Publishing Group Ltd |
| | Vol. 2015, Page: 1-9 |
| ISSN: | 1468-3288 |
| Month and Year of | CEDT 2015 |
| Publication: | SEP1 2015 |
| Impact Factor: | 13.319 |
| | Medical Genetics; Princess Al-Jawhara Albrahim Center |
| Affiliated Department(s): | of Excellence in Hereditary Disorders Research |
| | Jun Yu, Qiang Feng, Sunny Hei Wong, Dongya Zhang, |
| | Qiao yi Liang, Youwen Qin, Longqing Tang, Hui Zhao, |
| | Jan Stenvang, Yanli Li, Xiaokai Wang, Xiaoqiang Xu, |
| | Ning Chen, William Ka Kei Wu, Jumana Al-Aama, Hans |
| | Jørgen Nielsen, Pia Kiilerich, Benjamin Anderschou |
| | Holbech Jensen, Tung On Yau, Zhou Lan, Huijue Jia, |
| Author(s): | Junhua Li, Liang Xiao, Thomas Yuen Tung Lam, Siew |
| | Chien Ng, Alfred Sze-Lok Cheng, Vincent Wai-Sun |
| | Wong, Francis Ka Leung Chan, Xun Xu, Huanming |
| | Yang, Lise Madsen, Christian Datz, Herbert Tilg, Jian |
| | Wang, Nils Brünner, Karsten Kristiansen, Manimozhiyan |
| | Arumugam, Joseph Jao-Yiu Sung, Jun Wang |
| | wangj@genomics.org.cn, jjysung@cuhk.edu.hk, |
| Correspondent's Email: | arumugam@sund.ku.dk |

ABSTRACT

Objective: To evaluate the potential for diagnosing colorectal cancer (CRC) from faecal metagenomes.

Design: We performed metagenome-wide association studies on faecal samples from 74 patients with CRC and 54 controls from China, and validated the results in 16 patients and 24 controls from Denmark. We further validated the biomarkers in two published cohorts from France and Austria. Finally, we employed targeted quantitative PCR (qPCR) assays to evaluate diagnostic potential of selected biomarkers in an independent Chinese cohort of 47 patients and 109 controls.

Results: Besides confirming known associations of Fusobacterium nucleatum and Peptostreptococcus stomatis with CRC, we found significant associations with several species, including Parvimonas micra and Solobacterium moorei. We identified 20 microbial gene markers that differentiated CRC and control microbiomes, and validated 4 markers in the Danish cohort. In the French and Austrian cohorts, these four genes distinguished CRC metagenomes from controls with areas under the receiver-operating curve (AUC) of 0.72 and 0.77, respectively. qPCR measurements of two of these genes accurately classified patients with CRC in the independent Chinese cohort with AUC=0.84 and OR of 23. These genes were enriched in early-stage (I-II) patient microbiomes, highlighting the potential for using faecal metagenomic biomarkers for



early diagnosis of CRC.

Conclusions: We present the first metagenomic profiling study of CRC faecal microbiomes to discover and validate microbial biomarkers in ethnically different cohorts, and to independently validate selected biomarkers using an affordable clinically relevant technology. Our study thus takes a step further towards affordable non-invasive early diagnostic biomarkers for CRC from faecal samples.



| Research Title: | Novel nonsense mutation in the PTRF gene underlies |
|---------------------------|--|
| | congenital generalized lipodystrophy in a consanguineous |
| | Saudi family |
| | European Journal of Medical Genetics |
| Source: | Elsevier Science Bv |
| | Vol. 58, Issue 4, Page: 216-221 |
| ISSN: | 1878-0849 |
| Month and Year of | ADD 2015 |
| Publication: | AFK 2015 |
| Impact Factor: | 1.486 |
| Affiliated Department(s): | Medical Genetics; Pediatrics; Princess Al-Jawhara |
| | Albrahim Center of Excellence in Hereditary Disorders |
| | Research |
| Author(s): | Musharraf Jelani, Saleem Ahmed, Mona Mohammad |
| | Almramhi, Hussein Sheikh Ali Mohamoud, Khadijah |
| | Bakur, Waseem Anshasi, Jun Wang, Jumana Yousuf Al- |
| | Aama |
| Correspondent's Email: | n/a |

ABSTRACT

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



| Research Title: | Oro-Facio-Digital Syndrome Type IX with Polydactyly |
|----------------------------------|---|
| | and Multiple Intraocular Findings |
| Source: | International Journal of Human Genetics |
| | Kamla-Raj Enterprises |
| | Vol. 15, Issue 2, Page: 89-92 |
| ISSN: | 0972-3757 |
| Month and Year of | JUN 2015 |
| Publication: | |
| Impact Factor: | 0.37 |
| Affiliated Department(s): | Medical Genetics |
| Author(s): | Gaboon, Nagwa E. A., Al-Aama, Jumana Y. |
| Correspondent's Email: | n/a |

ABSTRACT

Oral-facial-digital syndromes are characterized by abnormalities in the oral cavity, face and digits. To date, 13 types with different modes of inheritance have been distinguished based on characteristic clinical manifestations. The researchers reported a twelve-yearold male patient with the common features of oral, facial and digital abnormalities of an OFDIX syndrome along with some unrepoited features. On assessment, it was found that he had a short stature and microcephaly. The patient had sparse scalp hair and alopecia areata, which is reported only in females with OFDI. He showed hands postaxial polydactyly and unilateral bifid big toe. The patient displayed extraocular manifestations along with multiple intraocular findings. There were additional CNS findings in the form of subependymal and periventricular andarachinoid tiny cysts. The arachinoid cysts were previously described in OFD I, II and III. This case overlapped with the clinical picture between OFD 1, which is detected only in girls and OFD II.



| Research Title: | Review of literature: genes related to postaxial |
|---------------------------|---|
| | polydactyly |
| Source: | Frontiers in Pediatrics |
| | Frontiers Media |
| | Vol. 3, Issue 8, Page 1-8 |
| ISSN: | 2296-2360 |
| Month and Year of | FEB 2015 |
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| Affiliated Department(s): | Medical Genetics; Princess Al-Jawhara Albrahim Center |
| | of Excellence in Hereditary Disorders Research |
| Author(s): | Prashant Kumar Verma, Ashraf A El-Harouni |
| Correspondent's Email: | n/a |

ABSTRACT

Background: Postaxial polydactyly (PAP) is one of the commonest congenital malformations and usually is associated to several syndromes. There is no primary investigational strategy for PAP cases with single gene disorder in literature. PAP cases with single gene disorder can be classified according to common pathways and molecular basis. Molecular classification may help in diagnostic approach.

Materials and Methods: All single gene disorders associated with PAP reported on PubMed and OMIM are analyzed and classified according to molecular basis.

Results: Majority of genes related to cilia structure and functions are associated with PAP, so we classified them as ciliopathies and non-ciliopathies groups. Genes related to Shh–Gli3 pathway was the commonest group in non-ciliopathies.

Conclusion: Genes related to cilia are most commonly related to PAP due to their indirect relationship to Shh–Gli3 signaling pathway. Initially, PAP may be the only clinical finding with ciliopathies so those cases need follow up. Proper diagnosis is helpful for management and genetic counseling. Molecular approach may help to define pleiotropy.



| | Screening of mitochondrial mutations and insertion- |
|---------------------------|---|
| Research Title: | deletion polymorphism in gestational diabetes mellitus in |
| | the Asian Indian population |
| | Saudi Journal of Biological Sciences |
| Source: | Elsevier Science Bv |
| | Vol. 22, Issue 3, Page: 243-248 |
| ISSN: | 1319-562X |
| Month and Year of | MAX 2015 |
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| Impact Factor: | 0.741 |
| Affiliated Department(s): | Medical Genetics |
| | Imran Ali Khan, Noor Ahmad Shaik, Nagarjuna |
| Author(s): | Pasupuleti, Srinivas Chava, Parveen Jahan, Qurratulain |
| | Hasan, Pragna Rao |
| Correspondent's Email: | drpraqnarao@gmail.com |

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 tRNA(Lys) causes myoclonus epilepsy with ragged red fibers (MERRF). We screened 140 pregnant women diagnosed with GDM and 140 non-GDM participants 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 with the GDM women in our population. Thus it is important to screen other mitochondrial mutations in the GDM women.



| Research Title: | Structural chromosomal abnormalities in couples with |
|---------------------------|--|
| | recurrent abortion in Egypt |
| | Turkish Journal of Medical Sciences |
| Source: | Tubitak Scientific & Technical Research Council Turkey |
| | Vol. 45, Issue 1, Page: 208-213 |
| ISSN: | 1303-6165 |
| Month and Year of | LAN 2015 |
| Publication: | JAIN 2013 |
| Impact Factor: | 0.841 |
| Affiliated Department(s): | Medical Genetics; Princess Al-Jawhara Albrahim Center |
| | of Excellence in Hereditary Disorders Research |
| Author(s): | Nagwa EA Gaboon, Ahmed Ramy Mohamed, Solaf M |
| | Elsayed, Osama K Zaki, Mohamed A Elsayed |
| Correspondent's Email: | n/a |

ABSTRACT

Background/aim: To evaluate the incidence of chromosomal abnormalities in couples who experience recurrent abortion and identify additional factors that may be predictive of abortion, such as parental age and unfavorable obstetric or abnormal semen analysis.

Materials and methods: The present study examined 125 couples who had experienced recurrent abortion. All subjects provided a detailed personal medical history and ancestral history and underwent a physical examination. Women in the study group underwent biochemical testing and pelvic ultrasound examinations, and men underwent a semen analysis.

Results: Among the 125 couples tested, 8 couples (6.4%) displayed a balanced translocation, among which 7 (5.6%) showed a reciprocal translocation and 1 (0.8%) showed a Robertsonian translocation. All carriers of these translocations were aged < 35 years. A significant proportion of carriers reported a poor obstetric history and a past fetal malformation. All male carriers had a normal semen analysis.

Conclusion: Couples who experience ≥ 2 pregnancy losses of unknown origin should undergo a cytogenetic analysis, and findings showing a chromosomal abnormality in either parent must be followed by genetic counseling.



| Research Title: | The oral and gut microbiomes are perturbed in |
|-------------------------------|--|
| | rheumatoid arthritis and partly normalized after treatment |
| | Nature Medicine |
| Source: | Nature Publishing Group |
| | Vol. 21, Issue 8, Page: 895-905 |
| ISSN: | 1546-170X |
| Month and Year of | AUC 2015 |
| Publication: | AUG 2013 |
| Impact Factor: | 28.054 |
| | Medical Genetics; Princess Al-Jawhara Albrahim Center |
| Affinated Department(s): | of Excellence in Hereditary Disorders Research |
| | Xuan Zhang, Dongya Zhang, Huijue Jia, Qiang Feng, |
| | Donghui Wang, Di Liang, Xiangni Wu, Junhua Li, |
| | Longqing Tang, Yin Li, Zhou Lan, Bing Chen, Yanli Li, |
| | Huanzi Zhong, Hailiang Xie, Zhuye Jie, Weineng Chen, |
| | Shanmei Tang, Xiaoqiang Xu, Xiaokai Wang, Xianghang |
| | Cai, Sheng Liu, Yan Xia, Jiyang Li, Xingye Qiao, Jumana |
| Author(s): | Yousuf Al-Aama, Hua Chen, Li Wang, Qing-jun Wu, |
| | Fengchun Zhang, Wenjie Zheng, Yongzhe Li, Mingrong |
| | Zhang, Guangwen Luo, Wenbin Xue, Liang Xiao, Jun Li, |
| | Wanting Chen, Xun Xu, Ye Yin, Huanming Yang, Jian |
| | Wang, Karsten Kristiansen, Liang Liu, Ting Li, Qingchun |
| | Huang, Yingrui Li, Jun Wang |
| Correspondent's Email: | n/a |

ABSTRACT

We carried out metagenomic shotgun sequencing and a metagenome-wide association study (MGWAS) of fecal, dental and salivary samples from a cohort of individuals with rheumatoid arthritis (RA) and healthy controls. Concordance was observed between the gut and oral microbiomes, suggesting overlap in the abundance and function of species at different body sites. Dysbiosis was detected in the gut and oral microbiomes of RA patients, but it was partially resolved after RA treatment. Alterations in the gut, dental or saliva microbiome distinguished individuals with RA from healthy controls, were correlated with clinical measures and could be used to stratify individuals on the basis of their response to therapy. In particular, Haemophilus spp. were depleted in individuals with RA at all three sites and negatively correlated with levels of serum autoantibodies, whereas Lactobacillus salivarius was over-represented in individuals with RA at all three sites and was present in increased amounts in cases of very active RA. Functionally, the redox environment, transport and metabolism of iron, sulfur, zinc and arginine were altered in the microbiota of individuals with RA. Molecular mimicry of human antigens related to RA was also detectable. Our results establish specific alterations in the gut and oral microbiomes in individuals with RA and suggest potential ways of using microbiome composition for prognosis and diagnosis.



| Research Title: | Truncating mutation in intracellular phospholipase A1 |
|--------------------------|---|
| | gene (DDHD2) in hereditary spastic paraplegia with |
| | intellectual disability (SPG54) |
| | BMC Res Notes |
| Source: | BioMed Central |
| | Vol. 8, Issue 1, Page: 1-5 |
| ISSN: | 1756-0500 |
| Month and Year of | IUN 2015 |
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| Impact Factor: | n/a |
| Affiliated Department(g) | Medical Genetics; Princess Al-Jawhara Albrahim Center |
| Affinated Department(s): | of Excellence in Hereditary Disorders Research |
| Author(s): | Nuha Alrayes, Hussein SA Mohamoud, Musharraf Jelani, |
| | Saleem Ahmad, Nirmal Vadgama, Khadijah Bakur, |
| | Michael Simpson, Jumana Y Al-Aama, Jamal Nasir |
| Correspondent's Email: | nuharayes@gmail.com |

ABSTRACT

Background: Hereditary spastic paraplegias (HSP), a group of genetically heterogeneous neurological disorders with more than 56 documented loci (SPG1-56), are described either as uncomplicated (or pure), or complicated where in addition to spasticity and weakness of lower extremeties, additional neurological symptoms are present, including dementia, loss of vision, epilepsy, mental retardation and ichthyosis. We identified a large consanguineous family of Indian descent with four affected members with childhood onset HSP (SPG54), presenting with upper and lower limb spasticity, mental retardation and agenesis of the corpus callosum.

Results: A common region of homozygosity on chromosome 8 spanning seven megabases (Mb) was identified in the affected individuals using the Illumina human cytoSNP-12 DNA Analysis BeadChip Kit. Exome sequencing identified a homozygous stop gain mutation (pR287X) in the phospholipase A1 gene DDHD2, in the affected individuals, resulting in a premature stop codon and a severely truncated protein lacking the SAM and DDHD domains crucial for phosphoinositide binding and phospholipase activity.

Conclusion: This mutation adds to the knowledge of HSP, suggests a possible founder effect for the pR287X mutation, and adds to the list of genes involved in lipid metabolism with a role in HSP and other neurodegenerative disorders."



| Research Title: | Whole-exome sequencing reveals a recurrent mutation in |
|-------------------------------|--|
| | the cathepsin C gene that causes Papillon–Lefevre |
| | syndrome in a Saudi family |
| | Saudi Journal of Biological Sciences |
| Source: | Elsevier B.V. |
| | Vol. 2015, Page: 1-6 |
| ISSN: | 1319-562X |
| Month and Year of | ILIN 2015 |
| Publication: | JOIN 2013 |
| Impact Factor: | 0.741 |
| Affiliated Department(s): | Medical Genetics; Dermatology |
| | Yaser Mohammad Alkhiary, Musharraf Jelani, Mona |
| Author(s). | Mohammad Almramhi, Hussein Sheikh Ali Mohamoud, |
| Author(s): | Rayan Al-Rehaili, Hams Saeed Al-Zahrani, Rehab Serafi, |
| | Huanming Yang, Jumana Yousuf Al-Aama |
| Correspondent's Email: | n/a |

ABSTRACT

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



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<u>Head of Department</u> أ.د. محمد حسن محمد بادواد <u>Members</u>

سامی محمد عبد الله بحلس سراج عمر سراج ولي سعد صالح سعد الشهيب سوزان منصور حسين عطار طارق أحمد عبدالقادر مدنى عائشة عبده عبدالله الغامدى عائشة مكرم على وحيد صديقى عبدالرحمن عبدالمحسن عبدالرحيم الشيخ عماد عبدالقادر حمزة كوشك عمر سعيد أحمد باعبد الرحيم العامودي فايزة عبدالعزيز عبدالرحيم قارى محمود شاهين شحاده الأحول ميمونة مشتاق أحمد معصوم هشام عثمان عمر أكبر أحمد عبدالعزيز عواد الجهنى خالد زكى محمد على الشالى سعيد محمد غرم الله الغامدي دعاء أحمد محمود خليفة فاطمة ابراهيم عبدالله البلادى ليث أحمد على ميمش محمد نبيل عبد الهادي الأعمى هشام بكر عبدالرحمن عالم هلا هشام أحمد موصلي هند إبراهيم بكر فلاته ابتسام موسى علي جلي أطلال محمد عبدالله أبو سند أمانى معتوق سليم الهذلى تركي عبد العزيز علي التركي خلود علوي صلاح غمري رنا عبدالغنى محمد سعيد نبلاوى

رؤى سمير جميل السليمانى ريهام محمد سعيد كعكي سالم محمد سالم بازرعه سمراء منصور ابراهيم احمد شادى سالم محمد الخياط طريف يوسف أديب الاعمى عائشة عبدالملك محمد العبدلى الشريف عبدالرحيم معاظه حنش الشهرى عبد الله يوسف عاشور قشقري عبیر محمد حبیب کوثر عصام جميل محمد الجابى عمر أحمد فتح الدين بخاري عمر عبدالحميد ياسين أيوب فاتن نبيل إبراهيم الزبن كمال وهيب مصطفى الغلاييني محمد أحمد حسن قطب محمد جمال عبدالغنى سحلو محمد عبده غالب المخلافي محمد عبدالعزيز أحمد رضوان محمد عبدالرحمن محمد باشيخ محمود هشام أحمد موصلى نسرين فؤاد حسين باجنيد نعيم عبدالمنعم عبيدالله الشعيبي نوال ناصر سعد بن حشر ہانی اکرم امین جاوہ هنادي معتوق سليم الهذلى هيثم أسامة صادق طيب وسام عوض سليمان الحجيلي يوسف عبد الفتاح عبد اللطيف قاري ابراهيم محمد ابوبكر بالبيد

Department of Medicine

ابراهيم محمد عبدالحميد الرويتي أحمد رضا عبدالرحمن أبو زنادة أحمد نبيل محمود حسن آمنه سعيد محمد الغامدى براء محمد سعيد محمود عبدالجواد حسام محى الدين محمد مليباري خالد عبدالله محمد الفارس راكان اسامه احمد ابو النجا رحمه عبدالهادى هويدى السلمى رجاء محمد احمد الشنقيطي رغده حسين محمود عارف رمزى عطيان محمد المحمدى ساره سالم عمر بغلف سارة سعيد عبدالله الغامدي سارة عادل على تركى سالم احمد محمد عقباوى سمراء منصور إبراهيم أحمد سهيل عبدالله عبدالعظيم خوجه شروق شوقي انغ بنجر صفاء حسن سليمان أبوداود شذى أحمد قارى سمرقندى شهاب عبدالعزيز حسن الشيخ صلحى على صلاح الفقيه عبدالرحمن عبدالعزيز احمد ابولبن عبدالرحمن محمد صالح عزب عبير عبدالله لطف الدين خوجه عصام محمود فخري الأنصاري علا محي الدين رشاد طرابزوني على حسين سعد المهري على هياس على الشيخي الزهراني

عماد سليمان عيد الجحدلي عمر توفيق خالد البسام غاده عبدالرحمن عقيل عنقاوي غاده منیر عمر عباس فارس فلاح راجى الحجيلى قمر محمد يونس المسرى لولوه عمر ناصر مخارش ماجد عبدالعزيز علي الصحفي ماجد مازن محمد عبداللطيف ملك ماجد منصور أحمد الزهرانى مازن عبدالرزاق جمال بدوي مالك محمد امين عبدالمعطى مرداد محمد أحمد مسفر زهرانى محمد عبدالرزاق محمد شيخ عمر مروان رباح بنيه الحجيلي مريم سعود حسن مختار منى عبدالمحسن محمد العتيبى نايف على عبدالهادي الغامدي نور محمد على حامد البار نواف طارق غالب ابوالفرج نوف عادل على تركى هدى يحيى أحمد اليحياوي هند عبدالله إبراهيم النجاشى هيفاء منيف عامر النهدي وائل نبيل احمد يار وضاح يسري حسن اشرم وليد صالح غرم الله الغامدي ياسر محمد سالم باوزير یحیی ز هیر یحیی حابس



| Research Title: | 2014 MERS-CoV Outbreak in Jeddah - A Link to Health |
|---------------------------|---|
| | Care Facilities |
| | New England Journal of Medicine |
| Source: | Massachusetts Medical Soc |
| | Vol. 372, Issue 9, Page: 846-854 |
| ISSN: | 1533-4406 |
| Month and Year of | EED 2015 |
| Publication: | FEB 2013 |
| Impact Factor: | 54.42 |
| Affiliated Department(s): | Medicine |
| Author(s): | Ikwo K Oboho, Sara M Tomczyk, Ahmad M Al-Asmari, |
| | Ayman A Banjar, Hani Al-Mugti, Muhannad S Aloraini, |
| | Khulud Z Alkhaldi, Emad L Almohammadi, Basem M |
| | Alraddadi, Susan I Gerber, David L Swerdlow, John T |
| | Watson, Tariq A Madani |
| Correspondent's Email: | n/a |

ABSTRACT

Background: A marked increase in the number of cases of Middle East respiratory syndrome coronavirus (MERS-CoV) infection occurred in Jeddah, Saudi Arabia, in early 2014. We evaluated patients with MERS-CoV infection in Jeddah to explore reasons for this increase and to assess the epidemiologic and clinical features of this disease.

Methods: We identified all cases of laboratory-confirmed MERS-CoV infection in Jeddah that were reported to the Saudi Arabian Ministry of Health from January 1 through May 16, 2014. We conducted telephone interviews with symptomatic patients who were not health care personnel, and we reviewed hospital records. We identified patients who were reported as being asymptomatic and interviewed them regarding a history of symptoms in the month before testing. Descriptive analyses were performed.

Results: Of 255 patients with laboratory-confirmed MERS-CoV infection, 93 died (case fatality rate, 36.5%). The median age of all patients was 45 years (interquartile range, 30 to 59), and 174 patients (68.2%) were male. A total of 64 patients (25.1%) were reported to be asymptomatic. Of the 191 symptomatic patients, 40 (20.9%) were health care personnel. Among the 151 symptomatic patients who were not health care personnel, 112 (74.2%) had data that could be assessed, and 109 (97.3%) of these patients had had contact with a health care facility, a person with a confirmed case of MERS-CoV infection, or someone with severe respiratory illness in the 14 days before the onset of illness. The remaining 3 patients (2.7%) reported no such contacts. Of the 64 patients who had been reported as asymptomatic, 33 (52%) were interviewed, and 26 of these 33 (79%) reported at least one symptom that was consistent with a viral respiratory illness.

Conclusions: The majority of patients in the Jeddah MERS-CoV outbreak had contact with a health care facility, other patients, or both. This highlights the role of health care-associated transmission.



| Research Title: | A cross-sectional study of anxiety and marital quality |
|----------------------------------|--|
| | among women with breast cancer at a university clinic in |
| | western Saudi Arabia |
| | Saudi Medical Journal |
| Source: | Saudi Med J |
| | Vol. 36, Issue 10, Page: 1168-1175 |
| ISSN: | 0379-5284 |
| Month and Year of | OCT 2015 |
| Publication: | 001 2015 |
| Impact Factor: | 0.588 |
| Affiliated Department(s): | Medicine |
| Author(s): | Faten N Al-Zaben, Mohammad G Sehlo, Harold G |
| | Koenig |
| Correspondent's Email: | harold.koenig@duke.edu |

ABSTRACT

Objectives: To examine relationship between the quality of marital relationship and anxiety among women with breast cancer (BC) in the Kingdom of Saudi Arabia (KSA).

Methods: This cross-sectional study recruited a consecutive series of 49 married women with BC seen in the Al-Amoudi Breast Cancer Center of Excellence at King Abdulaziz University, Jeddah, KSA in early 2013. Participants completed the Hospital Anxiety and Depression Scale, Spouse Perception Scale, and Quality of Marriage Index forms, and answered questions on demographic and cancer characteristics.

Results: Anxiety symptoms indicating ""possible"" anxiety disorder were present in 10.4% and ""probable"" anxiety disorder in 14.6% (25% total). No significant relationship was found between the quality of marital relationship and anxiety symptoms (B=-0.04, standard error=0.05, t=-0.81, p=0.42). Anxiety was primarily driven by low education, poor socioeconomic status, and young age.

Conclusion: Anxiety symptoms are prevalent among married women with BC seen in a university-based clinic in the KSA. Further research is needed to determine whether a diagnosis of BC adversely affects marital relationship, and whether this is the cause for anxiety in these women.



| Research Title: | A new gender-specific model for skin autofluorescence |
|----------------------------------|---|
| | risk stratification |
| | Scientific Reports |
| Source: | Nature Publishing Group |
| | Vol. 5, Article no.: 10198 |
| ISSN: | 2045-2322 |
| Month and Year of | MAX 2015 |
| Publication: | MA 1 2015 |
| Impact Factor: | 5.578 |
| Affiliated Department(s): | Medicine; Pharmacology |
| Author(s): | Muhammad S Ahmad, Zoheir A Damanhouri, Torben |
| | Kimhofer, Hala H Mosli, Elaine Holmes |
| Correspondent's Email: | maahmad2@kau.edu.sa |

ABSTRACT

Advanced glycation endproducts (AGEs) are believed to play a significant role in the pathophysiology of a variety of diseases including diabetes and cardiovascular diseases. Non-invasive skin autofluorescence (SAF) measurement serves as a proxy for tissue accumulation of AGEs. We assessed reference SAF and skin reflectance (SR) values in a Saudi population (n = 1,999) and evaluated the existing risk stratification scale. The mean SAF of the study cohort was 2.06 (SD = 0.57) arbitrary units (AU), which is considerably higher than the values reported for other populations. We show a previously unreported and significant difference in SAF values between men and women, with median (range) values of 1.77 AU (0.79-4.84 AU) and 2.20 AU (0.75-4.59 AU) respectively (p-value << 0.01). Age, presence of diabetes and BMI were the most influential variables in determining SAF values in men, whilst in female participants, SR was also highly correlated with SAF. Diabetes, hypertension and obesity all showed strong association with SAF, particularly when gender differences were taken into account. We propose an adjusted, gender-specific disease risk stratification scheme for Middle Eastern populations. SAF is a potentially valuable clinical screening tool for cardiovascular risk assessment but risk scores should take gender and ethnicity into consideration for accurate diagnosis.



| Research Title: | A Saudi Gastroenterology Association Position Statement on the Use of Tumor Necrosis Factor-alfa Antagonists for the Treatment of Inflormatory Powel Disease |
|----------------------------------|--|
| | Saudi Journal of Castroantarology |
| Source: | Medknow Publications & Media Pvt Ltd |
| | Vol. 21, Issue 4, Page: 185-197 |
| ISSN: | 1998-4049 |
| Month and Year of | IUL 2015 |
| Publication: | |
| Impact Factor: | 1.121 |
| Affiliated Department(s): | Medicine |
| Author(s): | Mahmoud H Mosli, Othman Al-Harbi, Brian G Feagan, |
| | Majid A Almadi |
| Correspondent's Email: | Mahmoud.mosli@robartsinc.com |

ABSTRACT

The objective of this position statement from the Saudi Gastroenterology Association is to guide gastroenterologists on the use of tumor necrosis factor-alfa (TNF-alpha) antagonists for the treatment of the idiopathic inflammatory bowel diseases, Crohn's disease, and ulcerative colitis. In this article, we summarize the relevant literature regarding the safety and efficacy of TNF-alpha antagonists, highlight relevant safety concerns specific to the environment in Saudi Arabia, and provide specific recommendations for the use of these agents.



| Research Title: | A systematic review and meta-analysis of non-invasive biomarkers for assessing disease activity in Inflammatory |
|----------------------------------|--|
| | Bowel Disease |
| | Gastroenterology |
| Source: | W B Saunders Co-Elsevier Inc |
| | Vol. 148, Issue 4, Page: 406 |
| ISSN: | 1528-0012 |
| Month and Year of | ADD 2015 |
| Publication: | AFK 2015 |
| Impact Factor: | 16.716 |
| Affiliated Department(s): | Medicine |
| | Mosli, Mahmoud H.; Zou, Guangyong; Garg, Sushil |
| Author(s): | Kumar; Feagan, Sean; MacDonald, John K.; Sandborn, |
| | William; Chande, Nilesh; Feagan, Brian G. |
| Correspondent's Email: | n/a |

ABSTRACT

Background: Endoscopic disease activity in inflammatory bowel disease (IBD) is associated with poor outcomes. Endoscopic evaluation is the gold standard for the assessment of disease activity, but is invasive, expensive and potentially time consuming. Identification of non-invasive biomarkers of disease activity in IBD is a research priority.

Methods:The primary objective was to evaluate the diagnostic accuracy of 3 non-invasive biomarkers (fecal calprotectin [FC], stool lactoferrin [SL] and C-reactive protein [CRP]) used for the evaluation of disease activity in IBD. MEDLINE, EMBASE, the Cochrane Library, the ISI Web of Knowledge and conference abstracts were searched from inception to November 2014 for relevant studies. Grey literature databases (e.g. SIGLE) were also searched to identify studies not indexed in traditional databases. All cohort and case-control studies that evaluated the diagnostic accuracy of FC, SL or CRP for assessment of disease activity in symptomatic patients with previously diagnosed IBD (ulcerative colitis and Crohn's disease) were included. True positive, true negative, false positive and false negative rates were extracted for each biomarker and used to construct 2X2 tables for each cutoff. Sensitivity, specificity and area under the curve (AUC) estimates for FC, SL and CRP were calculated for each study based on different cut-offs and pooled together into single estimates for each test. Receiver operator characteristics (ROC) curves were then used to identify the cut-off values for each biomarker that best predicted endoscopic disease activity.

Results: Nineteen studies (2456 participants) met our inclusion criteria. Sensitivity, specificity, and AUC values for the 3 biomarkers are summarized in Table 1. The best cut-off values to detect endoscopically active disease in IBD determined by ROC analysis were 50 μ g/g, 7.25 μ g/mL and 10 mg/dL for FC, SL and CRP, respectively.

Conclusion: FC and SL are highly accurate biomarkers that can be used to screen symptomatic IBD patients for endoscopic disease activity prior to colonoscopy.



| Research Title: | A systematic review on the quality of ct perfusion |
|----------------------------------|--|
| | imaging thresholds for tissue status in the setting of |
| | ischemic stroke |
| | International Journal of Stroke |
| Source: | Wiley-Blackwell |
| | Vol. 10, Issue 2, Page: 19 |
| ISSN: | 1747-4930 |
| Month and Year of | ADD 2015 |
| Publication: | APK 2015 |
| Impact Factor: | 3.833 |
| Affiliated Department(s): | Medicine |
| Author(s): | Christopher d'Esterre, Jonathan Dykeman, Philip Choi, |
| | Dilip Singh, Mohamed Al-mekhlafi, Petra Cimflová, |
| | Shivanand Patil, Bijoy Menon, Mayank Goyal |
| Correspondent's Email: | n/a |

ABSTRACT

Background/Purpose: We sought to determine the extent of and reasons for variability in current CT perfusion (CTP) thresholds to define acute brain tissue states.

Methods: The search themes acute ischemic stroke, perfusion imaging, and CT/MRI were used. Studies were included if CTP was done.

Results: The search resulted in 11919 abstracts from EMBASE and Medline after missing data correction. 711 studies were identified for full-text review, of these 134 met all eligibility criteria, and 29 studies provided thresholds. For CBF, median mean threshold was 8.64 (7.94–13.92) ml/min/100 g for core, 19.1 (17.1–31.9) ml/min/100 g for penum-bra and 47.4 (35.6–59.1) ml/min/100 g for normal/not at risk tissue. For CBV, the median mean threshold was 1.0 (0.68–1.88) ml/100 g for core, 2.45 (2.0–3.0) ml/100 g for penumbra, and 2.65 (2.0–3.3) ml/100 g for normal/not at risk tissue. For MTT the median mean threshold was 15.6(15.3–17.7) seconds for core, 10.5 (7.1–46.2) seconds for penumbra, and3.9 (3.65–4.15) seconds for normal/not at risk tissue. The median mean threshold for rCBF was 29% (22.5%–35.5%) for core. Sufficient TTP and Tmax data were not reported. QUADAS assessment ranged from 20.7% to93.1% across the 14 variables.

Conclusions: Due to the heterogeneity of vendor CTP algorithms, follow-up-imaging to define infarct core, unknown recanalization times/reperfusion status and differing onset to CT times, CTP thresholds for infarct core and penumbra are highly variable between institutes.



| Research Title: | Accuracy of rapid oral HCV diagnostic test among a |
|---------------------------|--|
| | Saudi sample |
| | Clinical Oral Investigations |
| Source: | Springer International Publishing Ag |
| | Vol. 19, Issue 2, Page: 475-480 |
| ISSN: | 1436-3771 |
| Month and Year of | MAD 2015 |
| Publication: | MAR 2015 |
| Impact Factor: | 2.285 |
| Affiliated Department(s): | Medicine |
| Author(s): | Suzan Ibrahim, Safia Ali Al Attas, Ghada Anwar |
| | Mansour, Soliman Ouda, Hind Fallatah |
| Correspondent's Email: | n/a |

ABSTRACT

The objective of this study was to investigate the accuracy of the OraQuickA (R) rapid diagnostic test in the detection of hepatitis C virus (HCV) antibodies in oral fluid among a Saudi population sample.

A case-control cross-sectional study was conducted on 60 HCV-positive patients and 100 HCV-negative control subjects.

The HCV-positive patients were recruited from the Clinics of Infectious Diseases of King Abdulaziz University (KAU) Hospital, Jeddah, while the control group was collected from KAU, Faculty of Dentistry, including staff and students. The OraQuickA (R) HCV rapid antibody test (OraSure Technologies, Inc. USA) utilized the oral fluid swab. Sensitivity and specificity for the test were calculated and correlated to the patients' viral load.

Out of the 60 PCR + ve patients, 53 (88.33 %) revealed a positive OraQuick test, whereas 7 (11.67 %) patients showed negative test, revealing 88.33 % sensitivity and 100 % specificity for detection of salivary HCV antibodies. Only PCR level was valuable in predicting the outcome of OraQuick test.

Using oral fluid for the detection of HCV antibodies could be a useful tool for epidemiological purposes and for field collection of samples in developing countries or in nonclinical settings by persons with minimal training.

Millions of pilgrims visit Saudi Arabia during every year, many of whom are from countries where HCV infection is endemic; therefore, it will be very helpful to use a noninvasive, quick, simple, specific, and sensitive method for detection of HCV antibodies using oral fluid.



| Research Title: | Adeno-Associated Vectors for Gene Delivery to the |
|----------------------------------|--|
| | Nervous System |
| | Gene Delivery and Therapy for Neurological Disorders |
| Source: | Springer |
| | Vol. 20158, Page: 1-22 |
| ISSN: | 0893-2336 |
| Month and Year of | LAN 2015 |
| Publication: | JAN 2015 |
| Impact Factor: | n/a |
| Affiliated Department(s): | Medicine |
| Author(s): | Pádraig J Mulcahy, Christopher Binny, Bartosz |
| | Muszynski, Evangelia Karyka, Mimoun Azzouz |
| Correspondent's Email: | n/a |

ABSTRACT

Gene therapy approaches based on adeno-associated viral vector (AAV) systems offer many unique advantages for nervous system applications. These vectors are opening up new approaches for the treatment of neurodegenerative diseases. AAV can efficiently deliver genes to postmitotic neuronal cell types offering long-term expression, can be generated in high titers, and are associated with only minimal immunological complications. Numerous animal studies have demonstrated the efficiency of these vectors both at preclinical and clinical development stages. The current chapter will describe the basic features of AAV vectors, list few examples of their applications as a therapeutic tool to treat diseases of the central nervous system, and discuss progress in the manufacturing process.



| Research Title: | Analysis of CD95 and CCR7 expression on circulating |
|----------------------------------|---|
| | CD4+ lymphocytes revealed disparate immunoregulatory |
| | potentials in systemic lupus erythematosus |
| Source: | Saudi Journal of Biological Sciences |
| | Elsevier B.V. |
| | Vol. 2015, Page: 1-7 |
| ISSN: | 1319-562X |
| Month and Year of | MAX 2015 |
| Publication: | WIA 1 2015 |
| Impact Factor: | 0.741 |
| Affiliated Department(s): | Medicine |
| Author(s): | Alia M Aldahlawi, Mohamed F Elshal, Laila A Damiaiti, |
| | Laila H Damanhori, Sami M Bahlas |
| Correspondent's Email: | n/a |

ABSTRACT

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



| Research Title: | Aneurysmal subarachnoid hemorrhage affects the younger |
|----------------------------------|--|
| | age groups in a Saudi academic center |
| Source: | Annals of Saudi Medicine |
| | K Faisal Spec Hosp Res Centre |
| | Vol. 35, Issue 1, Page: 36-40 |
| ISSN: | 0256-4947 |
| Month and Year of | JAN 2015 |
| Publication: | |
| Impact Factor: | 0.705 |
| Affiliated Department(s): | Medicine; Surgery |
| Author(s): | Yasir A Bokhari, Abdulaziz H Batarfi, Yasir A Alnahdi, |
| | Mohammed A Almekhlafi, Saleh S Baeesaa |
| Correspondent's Email: | sbaeesa@kau.edu.sa |

ABSTRACT

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

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

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

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

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



| | Anti-Mutated Citrullinated Vimentin Antibody and |
|----------------------------------|--|
| Research Title: | Rheumatoid Factor (Prevalence and Association) in |
| | Rheumatoid Arthritis Patients; Saudi and Non-Saudi |
| | Clinical Laboratory |
| Source: | Clin Lab Publ |
| | Vol. 61, Issue 3, Page: 259-267 |
| ISSN: | 1433-6510 |
| Month and Year of | JAN 2015 |
| Publication: | |
| Impact Factor: | 1.084 |
| Affiliated Department(s): | Medicine; Microbiology and Medical Parasitology |
| Author(s): | MA Safi, Suzan M Attar, Omar A Fathaldin, OM Safi |
| Correspondent's Email: | n/a |

ABSTRACT

Background: The aims of this study were to assess the prevalence of anti-mutated citrullinated vimentin (MCV) antibodies and rheumatoid factor (RF) and to evaluate their association in rheumatoid arthritis patients, both Saudi and non-Saudi.

Methods: Retrospectively, we studied 280 rheumatoid arthritis patients, at King Abdulaziz University Hospital. The antibodies were measured by enzyme linked immunosorbent assay and rheumatoid factor by nephelometry.

Results: The 280 patients included 196 Saudis and 84 non-Saudis, 88% females and 12% males, and the mean age was 45.3 years (SD = 14.3). Prevalence of rheumatoid factor was 141/280(50%) divided as 93/196(47.5%) Saudis and 48/84 (57%) non-Saudis, with no significant differences (p > 0.05). Prevalence of mutated citrullinated vimentin antibodies was 165/280 (58.2%) divided as 121/196 (61.7%) Saudis and 44/84 (52.4%) non-Saudis, with no significant differences (p > 0.05). Among RE -ve patients, considerable numbers were anti-MCV +ve, and vice versa. Also, among the anti-MCV - ve patients, considerable numbers were RE +ve, and vice versa. In all cohorts and in Saudi and non Saudi patients, anti-MCV positivity was significantly associated with RF positivity (odds ratio (OR) 3.15; 95% CI 1.9, 5.19/p = 0.000); ESR and CRP were high with significant correlation (p < 0.005) with each other, with RE positivity but not with anti-MC positivity. Anti-MC positivity showed no significant correlation with age and gender.

Conclusions: In this cohort of patients, anti-MCV antibodies are a useful diagnostic tool for RA, but its combination with RF is essential. Both markers are significantly associated. Larger scale studies are recommended. Correlation of anti-MCV with treatment and with disease activity still has to be published.



| Research Title: | Association of Higher MERS-CoV Virus Load with Severe Disease and Death, Saudi Arabia, 2014 |
|----------------------------------|--|
| Source: | Emerging Infectious Diseases |
| | Centers Disease Control |
| | Vol. 21, Issue 11, Page: 2029-2035 |
| ISSN: | 1080-6040 |
| Month and Year of Publication: | NOV 2015 |
| Impact Factor: | 6.751 |
| Affiliated Department(s): | Medicine |
| Author(s): | Daniel R Feikin, Basem Alraddadi, Mohammed Qutub, |
| | Omaima Shabouni, Aaron Curns, Ikwo K Oboho, Sara M |
| | Tomczyk, Bernard Wolff, John T Watson, Tariq A |
| | Madani |
| Correspondent's Email: | n/a |

ABSTRACT

Middle East respiratory syndrome coronavirus (MERS-CoV) causes a spectrum of illness. We evaluated whether cycle threshold (C-t) values (which are inversely related to virus load) were associated with clinical severity in patients from Saudi Arabia whose nasopharyngeal specimens tested positive for this virus by real-time reverse transcription PCR. Among 102 patients, median C-t of 31.0 for the upstream of the E gene target for 41(40%) patients who died was significantly lower than the median of 33.0 for 61 survivors (p =, 0.0087). In multivariable regression analyses, risk factors for death were age >60 years, underlying illness, and decreasing C-t. Results were similar for a composite severe outcome (death and/or intensive care unit admission). More data are needed to determine whether modulation of virus load by therapeutic agents affects clinical outcomes.



| Research Title: | Belief into Action Scale: A Comprehensive and Sensitive |
|----------------------------------|---|
| | Measure of Religious Involvement |
| Source: | Religions |
| | Mdpi Ag |
| | Vol. 6, Issue 3, Page: 1006-1016 |
| ISSN: | 2077-1444 |
| Month and Year of | SEDT 2015 |
| Publication: | SEP 1 2015 |
| Impact Factor: | n/a |
| Affiliated Department(s): | Medicine |
| Author(s): | Harold G Koenig, Zhizhong Wang, Faten Al Zaben, |
| | Ahmad Adi |
| Correspondent's Email: | Harold.Koenig@duke.edu; wangzhizhong@nxmu.edu.cn; |
| | faten_zaben@yahoo.com; ahmad.adi@dm.duke.edu |

ABSTRACT

We describe here a new measure of religious commitment, the Belief into Action (BIAC) scale. This measure was designed to be a comprehensive and sensitive measure of religious involvement that could discriminate individuals across the religious spectrum, and avoid the problem of ceiling effects that have haunted the study of highly-religious populations. Many scales assess religious beliefs, where assent to belief is often widespread, subjective, and a superficial assessment of religious commitment. While people may say they believe, what does that mean in terms of action? This 10-item scale seeks to convert simple belief into action, where action is assessed in terms of what individuals say is most important in their lives, how they spend their time, and where they put their financial resources. We summarize here the psychometric characteristics of the BIAC in two very different populations: stressed female caregivers in Southern California and North Carolina, and college students attending three universities in Mainland China. We conclude that the BIAC is a sensitive, reliable, and valid measure of religious commitment in these two samples, and encourage research in other population groups using this scale to determine its psychometric properties more generally.



| Research Title: | Bioactive Hydantoin Alkaloids from the Red Sea Marine |
|-------------------------------|---|
| | Sponge Hemimycale arabica |
| Source: | Marine Drugs |
| | MDPI AG |
| | Vol. 13, Issue 11, Page: 6609-6619 |
| ISSN: | 1660-3397 |
| Month and Year of | OCT 2015 |
| Publication: | |
| Impact Factor: | 2.853 |
| Affiliated Department(s): | Medicine |
| Author(s): | Diaa TA Youssef, Lamiaa A Shaala, Khalid Z Alshali |
| Correspondent's Email: | n/a |

ABSTRACT

In the course of our continuing efforts to identify bioactive secondary metabolites from Red Sea marine invertebrates, we have investigated the sponge Hemimycale arabica. The antimicrobial fraction of an organic extract of the sponge afforded two new hydantoin alkaloids, hemimycalins A and B (2 and 3), together with the previously reported compound (Z)-5-(4-hydroxybenzylidene)imidazolidine-2,4-dione (1). The structures of the compounds were determined by extensive 1D and 2D NMR (COSY, HSQC and HMBC) studies and high-resolution mass spectral determinations. Hemimycalins A (2) and B (3) represent the first examples of the natural N-alkylated hydantoins from the sponge Hemimycale arabica. Compounds 1–3 displayed variable antimicrobial activities against E. coli, S. aureus, and C. albicans. In addition, compound 1 displayed moderate antiproliferative activity against the human cervical carcinoma (HeLa) cell line. These findings provide further insight into the chemical diversity as well as the biological activity of this class of compounds.


| Research Title: | Breakthrough febrile neutropenia after the use of |
|----------------------------------|--|
| | pegylated filgrastim (pegfilgrastim): Incidence and risk |
| | factors |
| | European Journal of Cancer |
| Source: | Elsevier Sci Ltd |
| | Vol. 51, Supplemet 3, Page: 233-233 |
| ISSN: | 1879-0852 |
| Month and Year of | SEDT 2015 |
| Publication: | SEF 1 2015 |
| Impact Factor: | 5.417 |
| Affiliated Department(s): | Medicine |
| Author(s): | Ahmad, I.; AbdulRahman, K.; Zekri, J.; Karim, S.; |
| | AbdelGhany, E. |
| Correspondent's Email: | n/a |

ABSTRACT

Background: Haematopoietic growth factors (HGFs) reduces the risk of febrile neutropenia (FN) by about 50% in cancer patients receiving chemotherapy. However, breakthrough febrile neutropenia (BTFN) despite the use of HGFs is still a potentially serious complication. Pegfilgrastim, a long acting HGF predominantly eliminated through neutrophil-mediated clearance is increasingly used prophylactically due to its effectiveness and convenience. We aim to investigate the frequency of BTFN and its risk factors in Middle Eastern cancer patients receiving prophylactic Pegfilgrastim after cytotoxic chemotherapy.

Materials and Methods: 183 consecutive patients with solid tumors who received Pegfilgrastim either in primary or secondary prophylaxis settings from Jan 2009-Dec 2010 were identified. Patients with leukemia, myeloma or undergoing hematopoietic stem cells transplantation were excluded. Pegfilgrastim was administered in a single subcutaneous injection (6mg), 24–48 hours after completion of chemotherapy. Rate of BTFN was calculated as (number of episodes of BTFN/total number of injections of Pegfilgrastim x 100). Risk factors contributing to the development of BTFN were analyzed by chi-square test.

33% of patients had a diagnosis of breast cancer, 32% had lymphoma and 34% had miscellaneous other solid tumor. 183 patients had received total of 591 injections of Pegfilgrastim. Median age of patients was 45yrs. (14–85yrs.). 120 patients (65.5%) were female. Following variables were analyzed using chi-square test for their association with the development of BTFN: age, sex, comorbidities, type of cancer, stage of disease, curative vs. palliative treatment, single vs. combination chemotherapy, body mass index, serum hemoglobin and serum albumin.

Results: 581 doses of Pegfilgrastim were administered to 183 patients. Median age of patients was 45 (14–85) years and 120 patients (65.5%) were females. 49 episodes of BTFN occurred after the use of 581 injections of Pegfilgrastim resulting in an incidence of 8.4%. Out of 183 patients, 40 (21.9%) developed one or more episode of BTFN. None of the above analyzed variables were found to be a significant risk factor for the development of BTFN. Only serum albumin level showed a trend towards significance.



37.5% patients with low serum albumin level developed BTFN c/w 20.3% patients with normal serum albumin (p=0.06).

Conclusion: Incidence of BTFN after the use of Pegfilgrastim in our Middle Eastern cancer patient population was found to be 8.4%. Low albumin level indicating malnutrition in cancer patients has shown a non-significant trend toward development of BTFN.



| Research Title: | Breast Cancer Knowledge Among Male High School |
|---------------------------|---|
| | Students in Saudi Arabia |
| Source: | Journal of Cancer Education |
| | Springer US |
| | Page: 1-5 |
| ISSN: | 1543-0154 |
| Month and Year of | NOV 2015 |
| Publication: | NOV 2013 |
| Impact Factor: | 1.054 |
| Affiliated Department(s): | Medicine; Clinical Biochemistry; Medical Education; |
| | Sheikh Mohammed Hussien AL-Amoudi Center of |
| | Excellence in Breast Cancer |
| | Samia Al-Amoudi, Moaiad Tariq Abdul-Aziz AlHomied, |
| | Nasser Youssef Nasser AlSayegh, Osama Naseem Ismail |
| Author(g) | Radi, Mohammed Majed Suliman Zagzoog, Omar Faisal |
| Autnor(s): | Mubarak Aloufi, Abdullah Abdulkarim Ali Al-Harbi, |
| | Safwan Tayeb, Mohammed Hassanien, Mahmoud Al- |
| | Ahwal, Basem Eldeek, Steve Harakeh |
| Correspondent's Email: | dr.samia_amoudi@hotmail.com |

ABSTRACT

Breast cancer (BC) accounts for 24 % of all women cancer cases diagnosed in Saudi Arabia each year. Awareness is extremely important in combating this disease. This study was undertaken to assess male high school students' response to BC. This cross-sectional survey was performed on male high school students across schools in Jeddah. A questionnaire gathered data on respondent demographics, beliefs about BC, BC risk factors, early screening methods, and role of men in BC. Statistical analysis was done using SPSS 20. A total of 824 students participated, with an average age of 17.0 years. There was more than 50 % agreement that early detection of BC enhances the chances of recovery, that BC is treatable, and that clinical breast examination and breastfeeding provide protection from BC. Around half the survey population thought that BC was fatal and contagious. Fewer than 50 % thought that BC was inherited and related to smoking, consumption of contraceptive pills, repeated exposure to radiation, obesity, and wearing a bra and that breast tumors were all malignant and spread to different parts of the body. Others knew that mammograms should be performed periodically. A high percentage persuaded their relatives to have mammograms and provided them with psychological support. Knowledge of BC among male high school students in Saudi Arabia is still limited, and, therefore, programs and activities need to be established to increase awareness among high school students.



| Research Title: | Cancellation of operations in Saudi Arabian hospitals: |
|---------------------------|--|
| | Frequency, reasons and suggestions for improvements |
| Source: | Pakistan Journal of Medical Sciences |
| | Professional Medical Publications |
| | Vol. 31, Issue 5, Page: 1027-1032 |
| ISSN: | 1682-024X |
| Month and Year of | CEDT 2015 |
| Publication: | SEP1 2015 |
| Impact Factor: | 0.231 |
| Affiliated Department(s): | Medicine; Clinical Biochemistry |
| Author(s): | Khalid O Dhafar, Mutaliq A Ulmalki, Mohammad A |
| | Felemban, Mohammed Eid Mahfouz, Mostafa J Baljoon, |
| | Zohair J Gazzaz, Mukhtiar Baig, Noha Mansoor Hamish, |
| | Saeed A AlThobaiti, Fouzia Talea Al-Hothali |
| Correspondent's Email: | research@healthcareexpertise.org |

ABSTRACT

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

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

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

Conclusions: Present study found 7.6% cancelation rate in Makkah region hospitals and three most common causes for cancellations were patients related, facility related and improper work-up.



| Research Title: | Characterization of familial breast cancer in Saudi Arabia. |
|---------------------------|---|
| Source: | BMC Genomics |
| | Biomed Central Ltd |
| | Vol. 16, Supplement 1, Page: 3-3 |
| ISSN: | 1471-2164 |
| Month and Year of | IAN 2015 |
| Publication: | JAN 2015 |
| Impact Factor: | 4.041 |
| Affiliated Department(s): | Medicine; Pathology; Surgery |
| Author(s): | Adnan Merdad, Mamdooh A Gari, Shireen Hussein, |
| | Shadi Al-Khayat, Hana Tashkandi, Jaudah Al-Maghrabi, |
| | Fatma Al-Thubaiti, Ibtessam R Hussein, Taha |
| | Koumosani, Nehad Shaer, Adeel G Chaudhary, Adel M |
| | Abuzenadah, Mohammed H Al-Qahtani, Ashraf Dallol |
| Correspondent's Email: | n/a |

ABSTRACT

Background: The contribution of genetic factors to the development of breast cancer in the admixed and consanguineous population of the western region of Saudi Arabia is thought to be significant as the disease is early onset. 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. The advent of whole-exome sequencing is offering a unique opportunity to identify the breast cancer susceptibility genes in each family of sufferers. The polymorphisms mutations identified will then allow for personalizing the genetic screening tests accordingly. To this end, we have performed whole exome sequencing of seven breast cancer patients with positive family history of the disease using the Agilent SureSelect T Whole-Exome Enrichment kit and sequencing on the SOLiD T platform.

Results: We have identified several coding single nucleotide variations that were either novel or rare affecting genes controlling DNA repair in the BRCA1.2 pathway.

Conclusion: The disruption of DNA repair pathways is very likely to contribute to breast cancer susceptibility in the Saudi population.



| Research Title: | Chemokine receptors expression on peripheral CD4- lymphocytes in rheumatoid arthritis: Coexpression of |
|----------------------------------|---|
| | CCR7 and CD95 is associated with disease activity |
| | Saudi Journal of Biological Sciences |
| Source: | Elsevier Science Bv |
| | Vol. 22, Issue 4, Page: 453-458 |
| ISSN: | 1319-562X |
| Month and Year of | H H 2015 |
| Publication: | JOE 2015 |
| Impact Factor: | 0.741 |
| Affiliated Department(s): | Medicine |
| Author(s): | Alia M Aldahlawi, Mohammed F Elshal, Fai T Ashgan, |
| | Sami Bahlas |
| Correspondent's Email: | alia.aldahlawi@yahoo.com |

ABSTRACT

Rheumatoid arthritis (RA) is a chronic autoimmune disease characterized by synovial inflammation triggered by infiltrating CD4 lymphocytes. The positioning and activation of lymphocyte in inflamed synovial tissues are dependent on a number of factors including their chemokine receptor expression profile. We aimed to investigate which chemokine receptors pattern correlate with serum cytokine levels and with disease activity. Forty patients with RA (34 female and 6 male) with age range from 21 to 68 years were included. Twenty healthy volunteers (16 female and 4 male) with matched age (range 21-48 years) were served as healthy controls (HCs). Expression of chemokine receptors (CCR5, CX3CR1 and CCR7) together with the apoptosis-related marker (CD95) was analyzed using three-color flow cytometry analysis after gating on CD4(+) peripheral blood lymphocytes. Plasma levels of IL-6, IL-10, IL-12 and TNF-alpha cytokines were measured in all participants using ELISA. Disease activity score (DAS28-CRP) system was assessed and active disease was defined as DAS28 P3.2. Twenty-five (62.4%) patients were classified as active RA (ARA) and 15 (37.5%) patients with inactive RA (IRA). Percentages of CD4(+) lymphocytes expressing CD95 with either of CCR7 or CCR5 were significantly higher in ARA compared to IRA and HCs groups, while the expression of CX3CR1 on T-cells was found significantly lower in both CD95(-) and CD95(+) T-cells in RA groups than HC. Percentages of CD4(+) CD95(+) CCR7(+) cells correlated positively with IL-6 (r = 0.390). Whereas CD4(+) CD95(+) CX3CR1(+) were negatively correlated with TNF-alpha (r = -0.261). Correlation of CD4(+) CD95(+) CCR7(+) T cell subset with disease activity and inflammatory cytokines suggests a role for this cell subset in the pathogenesis of RA. Further investigation will be required to fully characterize this cell subset and its role in disease progression. (C) 2015 The Authors. Production and hosting by Elsevier B.V. on behalf of King Saud University.



| Research Title: | Clinical characteristics of patients with diabetic |
|----------------------------------|---|
| | ketoacidosis at the Intensive Care Unit of a University |
| | Hospital |
| | Pakistan Journal of Medical Sciences |
| Source: | Professional Medical Publications |
| | Vol. 31, Issue 6, Page: 1463-1466 |
| ISSN: | 1682-024X |
| Month and Year of | NOV 2015 |
| Publication: | NOV 2013 |
| Impact Factor: | 0.231 |
| Affiliated Department(s): | Medicine |
| Author(s): | Faiza Abdulaziz Qari |
| Correspondent's Email: | faizaqari@gmail.com |

ABSTRACT

Objectives: The aims of this study were assessing the frequency of clinical characteristics of patients with severe Diabetic ketoacidosis (DKA) who were admitted to the intensive care unit (ICU) and investigating the relationship between paraclinical (glucose, anion gap, and serum bicarbonate) and clinical parameters in patients with severe DKA.

Method: A retrospective chart review of all adult patients with DKA who were admitted to the ICU at King Abdulaziz University Hospital, Jeddah, Saudi Arabia between January 2012 and December 2013. The data collected include the demographic data, clinical presentation, precipitating factors, duration of hospital stay and mortality rate. The data were analyzed using STAT software.

Results: A total of 60 patients were included. Of these, 50 were men (83.3%). The median age was 23 years (ranging 18-29 years). Newly diagnosed diabetics accounted for 15 (25%) of the cases; the remainder were previously known patients of type1 diabetes on treatment. The main precipitating factors of DKA were insulin treatment cessation (87.5%) and infection/sepsis (39.6%). Serum blood glucose, serum bicarbonate level, and the calculated anion gap did not significantly correlate with clinical parameters of severe DKA.

Conclusion: Most patients with severe DKA who were admitted to the ICU of our institution presented with gastrointestinal symptoms. Non-compliance to insulin therapy was the main precipitating factor of DKA.



| Research Title: | c-MET immunostaining in colorectal carcinoma is |
|---------------------------|--|
| | associated with local disease recurrence |
| Source: | BMC Cancer |
| | Biomed Central Ltd |
| | Volume 15, Page: 676 |
| ISSN: | 1471-2407 |
| Month and Year of | OCT 2015 |
| Publication: | 001 2013 |
| Impact Factor: | 3.362 |
| Affiliated Department(s): | Medicine; Pathology; Colon Cancer Chair |
| | Jaudah Al-Maghrabi, Eman Emam, Wafaey Gomaa, |
| Author(s): | Moaath Saggaf, Abdelbaset Buhmeida, Mohammad Al- |
| | Qahtani, Mahmoud Al-Ahwal |
| Correspondent's Email: | jalmaghrabi@hotmail.com, iman.emam20@gmail.com, |
| | wafgom@yahoo.com, mo3athe@hotmail.com, |
| | buhmeida7@yahoo.com, mhalqahtani@kau.edu.sa, |
| | mahwal@kau.edu.sa |

ABSTRACT

Background: Increased mesenchymal-epithelial transition factor gene (c-MET) expression in several human malignancies is related to increased tumour progression. The aim of the present study is to explore the relationship between immunohistochemical expression of c-MET in colorectal carcinoma (CRC) and the clinicopathological characteristics and follow up data, to compare the expression of c-MET in primary CRC and its metastasis in lymph nodes and to test its validity as independent prognostic factor.

Methods: Hundred and thirty-five archival CRC and nodal metastases samples were collected from King Abdulaziz University Hospital, Saudi Arabia. Tissue microarrays were constructed and immunohistochemistry was done to detected c-MET protein expression. Appropriate statistical analysis was performed.

Results: High c-MET immunostaining was significantly associated with tumour size larger than 5 cm (p < 0.003) and in left colon subsite (p < 0.05). There was no significant correlation between c-MET protein expression and age, sex, degree of differentiation, tumour invasion, presence of nodal metastasis, lymphovascular invasion, status of surgical resection margin, or presence of distant metastasis. Furthermore, no association between c-MET protein expression and disease free survival. High protein expression of c-MET is associated with the incidence of local disease recurrence (p < 0.012).

Conclusion: c-MET is a new promising target that may help in understanding the pathogenesis of CRC, and to be used as independent prognostic biomarker to predict local disease recurrence in CRC. Further molecular in vitro and in vivo studies are required to pursue c-MET as potential molecular marker of metastases and test the possibility of its incorporation as a new targeted therapeutic target.



| Research Title: | Combination therapy for the treatment of Crohn's disease |
|-------------------------------|--|
| | Expert Opinion on Biological Therapy |
| Source: | Taylor & Francis Ltd |
| | Vol. 15, Issue 10, Page: 1429-1442 |
| ISSN: | 1471-2598 |
| Month and Year of | JUL 2015 |
| Publication: | |
| Impact Factor: | 3.743 |
| Affiliated Department(s): | Medicine |
| Author(s): | Mahmoud H Mosli, Brian G Feagan |
| Correspondent's Email: | n/a |

ABSTRACT

Introduction: Crohn's disease (CD) is an idiopathic inflammatory disorder of the gastrointestinal tract traditionally treated by the step-wise use of corticosteroids, antimetabolites and TNF-alpha antagonists. However, recent evidence indicates that the early introduction of drug combinations might be a superior strategy to step-care.

Areas covered: In this article, we review existing literature regarding the efficacy and safety of combination drug therapy for the management of CD. Five major databases: MEDLINE, EMBASE, PubMed, the Cochrane Library (CENTRAL) and DDW abstracts were electronically searched from inception to February 2015 for any relevant studies.

Expert opinion: Existing data strongly support the use of combination therapy for CD. The benefit of this approach appears to outweigh any associated risks. Until the role of gut selective therapies are better established, combination therapy should be considered the standard treatment approach for CD.



| Research Title: | Comparison of the gut microbiota of people in France and |
|-------------------------------|--|
| | Saudi Arabia |
| | Nutrition & Diabetes |
| Source: | Nature Publishing Group |
| | Vol. 5, Page: 153 |
| ISSN: | 2044-4052 |
| Month and Year of | ADD 2015 |
| Publication: | APK 2015 |
| Impact Factor: | 1.517 |
| Affiliated Department(s): | Medicine; Microbiology and Medical Parasitology |
| | M Yasir, E Angelakis, F Bibi, EI Azhar, D Bachar, JC |
| Author(s): | Lagier, B Gaborit, AM Hassan, AA Jiman-Fatani, KZ |
| | Alshali, C Robert, A Dutour, D Raoult |
| Correspondent's Email: | Didier.raoult@gmail.com |

ABSTRACT

Background/Objectives: The gut microbiota contributes to energy acquisition from food, and changes in the gut microbiome are associated with obesity. The eating habits of Saudis are much different than those of Europeans, and our objective was to compare the fecal microbiota of obese and normal weight Saudis and French.

Subjects/Methods: Illumina MiSeq deep sequencing was used to test the gut microbiota of 9 normal weight and 9 obese individuals from Saudi Arabia and 16 normal weight and 12 obese individuals from France.

Results: Obese French possessed significantly more relative Proteobacteria (P = 0.002) and Bacteroidetes (P = 0.05) and had lower richness and biodiversity at all the operational taxonomic unit (OTU) cutoffs (Po0.05) than normal weight French. Obese Saudis possessed significantly more Firmicutes (P = 0.001) without a difference in richness (P = 0.2) and biodiversity (P = 0.3) compared with normal weight Saudis. We found a common bacterial species core of 23 species existing in >= 50% of obese and normal weight Saudis and 29 species in. 50% of obese and normal weight French. Actinomyces odontolyticus, Escherichia coli and Ruminococcus obeum were present in at least 50% of all individuals tested. French individuals had significantly higher richness and biodiversity compared with Saudis at all the OTU cutoffs (P < 0.05).

Conclusion: Microbiota differences between obese and normal weight French were not similar to those between obese and normal weight Saudis. The studies of different populations can result in contrasting data regarding the associations of the gut microbiota and obesity.



| Research Title: | Complete genome sequencing and phylogenetic analysis of dengue type 1 virus isolated from Jeddah, Saudi Arabia |
|-----------------------------------|---|
| Source: | Virology Journal Biomed Central Ltd Vol. 11, Issue 1, Page: 1-11 |
| ISSN: | 1743-422X |
| Month and Year of Publication: | JAN 2015 |
| Impact Factor: | 2.089 |
| Affiliated Department(s): | Medicine; Microbiology and Medical Parasitology |
| Author(s): | Esam I Azhar, Anwar M Hashem, Sherif A El-Kafrawy, Said Abol-Ela, Adly MM Abd-Alla, Sayed Sartaj Sohrab, Suha A Farraj, Norah A Othman, Huda G Ben-Helaby, Ahmed Ashshi, Tariq A Madani, Ghazi Jamjoom |
| Correspondent's Email: | n/a |

ABSTRACT

Background: Dengue viruses (DENVs) are mosquito-borne viruses which can cause disease ranging from mild fever to severe dengue infection. These viruses are endemic in several tropical and subtropical regions. Multiple outbreaks of DENV serotypes 1, 2 and 3 DENV-1, DENV-2 and DENV-3) have been reported from the western region in Saudi Arabia since 1994. Strains from at least two genotypes of DENV-1 Asia and America/Africa genotypes) have been circulating in western Saudi Arabia until 2006. However, all previous studies reported from Saudi Arabia were based on partial sequencing data of the envelope E) gene without any reports of full genome sequences for any DENV serotypes circulating in Saudi Arabia.

Findings: Here, we report the isolation and the first complete genome sequence of a DENV-1 strain DENV-1-Jeddah-1-2011) isolated from a patient from Jeddah, Saudi Arabia in 2011. Whole genome sequence alignment and phylogenetic analysis showed high similarity between DENV-1-Jeddah-1-2011 strain and D1/H/IMTSSA/98/606 isolate Asian genotype) reported from Djibouti in 1998. Further analysis of the full envelope gene revealed a close relationship between DENV-1-Jeddah-1-2011 strain and isolates reported between 2004-2006 from Jeddah as well as recent isolates from Somalia, suggesting the widespread of the Asian genotype in this region.

Conclusions: These data suggest that strains belonging to the Asian genotype might have been introduced into Saudi Arabia long before 2004 most probably by African pilgrims and continued to circulate in western Saudi Arabia at least until 2011. Most importantly, these results indicate that pilgrims from dengue endemic regions can play an important role in the spread of new DENVs in Saudi Arabia and the rest of the world. Therefore, availability of complete genome sequences would serve as a reference for future epidemiological studies of DENV-1 viruses.



| Research Title: | Complicated Pulmonary Hydatid Disease: A Case Report |
|----------------------------------|--|
| | with Literature Review |
| Source: | Saudi Journal of Internal Medicine |
| | Saudi Society of Internal Medicine |
| | Vol. 5, Issue 1, Page: 47-52 |
| ISSN: | 1658-5763 |
| Month and Year of | HIN 2015 |
| Publication: | JUN 2015 |
| Impact Factor: | n/a |
| Affiliated Department(s): | Medicine |
| Author(s): | Shaza A Samargandy |
| Correspondent's Email: | n/a |

ABSTRACT

Hydatid disease is a zoonotic parasitic infection that is more prevalent in the developing world and among pastoral communities. This report discusses this case along with a brief review of the pulmonary echinococcosis literature. This is a case report of a pulmonary hydatid disease in a young man whose disease course was complicated by spontaneous pneumothorax and empyema. His chest computerized tomography scan revealed the characteristic (Water Lily sign) which is pathognomonic for pulmonary hydatosis. With proper anti-helminthic and antibiotic treatment along with surgical management, the patient made a remarkable recovery. Pulmonary hydatidosis in not uncommon in this region. Diagnosis can be reached through careful history, imaging and serological testing. Primary treatment is pharmacological, but surgical interventions may be warranted in select cases.



| Research Title: | C-Reactive Protein, Fecal Calprotectin, and Stool |
|----------------------------------|--|
| | Lactoferrin for Detection of Endoscopic Activity in |
| | Symptomatic Inflammatory Bowel Disease Patients: A |
| | Systematic Review and Meta-Analysis |
| Source: | American Journal of Gastroenterology |
| | Nature Publishing Group |
| | Vol. 110, Issue 6, Page: 802-819 |
| ISSN: | 1572-0241 |
| Month and Year of | IUN 2015 |
| Publication: | JUN 2013 |
| Impact Factor: | 10.755 |
| Affiliated Department(s): | Medicine |
| Author(s): | Mahmoud H Mosli, Guangyong Zou, Sushil K Garg, Sean |
| | G Feagan, John K MacDonald, Nilesh Chande, William J |
| | Sandborn, Brian G Feagan |
| Correspondent's Email: | Brian.feagan@robartsinc.com |

ABSTRACT

Objectives: Persistent disease activity is associated with a poor prognosis in inflammatory bowel disease (IBD). Therefore, monitoring of patients with intent to suppress subclinical inflammation has emerged as a treatment concept. As endoscopic monitoring is invasive and resource intensive, identification of valid markers of disease activity is a priority. The objective was to evaluate the diagnostic accuracy of C-reactive protein (CRP), fecal calprotectin (FC), and stool lactoferrin (SL) for assessment of endoscopically defined disease activity in IBD.

Methods: Databases were searched from inception to November 6, 2014 for relevant cohort and case-control studies that evaluated the diagnostic accuracy of CRP, FC, or SL and used endoscopy as a gold standard in patients with symptoms consistent with active IBD. Sensitivities and specificities were pooled to generate operating property estimates for each test using a bivariate diagnostic meta-analysis.

Results: Nineteen studies (n = 2499 patients) were eligible. The pooled sensitivity and specificity estimates for CRP, FC, and SL were 0.49 (95% confidence interval (CI) 0.34-0.64) and 0.92 (95% CI 0.72-0.96), 0.88 (95% CI 0.84-0.90) and 0.73 (95% CI 0.66-0.79), and 0.82 (95% CI 0.73-0.88) and 0.79 (95% CI 0.62-0.89), respectively. FC was more sensitive than CRP in both diseases and was more sensitive in ulcerative colitis than Crohn's disease.

Conclusions: Although CRP, FC, and SL are useful biomarkers, their value in managing individual patients must be considered in specific clinical contexts.



| Research Title: | Current Evidence on Platelet P2Y(12) Receptor |
|---------------------------|--|
| | Inhibitors: Is There Still a Role for Clopidogrel in 2015? |
| Source: | Canadian Journal of Cardiology |
| | Elsevier Science Inc |
| | Vol. 31, Issue 12, Page: 1481-1484 |
| ISSN: | 1916-7075 |
| Month and Year of | DEC 2015 |
| Publication: | |
| Impact Factor: | 3.711 |
| Affiliated Department(s): | Medicine |
| Author(s): | Mohammed A Qutub, Aun-Yeong Chong, Derek YF So |
| Correspondent's Email: | dso@ottawa.heart.ca |

ABSTRACT

Antiplatelets play a significant role in the management of patients with coronary disease. Novel inhibitors of the platelet P2Y(12) receptor have more rapid, potent, and consistent inhibitory effect on platelets compared with clopidogrel. Evidence from large clinical studies have defined populations in which novel agents are superior to clopidogrel. Ticagrelor or prasugrel in addition to aspirin should be used preferentially for patients with ST-elevation myocardial infarction because of significant anti-ischemic benefits. In patients with non-ST segment elevation acute coronary syndromes, ticagrelor has proven superiority over clopidogrel whether or not an invasive strategy is adopted, and prasugrel has been shown to be beneficial when started at the time of percutaneous coronary intervention. Of note, neither prasugrel nor ticagrelor have been studied in patients who underwent percutaneous coronary intervention for stable coronary disease or those who required 'triple therapy.' In these situations, clopidogrel should remain the default until further data are available. Prolonged use of clopidogrel in patients with drug-eluting stents beyond 12 months is emerging as a novel indication for the agent.



| Research Title: | Cystatin C is an early marker of contrast-induced |
|----------------------------------|---|
| | nephropathy in patients with sepsis in the intensive care |
| | unit |
| | Saudi Journal of Kidney Diseases and Transplantation |
| Source: | Wolters Kluwer - Medknow |
| | Vol. 26, Issue 4, Page: 718-724 |
| ISSN: | 2320-3838 |
| Month and Year of | HH 2015 |
| Publication: | JUL 2013 |
| Impact Factor: | n/a |
| Affiliated Department(s): | Medicine |
| Author(s): | Fatima I Al-Beladi |
| Correspondent's Email: | n/a |

ABSTRACT

Contrast-induced nephropathy (CIN) is becoming an increasingly common cause of acute kidney injury in hospitalized patients. To evaluate the prevalence of CIN in critically ill patients, we conducted a prospective study on intensive care unit patients who had undergone diagnostic computed tomography scan or non-coronary angiography with intravenous administration of iodinated contrast media. Patient demographics, disease characteristics and biochemical markers, including cystatin C, creatinine and urea, were compared between the patients who developed and those who did not develop CIN. A total of 42 patients were diagnosed with sepsis, 52 were diagnosed with diabetes mellitus, 18 with ischemic heart disease and 49 with hypertension. We found a similar incidence of CIN among the groups (28.6-36.8%). There was no association of patient age, gender or body mass index with the development of CIN. In sepsis patients, cystatin C levels were significantly raised at baseline in patients who developed CIN (P = 0.020) and also on the day before CIN was detected (P = 0.035) and the day of CIN detection (P = 0.012). No associations with cystatin C or other serum or urinary biomarkers were detected in any of the other disease groups. In conclusion, a relatively high prevalence of CIN was found in all disease groups. No demographic or disease factors were found to be associated with the development of CIN. Cystatin C may be a useful early marker of CIN in sepsis patients, but further work is required to understand the difference in cystatin C expression levels in patients with different underlying pathologies.



| Research Title: | De Novo intracerebral aneurysm in a child with acquired |
|----------------------------------|---|
| | immunodeficiency syndrome |
| Source: | Neurosciences (Riyadh, Saudi Arabia) |
| | Europe PubMed Centra |
| | Vol. 20, Issue 3, Page: 285-291 |
| ISSN: | 1658-3183 |
| Month and Year of | H.H. 2015 |
| Publication: | JUL 2015 |
| Impact Factor: | 0.391 |
| Affiliated Department(s): | Medicine; Radiology; Surgery |
| Author(s): | Mohamad G Bakhaidar, Naushad A Ahamed, Mohammed |
| | A Almekhlafi, Saleh S Baeesa |
| Correspondent's Email: | sbaeesa@kau.edu.sa |

ABSTRACT

Human immunodeficiency virus (HIV) infection associated aneurysmal vasculopathy is a rare complication of HIV infection affecting the pediatric and adult population. We present a case of a 7-year-old male child known to have a congenitally acquired HIV infection presenting with a ruptured left distal internal carotid artery fusiform aneurysm that was diagnosed on MRI scans 6 months prior to his presentation. He underwent craniotomy and successful aneurysm reconstruction. He had uncomplicated postoperative course and experienced a good recovery. This case is among the few reported pediatric cases of HIV-associated cerebral arteriopathy to undergo surgery. We also reviewed the relevant literature of this rare condition.



| Research Title: | Depression And Quality Of Life In Children With Sickle |
|-------------------------------|--|
| | Cell Disease: The Effect Of Social Support |
| Source: | BMC Psychiatry |
| | BioMed Central Ltd |
| | Vol. 29, Issue 1, Page: 177 |
| ISSN: | 1471-244X |
| Month and Year of | A DD 2015 |
| Publication: | AI K 2015 |
| Impact Factor: | 2.24 |
| Affiliated Department(s): | Medicine; Pediatrics |
| Author(s): | Mohammad G Sehlo, Hayat Z Kamfar |
| Correspondent's Email: | sehlo68@gmail.com |

ABSTRACT

Background: The majority of available studies have shown that children with sickle cell disease (SCD) have a higher risk of depressive symptoms than those without. The present study aimed to: assess the prevalence of depression in a sample of children with SCD; evaluate the association between disease severity, social support and depression, and the combined and/or singular effect on health-related quality of life (HRQL) in children with SCD; and show the predictive value of social support and disease severity on depression.

Methods: A total of 120 children were included in the study, 60 (group I) with SCD and 60 matched, healthy control children (group II). Depression was assessed in both groups using the Children's Depression Inventory (CDI) and the Children's Depression Inventory-Parent (CDI-P). Children with CDI and CDI-P scores of more than 12 were interviewed for further assessment of depression using the Diagnostic Interview Schedule for Children Version IV (DISC-IV). The Pediatric Quality of Life Inventory Version 4.0 Generic Core Scales (PedsQL 4.0) was used to assess HRQL in both groups, and social support was measured with the Child and Adolescent Social Support Scale (CASSS).

Results: Eight (13%) of the 60 children with SCD had CDI and CDI-P scores of more than 12 (CDI mean score 14.50 \pm 1.19, CDI-P mean score 14.13 \pm 1.12), and were diagnosed as having clinical depression using the diagnostic interview DISC-IV. For group I, HRQL was poor across all PedsQL 4.0 domains in both self- and parent-reports (P < 0.001) compared with group II. A higher level of parent support was a significantly associated with decreased depressive symptoms, demonstrated by lower CDI scores. Better quality of life was shown by the associated higher total PedsQL 4.0 self-scores of children with SCD (B = -1.79, P = 0.01 and B = 1.89, P = 0.02 respectively).

Conclusions: The present study demonstrates that higher levels of parent support were significantly associated with decreased depressive symptoms and better quality of life in children with SCD. Interventions focused on increasing parent support may be an important part of treatment for depression in children with SCD.



| Research Title: | Depression In Female Patients With Rheumatoid |
|----------------------------------|---|
| | Arthritis: The Effect Of Physical Disability And Family |
| | Support |
| Source: | European Psychiatry |
| | Ovid Technologies, Inc. |
| ISSN: | 2090-5408 |
| Month and Year of | II II 2015 |
| Publication: | JOE 2015 |
| Impact Factor: | 3.21 |
| Affiliated Department(s): | Medicine |
| Author(s): | Mohammad G Sehlo, Sami M Bahlas |
| Correspondent's Email: | n/a |

ABSTRACT

Objectives: (a) To assess the rate of depression in a sample of female patients with rheumatoid arthritis (RA); (b) to evaluate the factors associated with depression in those patients; (c) to evaluate the impact of family support on depression in those patients.

Participants and methods: In a cross-sectional study, 100 female patients with RA were recruited in the study (mean age=39.98+/-7.4). Depression was diagnosed in those patients using the Structured Clinical Interview for DSM-IV Axis [IOTA] disorders, clinical version (SCID-I-CV) and its severity was assessed using the Center for Epidemiologic Studies-Depression Scale (CES-D), family support was assessed using the Family Cohesion Subscale of the Family Environment Scale, physical disability was measured using the Health Assessment Questionnaire Disability Index (HAQ-DI) and the disease activity was measured using the 'Disease Activity Score' for 28 joints (DAS 28).

Results: The rate of depression among female patients with RA was 24% (24/100), there was a significant association between increased severity of physical disability and increased risk and severity of depression (odds ratio=2.39; 95% confidence interval=1.1-4.2; P=0.02 and B=0.15, P=0.03, respectively). Higher levels of family support were significantly associated with decreased risk [for every unit increase on the Family Cohesion Subscale physical, the likelihood of depressive disorder decreased by 15% (odds ratio=0.85; 95% confidence interval=0.69-0.98, P=0.01)] and severity of depression (B=-0.29, P=0.001).

Conclusion: Our results demonstrate that increased physical disability was associated with an increased risk and severity of depression in female patients with RA and higher levels of family support were associated with decreased risk and severity of depression. Family support has an important role in improving the symptoms of depression and family therapy aiming to increase the family support may be very beneficial in improving depression and subsequently preventing the serious consequences of depression in those patients.



| Research Title: | Depression in patients with colorectal cancer in Saudi |
|----------------------------------|--|
| | Arabia |
| | Psycho-Oncology |
| Source: | Wiley-Blackwell |
| | Vol. 24, Issue 9, Page: 1043-1050 |
| ISSN: | 1099-1611 |
| Month and Year of | CEDT 2015 |
| Publication: | SEF 1 2015 |
| Impact Factor: | 2.443 |
| Affiliated Department(s): | Medicine |
| | Mahmoud Shaheen Al Ahwal, Faten Al Zaben, Doaa |
| Author(s): | Ahmed Khalifa, Mohammad Gamal Sehlo, Rami Ghazi |
| | Ahmad, Harold G Koenig |
| Correspondent's Email: | n/a |

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 2weeks 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.



| | Determinente of later size Cons Unit Transferrin Detionts |
|---------------------------|---|
| | Determinants of Intensive Care Unit Transfer in Patients |
| Research Title: | Admitted to the Medical Ward of an Academic Hospital in |
| | Jeddah |
| | Saudi Journal of Internal Medicine |
| Source: | Saudi Society of Internal Medicine |
| | Vol. 5, Issue 1, Page: 25-30 |
| ISSN: | 1658-5763 |
| Month and Year of | HIN 2015 |
| Publication: | JUN 2015 |
| Impact Factor: | n/a |
| Affiliated Department(s): | Medicine |
| | Kamal W AlGhalayini, Mohamed N AlAma, Wesam A |
| | Alhejily, Mohammed Abdulwahab, Hind I Fallatah, Hani A |
| | Jawa, Yousef A Qari, Salim M Bazarah, Ahmed A Al |
| | Johaney, Siraj O Wali, Ayman K Sanosi, Aisha A Alshareef, |
| | Omar A Ayoub, Abdulraheem M Alshehri, Mohammed A |
| Author(s): | Almekhlafi Shadi S Alkhayyat Atlal M AbuSanad Fatma I |
| | Al Beladi Omar Fathalddin Amani M Alhozali Hala H |
| | Mosli Khould A Ghamri Nawal N Binhasher Hanadi |
| | Albergeli Dana Nahlawi Mahammad A Dashaikh Taraaf V |
| | Alhozali, Kana Naolawi, Monammed A Basheikh, Tareel Y |
| | Al Aama, Faten N Al Zaben, Fahad Alsulami, Aroub A |
| | AlKaaki |
| Correspondent's Email: | n/a |

ABSTRACT

Objective: This study aimed to identify the proportion of patients who had clinical deterioration in the medical ward that required intensive care unit transfer and the factors associated with this transfer.

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

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

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



| Research Title: | Development and cognitive functions in Saudi pre-school |
|----------------------------------|---|
| | children with feeding problems without underlying |
| | medical disorders |
| | Journal of Paediatrics and Child Health |
| Source: | Wiley-Blackwell |
| | Vol. 51, Issue 9, Page: 906-912 |
| ISSN: | 1034-4810 |
| Month and Year of | ADD 2015 |
| Publication: | AFK 2015 |
| Impact Factor: | 1.151 |
| Affiliated Department(s): | Medicine; Family Medicine |
| Author(s): | Moustafa A Hegazi, Mohammad G Sehlo, Albandari |
| | Al-Jasir, Basem S El-Deek |
| Correspondent's Email: | mhegazi712003@yahoo.co.uk |

ABSTRACT

Aim: This study was conducted to assess development and cognitive functions in relation to growth in Saudi pre-school children with feeding problems (FPs) without underlying medical disorders.

Methods: Three hundred fifteen pre-school children with FPs (221 with normal growth (FP-N), 62 with failure to thrive (FTT) (FP-FTT), 32 with overweight (FP-OW)) and 100 healthy children (Ref group) underwent in-depth assessment by anthropometric measurements, dietetic history, Behavioral Pediatrics Feeding Assessment Scale, Denver Developmental Screening test (DDST) and Stanford Binet fifth edition intelligence scales (SB-5).

Results: The main FPs detected in Saudi children were picky eating in 85.5% of FP-N group, infantile anorexia and poor eating in more than 90% of FP-FTT group and overeating in 53% of FP-OW group. FPs were not due to evident psychosocial factors but were mostly related to unhealthy feeding behaviours. FP-N children were still having normal growth parameters, but they had significantly lower growth parameters than healthy children. Failed screening with DDST was only more significantly recorded in FP-FTT children than in Ref children (P = 0.04). The overall IQ value by SB-5 was significantly lower in FP-FTT group compared with FP-N group (P = 0.01), in FP-FTT group compared with Ref group (P < 0.001) as well as in FP-OW group compared with Ref group (P < 0.001).

Conclusions: Persistent FPs resulted in significant negative impact not only on growth status but also on developmental milestones and cognitive functions of pre-school children. Healthy feeding habits are mandatory to prevent serious consequences of FPs on growth and development of Saudi pre-school children.



| | Development of interim patient-reported outcome |
|---------------------------|---|
| Research Title: | measures for the assessment of ulcerative colitis disease |
| | activity in clinical trials |
| | Alimentary Pharmacology & Therapeutics |
| Source: | Wiley-Blackwell |
| | Vol. 42, Issue 10, Page: 1200-1210 |
| ISSN: | 1365-2036 |
| Month and Year of | NOV 2015 |
| Publication: | NOV 2013 |
| Impact Factor: | 5.727 |
| Affiliated Department(s): | Medicine |
| | V Jairath, R Khanna, GY Zou, L Stitt, M Mosli, MK |
| Author(s): | Vandervoort, G D'Haens, WJ Sandborn, BG Feagan, BG |
| | Levesque |
| Correspondent's Email: | bglevesque@ucsd.edu |

ABSTRACT

Background: Patient-reported outcomes (PROs) have an increasingly important role in the evaluation of new therapies for inflammatory bowel disease. The US Food and Drug Administration has issued formal guidance to describe the role of PRO instruments in evaluation of claims for product labelling. However, no validated PRO exists for ulcerative colitis.

Aim: To investigate whether the PROs from the Mayo Clinic Score (MCS) for UC can be modified, to develop an interim PRO for use in clinical trials, alone or in combination with endoscopy.

Methods: Data from an induction trial of a mesalazine (mesalamine) formulation were used to compare effect sizes between mesalazine and placebo for PRO items (stool frequency and rectal bleeding) alone and in combination with endoscopy. The operating properties of the PRO were validated using data from a phase 2 trial of MLN02, a humanised antibody to the 47 integrin in patients with UC.

Results: A two-item PRO (PRO2) consisting of rectal bleeding = 0 and stool frequency 1 or 2, combined with an endoscopy subscore 1 yielded statistically significant differences between active drug and placebo. This combination yielded the most similar effect sizes and placebo rates for remission, compared to the primary trials. Use of PRO items alone yielded high placebo remission rates in both data sets, although rates were lower when the items were combined and remission defined as PRO2 = 0.

Conclusion: Patient-reported outcomes items derived from the Mayo Clinic Score combined with endoscopy as a co-primary endpoint may be an appropriate interim outcome measure for ulcerative colitis trials.



| Research Title: | Development of stroke-induced quadriplegia after |
|----------------------------------|---|
| | endovascular repair of blunt aortic injury pseudoaneurysm |
| Source: | Neurosciences |
| | Riyadh Armed Forces Hospital |
| | Vol. 20, Issue 1, Page: 52-54 |
| ISSN: | 1319-6138 |
| Month and Year of | LAN 2015 |
| Publication: | JAN 2015 |
| Impact Factor: | 3.327 |
| Affiliated Department(s): | Medicine; Surgery |
| Author(s): | Abdullah S Amoudi, Anas A Merdad, Ahmed Q |
| | Makhdoom, Reda A Jamjoom |
| Correspondent's Email: | n/a |

ABSTRACT

Endovascular repair of blunt aortic injury is now a first-line approach in management. This can warrant coverage of the left subclavian artery (LSA), which could lead to posterior strokes. In this case report, we present a severe complication of endovascular repair of a traumatic aortic aneurysm. A 53-year-old man presented with blunt aortic injury, endovascular repair was carried out where the left subclavian artery was covered. The intervention had a 100% technical success. Twelve hours later, he was discovered to have quadriplegia, a CT scan showed a large left cerebellar infarction extending to the medulla oblongata and proximal spinal cord. Strokes complicate 3% of thoracic endovascular aortic repairs, 80% of those strokes occur in patients who had their LSA's covered. Most patients however, tolerate the coverage. Although our patient had a dominant right vertebral artery, and lacked risks for these strokes, he developed an extensive stroke that left him quadriplegic.



| | Disease activity and its correlation with anti-mutated |
|----------------------------------|--|
| Research Title: | citrullinated vimentin antibodies and other factors in |
| | rheumatoid arthritis |
| | Medical Science |
| Source: | The International Weekly journal |
| | Vol. 16, Issue 64, Page: 17-23 |
| ISSN: | 2321 - 7367 |
| Month and Year of | JAN 2015 |
| Publication: | |
| Impact Factor: | n/a |
| Affiliated Department(s): | Medicine; Microbiology and Medical Parasitology |
| Author(s): | Mohammad-Ayman Safi, Omar Fathaldin |
| Correspondent's Email: | n/a |

ABSTRACT

Objectives: Our aim was to determine the disease activity (DAS28) and its correlation with anti- Mutated Citrullinated Vimentin antibody (antiMCV) positivity and other factors in Rheumatoid Arthritis (RA) patients, Saudis and non-Saudis. And to compare Disease Activity measurements using ESR (DAS28-ESR) and CRP (DAS28-CRP).

Patients and methods: Retrospectively, data were obtained by files' reviewing, for a period of seven years (2007-2014), at king Abdulaziz university hospital (KAUH), Jeddah, Saudi Arabia. Disease Activity Scores were assessed by DAS28-ESR (104 patients), and together with DAS28- CRP (36 patients). One hundred and four (104) files had complete data for our objectives.

Results: DAS28-ESR was high [6 (SD=3)] among non-Saudi patients, moderate among Saudis [4.3 (SD=1.7)] and the total cohort [4.8(SD=2.3]); with significant differences (P=0.000; R2=11.3%) between Saudi and non-Saudi patients for DAS28. In a linear regression and by correlation analysis; the variables (Sex, age, age-group, anti-MCV positivity) showed no correlations with DAS28, neither for Saudis nor for non-Saudis. Eighty one (81) patients had data concerning presence of comorbid conditions; 34/81(42%) were with comorbid conditions. There was no significant correlation between presence of comorbid condition and disease activity neither for the total cohort (P=0.75) nor for Saudis (P=0.65) and non-Saudis (P=0.70).

Conclusion and recommendation: In both Saudi and non-Saudi RA-patients, disease activity can neither be assessed by anti-MCV positivity nor correlated with, comorbidity, sex, age and age groups. DAS28-ESR and DAS28-CRP were significantly correlated. A larger scale study is recommended.



| Research Title: | Diseases pattern among patients attending Holy Mosque |
|----------------------------------|---|
| | (Haram) Medical Centers during Hajj 1434 (2013) |
| | Saudi Medical Journal |
| Source: | Saudi Med J |
| | Vol. 36, Issue 8, Page 962-966 |
| ISSN: | 0379-5284 |
| Month and Year of | AUC 2015 |
| Publication: | AUG 2013 |
| Impact Factor: | 0.554 |
| Affiliated Department(s): | Medicine |
| | Abdulrahman R Bakhsh, Abdulfattah I Sindy, Mostafa J |
| Author(s): | Baljoon, Khalid O Dhafar, Zohair J Gazzaz, Mukhtiar |
| | Baig, Basma A Deiab, Fauzea T Al Hothali |
| Correspondent's Email: | n/a |

ABSTRACT

Objective: To evaluate the diseases pattern among pilgrims attending the 2 Holy Mosque (Haram) Health Care Centers during the Hajj season 2013 (Hijra 1434).

Methods: In this cross-sectional study, data was collected from 2 medical centers located in the Holy Mosque in Makkah city, Saudi Arabia, from the first of Dhul-Hijjah to sixteenth Dhul-Hijjah 1434. The present study was completed in 16 days (6th October to 21st October 2013).

Results: Over 16 days, 1008 patients attended the medical centers during Hajj 1434, (2013), out of which 554 (55%) were males and 454 (45%) were females. Most of the patients were Egyptians (n=242, 24%), followed by Saudis (n=116, 11.5%), Pakistani (n=114, 11.3%), Turkish (n=50, 5%), and other nationalities (n=404). According to age distribution, mostly were in the 51-60 years age group (n=237, 23.5%), followed by other age groups. Out of 1008 patients, 842 (83.5%) patients were treated and subsequently discharged, while 166 patients (16.5%) were referred to the tertiary centers. According to the diseases pattern, most of the patients were suffering from respiratory problems (n=177, 17.6%) followed by skin diseases (n=158, 15.7%), gastrointestinal tract (GIT) diseases (n=133, 13.2%), and others.

Conclusion: Most of the patients were suffering from respiratory problems followed by skin and GIT diseases, and <25% of patients were referred to tertiary care centers.



| Research Title: | Disparities in Health Care Delivery and Hospital |
|----------------------------------|--|
| | Outcomes between Non-Saudis and Saudi Nationals |
| | Presenting with Acute Coronary Syndromes in Saudi |
| | Arabia |
| Source: | PLOS One |
| | Public Library Science |
| | Vol. 10, Issue 4, Article no.: e0124012 |
| ISSN: | 1932-6203 |
| Month and Year of | ADD 2015 |
| Publication: | AFK 2015 |
| Impact Factor: | 3.234 |
| Affiliated Department(s): | Medicine |
| Author(s): | Hussam F AlFaleh, Mostafa Q Al Shamiri, Anhar Ullah, |
| | Khalid F AlHabib, Ahmad Salah Hersi, Shukri AlSaif, |
| | Khalid AlNemer, Amir Taraben, Asif Malik, Ahmed M |
| | Abuosa, LA Mimish, Tarek Kashour |
| Correspondent's Email: | halfaleh@ksu.edu.sa |

ABSTRACT

Background: Saudi Arabia has a non-Saudi workers population. We investigated the differences and similarities of expatriate non-Saudi patients (NS) and Saudi nationals (SN) presenting with acute coronary syndromes (ACS) with respect to therapies and clinical outcomes.

Methods: The study evaluated 2031 of the 5055 ACS patients enrolled in the Saudi Project for Assessment of Acute Coronary Syndrome (SPACE) from 2005 to 2007. Propensity score matching and logistic regression analysis were performed to account for major imbalances in age and sex in the two groups.

Results: The mean patient age was 56.2 ± 9.8 , and 83.5% of the study cohort were male. SN were more likely to have risk factors of atherosclerosis. ST-elevation MI (STEMI) was the most common ACS presentation in NS, while non-ST ACS was more common in SN. The median symptom-to-door time was significantly greater in NS patients (Median 175 min (197) vs. 130 min (167), p=0.027). The only difference in pharmacological therapies between the two groups was that NS were more likely to receive fibrinolytic therapy. NS were less likely than SN to undergo percutaneous coronary interventions (PCI; 32.6% vs. 42.8%, p=0.0001) or primary PCI (7.8% vs. 22.8%, p<0.001). Hospital mortality, cardiogenic shock, and heart failure were significantly higher in NS compared to SN. After adjusting for baseline variables and therapies, the odds ratios for hospital mortality and cardiogenic shock in NS were 2.9 (95% CI 1.5-6.2, p=0.004) and 2.8 (95% CI 1.5-4.9, p<0.001), respectively.

Conclusion: Our findings indicate disparities in hospital care between NS and SN ACS patients. NS patients had worse hospital outcomes, which may reflect unequal health coverage and access-to-care issues.



| Research Title: | Duct-to-Duct Biliary Anastomosis Yields Similar |
|----------------------------------|---|
| | Outcomes to Roux-en-Y Hepaticojejunostomy in Liver |
| | Transplantation for Primary Sclerosing Cholangitis |
| | Hepatitis Monthly |
| Source: | Kowsar Publ |
| | Vol. 15, Issue 5, Page: 18811 |
| ISSN: | 1735-3408 |
| Month and Year of | MAX 2015 |
| Publication: | MAT 2015 |
| Impact Factor: | 1.932 |
| Affiliated Department(s): | Medicine |
| | Bandar Al Judaibi, Roberto Hernandez Alejandro, Julia |
| Author(s): | Uhanova, Paul Marotta, Mahmoud Mosli, Natasha |
| | Chandok |
| Correspondent's Email: | n/a |

ABSTRACT

Background: While Roux-en-Y hepaticojejunostomy (RYH) is the common anastomotic technique for liver transplantation (LT) in patients with primary sclerosing cholangitis (PSC), duct-to-duct (DD) reconstruction may be used if the recipient common bile duct is normal. There are conflicting observational data on the rate of success of DD reconstruction versus RYH, in PSC.

Objectives: The aim of this study was to assess the safety and efficacy of DD anastomosis, compared to RYH reconstruction, among adults transplanted for PSC.

Patients and Methods: All adult patients, who underwent primary LT for PSC between 1990 and 2012, were evaluated, according to type of biliary reconstruction. Recipient and graft survival, postoperative medical and surgical complications, and postoperative resource utilization rates were compared between the two groups.

Results: Totally, 73 patients fulfilled the inclusion criteria. Of them, 58 had RYH and 15 had DD reconstruction. A total of 53 subjects (73%) were male, with the mean age +/-standard deviation at LT of 43.3 +/- 14.4 years. Rates of recipient mortality, graft failure, biliary complications, acute cellular rejection, and reoperation were similar in both groups. Postoperative cholangiography was used more frequently in patients with DD reconstruction (33.3% vs. 8.6%, P = 0.026).

Conclusions: In selected recipients with PSC, DD reconstruction is a safe and efficacious technique, with long-term clinical outcomes comparable to RYH.



| Research Title: | Effect of Public Knowledge Attitudes and Behavior on |
|----------------------------------|--|
| | Willingness to Undergo Colorectal Cancer Screening Using |
| | the Health Belief Model |
| | Saudi Journal of Gastroenterology |
| Source: | Medknow Publications & Media Pvt Ltd |
| | Vol. 21, Issue 2, Page: 71-77 |
| ISSN: | 1998-4049 |
| Month and Year of | NAD 2017 |
| Publication: | MAR 2015 |
| Impact Factor: | 1.221 |
| Affiliated Department(s): | Medicine |
| Author(s): | Majid A Almadi, Mahmoud H Mosli, Mohamed S Bohlega, |
| | Mohanned A Al Essa, Mohammed S AlDohan, Turki A |
| | Alabdallatif, Turki Y AlSagri, Faleh A Algahtani, Ahmed |
| | Mandil |
| Correspondent's Email: | n/a |

ABSTRACT

Background/Aims: Success of colorectal cancer (CRC) screening is dependent in part on the proportion of uptake by the targeted population. We aimed in this study to identify factors that were associated with willingness to undergo CRC screening based on the health belief model (HBM).

Patients and Methods: This was a cross-sectional study among citizens of Riyadh, Saudi Arabia. Demographic data collected included gender, age, education, marital status, employment status, a history of CRC in the family or knowing a friend with CRC, as well as income. A questionnaire was developed in Arabic based on the HBM and included enquiries on knowledge about CRC symptoms and risk factors, types of CRC screening tests, perceived risk of CRC, previously undergoing CRC screening, intent to undergo CRC screening, perceived barriers to CRC screening, perceived severity of CRC, as well as attitudes toward CRC and its screening.

Results: Five hundred participants were included. The mean age was 41.0 years (SD 10.7). Males were 50% and only 6.7% of those between 50 and 55 years of age had undergone CRC screening. Of those surveyed, 70.7% were willing to undergo CRC screening. Also, 70.5% thought that CRC is curable, 73.3% believed it was preventable, whereas 56.7% thought it was a fatal disease. Neither gender, level of education, occupation, income, marital status, nor general knowledge about CRC was found to be associated with the willingness to undergo CRC screening. Recognizing that colonoscopy was a screening test (OR 1.55, 95% CI; 1.04-2.29) was associated with a strong desire to undergo CRC screening while choosing a stool-based test was associated with not willing to undergo CRC screening (OR 0.59, 95% CI; 0.38-0.91).

Conclusion: We found that the majority of those interviewed were willing to undergo CRC screening and identified a number of barriers as well as potential areas that could be targeted in the promotion of CRC screening uptake if such a national program were to be implemented.



| Research Title: | Effect of Regular Physical Activity on Metabolic Control |
|----------------------------------|--|
| | in Pediatric Age Group with Type 1 Diabetes Mellitus |
| Source: | Endocrinology & Metabolic Syndrome |
| | OMICS Publishing Group |
| | Vol. 4, Issue 2, Page: 1-5 |
| ISSN: | 2161-1017 |
| Month and Year of | ADD 2015 |
| Publication: | APK 2015 |
| Impact Factor: | n/a |
| Affiliated Department(s): | Medicine; Pediatrics |
| Author(s): | Abdulmoein AlAE, OI Alrefaie, IA Elhameed, MD |
| | Ahmad, DA El-Derwi |
| Correspondent's Email: | n/a |

ABSTRACT

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

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

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

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



| Research Title: | Effects of Religious Versus Conventional Cognitive- |
|----------------------------------|---|
| | and Chronic Medical Illness: A Randomized Clinical |
| | Trial |
| | Spirituality in Clinical Practice |
| Source: | Amer Psychological Assoc |
| | Vol. 2, Issue 3, Page: 1 |
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| Affiliated Department(s): | Medicine |
| | Michelle J Pearce, Harold G Koenig, Clive J Robins, |
| Author(s): | Noha Daher, Sally F Shaw, Bruce Nelson, Lee S Berk, |
| | Denise Bellinger, Harvey Jay Cohen, Michael B King |
| Correspondent's Email: | n/a |

ABSTRACT

Generosity can be an effective coping strategy for dealing with mental and physical health problems. This study examined whether religiously-integrated cognitive behavioral therapy (RCBT) was more effective than conventional CBT (CCBT) on increasing generosity among religious persons with major depressive disorder (MDD) and chronic medical illness (CMI). Participants (N = 132) with MDD and CMI were randomized to receive 10 sessions of RCBT or CCBT. Assessment measures administered at baseline, 12 weeks, and 24 weeks included the Interpersonal Generosity Scale, a 29-item scale for religious involvement, and depression diagnosis and severity. Effects of treatment group on generosity were examined from baseline through 24 weeks. Mixed effect regression models were used to compare trajectories of change in generosity. Also examined were the effect of baseline religiosity on generosity trajectory and the effect of baseline generosity on depressive symptom trajectory. Generosity increased significantly over time; however, no significant difference was found between RCBT and CCBT in their effects on generosity. Client religiosity did not moderate these effects. However, higher baseline religiosity predicted increases in generosity over time independent of treatment group. Although greater baseline generosity did not predict a faster decline in depressive symptoms over time, an increase in generosity during treatment was associated with a decline in depressive symptoms. In conclusion, both RCBT and CCBT led to an increase in generosity. Higher baseline religiosity predicted an increase in generosity over time regardless of treatment group, and an increase in generosity during treatment was associated with a decline in depressive symptoms over time.



| Research Title: | Effects of Religious Versus Standard Cognitive- |
|----------------------------------|--|
| | Behavioral Therapy on Optimism In Persons With Major |
| | Depression And Chronic Medical Illness |
| | Depression and Anxiety |
| Source: | Wiley-Blackwell |
| | Vol. 32, Issue 11, Page: 835-842 |
| ISSN: | 1520-6394 |
| Month and Year of | NOV 2015 |
| Publication: | NOV 2013 |
| Impact Factor: | 4.407 |
| Affiliated Department(s): | Medicine |
| Author(s): | Harold G Koenig, Michelle J Pearce, Bruce Nelson, Noha |
| | Daher |
| Correspondent's Email: | Harold.Koenig@duke.edu |

ABSTRACT

Background: We compared the effectiveness of religiously integrated cognitive behavioral therapy (RCBT) versus standard CBT (SCBT) on increasing optimism in persons with major depressive disorder (MDD) and chronic medical illness.

Methods: Participants aged 18-85 were randomized to either RCBT (n = 65) or SCBT (n = 67) to receive ten 50-min sessions remotely (94% by telephone) over 12 weeks. Optimism was assessed at baseline, 12 and 24 weeks by the Life Orientation Test-Revised. Religiosity was assessed at baseline using a 29-item scale composed of religious importance, individual religious practices, intrinsic religiosity, and daily spiritual experiences. Mixed effects growth curve models were used to compare the effects of treatment group on trajectory of change in optimism.

Results: In the intention-to-treat analysis, both RCBT and SCBT increased optimism over time, although there was no significant difference between treatment groups (B = -0.75, SE = 0.57, t = -1.33, P = .185). Analyses in the highly religious and in the per protocol analysis indicated similar results. Higher baseline religiosity predicted an increase in optimism over time (B = 0.07, SE = 0.02, t = 4.12, P < .0001), and higher baseline optimism predicted a faster decline in depressive symptoms over time (B = -0.61, SE = 0.10, t = -6.30, P < .0001), both independent of treatment group.

Conclusions: RCBT and SCBT are equally effective in increasing optimism in persons with MDD and chronic medical illness. While baseline religiosity does not moderate this effect, religiosity predicts increases in optimism over time independent of treatment group.



| Research Title: | Efficacy of insulin analogues in diabetic patients |
|----------------------------------|---|
| | attending primary care centers |
| Source: | Saudi Medical Journal |
| | Saudi Med J |
| | Vol. 36, Issue 7, Page: 829-833 |
| ISSN: | 0379-5284 |
| Month and Year of | UU 2015 |
| Publication: | JUL 2013 |
| Impact Factor: | 0.554 |
| Affiliated Department(s): | Medicine |
| Author(s): | Wedad M Bardisi, Manal M Khorsheed, Faisal Magliah, |
| | Ayman F Magliah |
| Correspondent's Email: | n/a |

ABSTRACT

Objectives: To measure the efficacy of new insulin analogues compared with the conventional types of insulin, and to compare their effects on patient satisfaction regarding their weight changes and the frequency of hypoglycemic episodes.

Methods: In this retrospective cohort observational study, data was collected from the medical records of 122 eligible diabetics on insulin therapy attending government primary care centers in Jeddah, Kingdom of Saudi Arabia from June 2013 to July 2014. The data collected considered the efficacy, safety, and patient satisfaction of the types of insulin therapy used for their treatment.

Results: After 12 weeks, there was a reduction in mean glycosylated hemoglobin (HbA1c) of -0.88% for the analogue type versus -0.19% for the conventional type, and at 24 weeks, the mean drop in HbA1c was -2.02% for the analogue type versus -1.12% for the conventional type, but the differences were not statistically significant. More patients (87% versus 38%) on analogue compared with conventional insulin treatment were satisfied with therapy.

Conclusion: In the primary health care setting, insulin analogues showed greater efficacy improvements than conventional insulin therapy within 6 months. However, conventional insulin therapy can still be used at primary care centers with limited resources, and when patients refuse to be converted.



| Research Title: | Frequent methylation of the KLOTHO gene and |
|---------------------------|---|
| | overexpression of the FGFR4 receptor in invasive ductal |
| | carcinoma of the breast |
| | Tumor Biology |
| Source: | Springer International Publishing AG |
| | Vol. 2015, Page: 1-7 |
| ISSN: | 1423-0380 |
| Month and Year of | HH 2015 |
| Publication: | JUL 2015 |
| Impact Factor: | 2.84 |
| Affiliated Department(s): | Medicine; Pathology; Surgery |
| Author(s): | Ashraf Dallol, Abdelbaset Buhmeida, Adnan Merdad, |
| | Jaudah Al-Maghrabi, Mamdooh A Gari, Muhammad M |
| | Abu-Elmagd, Aisha Elaimi, Mourad Assidi, Adeel G |
| | Chaudhary, Adel M Abuzenadah, Taoufik Nedjadi, |
| | Eramah Ermiah, Shadi S Alkhayyat, Mohammed H Al- |
| | Qahtani |
| Correspondent's Email: | adallol@kau.edu.sa |

ABSTRACT

Invasive ductal carcinoma of the breast is the most common cancer affecting women worldwide. The marked heterogeneity of breast cancer is matched only with the heterogeneity in its associated or causative factors. Breast cancer in Saudi Arabia is apparently an early onset with many of the affected females diagnosed before they reach the age of 50 years. One possible rationale underlying this observation is that consanguinity, which is widely spread in the Saudi community, is causing the accumulation of yet undetermined cancer susceptibility mutations. Another factor could be the accumulation of epigenetic aberrations caused by the shift toward a Western-like lifestyle in the past two decades. In order to shed some light into the molecular mechanisms underlying breast cancer in the Saudi community, we identified KLOTHO (KL) as a tumor-specific methylated gene using genome-wide methylation analysis of primary breast tumors utilizing the MBD-seq approach. KL methylation was frequent as it was detected in 55.3 % of breast cancer cases from Saudi Arabia (n = 179) using MethyLight assay. Furthermore, KL is downregulated in breast tumors with its expression induced following treatment with 5-azacytidine. The involvement of KL in breast cancer led us to investigate its relationship in the context of breast cancer, with one of the protagonists of its function, fibroblast growth factor receptor 4 (FGFR4). Overexpression of FGFR4 in breast cancer is frequent in our cohort and this overexpression is associated with poor overall survival. Interestingly, FGFR4 expression is higher in the absence of KL methylation and lower when KL is methylated and presumably silenced, which is suggestive of an intricate relationship between the two factors. In conclusion, our findings further implicate "metabolic" genes or pathways in breast cancer that are disrupted by epigenetic mechanisms and could provide new avenues for understanding this disease in a new context.



| Research Title: | Genotype-phenotype analysis of Jervell and Lange- |
|---------------------------|---|
| | Nielsen syndrome in six families from Saudi Arabia |
| Source: | Clinical Genetics |
| | Wiley-Blackwell |
| | Vol. 87, Issue 1, Page: 74-79 |
| ISSN: | 1399-0004 |
| Month and Year of | LAN 2015 |
| Publication: | JAN 2015 |
| Impact Factor: | 3.652 |
| Affiliated Department(s): | Medicine; Medical Genetics; Princess Al-Jawhara |
| | Albrahim Center of Excellence in Hereditary Disorders |
| | Research |
| Author(s): | JY Al-Aama, S Al-Ghamdi, AY Bdier, A AlQarawi, OA |
| | Jiman, N Al-Aama, J Al-Aata, AAM Wilde, ZA Bhuiyan |
| Correspondent's Email: | n/a |

ABSTRACT

We sought to explore the genotype-phenotype of Jervell and Lange-Nielsen syndrome (JLNS) patients in Saudi Arabia. We have also assessed the plausible effect of consanguinity into the pathology of JLNS. Six families with at least one JLNS-affected member attended our clinic between 2011 and 2013. Retrospective and prospective clinical data were collected and genetic investigation was performed. Pathogenic mutations in the KCNQ1 gene were detected in all JLNS patients. The homozygous mutations detected were Leu273Phe, Asp202Asn, Ile567Thr, and c.1486_1487delCT and compound heterozygous mutations were c.820_ 830del and c.1251+1G>T. All living JLNS patients except one had a QTc of >500ms and a history of recurrent syncope. -Blockers abolished the cardiac-related events in all patients except two siblings with homozygous Ile567Thr mutation. Four of the six mutations were originally reported in autosomal dominant long QT syndrome (LQTS) patients. Eighty percent of the heterozygote mutation carriers showed prolongation of QTc, but majority of these reported no symptoms attributable to arrhythmias. Mutations detected in this study will be advantageous in tribe and region-specific cascade screening of LQTS in Saudi Arabia.



| Research Title: | Geraniol And 10-Gingerol Restore Normal Vascular |
|----------------------------------|---|
| | Reactivity In Aorta Isolated From Diabetic Rats |
| Source: | Journal of Hypertension |
| | Wolters Kluwer Health |
| | Vol. 33, Issue 14, Page: 249 |
| ISSN: | 1473-5598 |
| Month and Year of | HIN 2015 |
| Publication: | JUN 2015 |
| Impact Factor: | 4.222 |
| Affiliated Department(s): | Medicine; Clinical Biochemistry |
| Author(s): | H El-Bassossy, S Ghareib, A Elberry, A Azhar, Z Banjar, |
| | M Watson |
| Correspondent's Email: | n/a |

ABSTRACT

Objective: Alterations in vascular reactivity play important roles in diabetic vascular complications which, in turn, can develop into further serious complications. Geraniol and 10-gingerol are two ginger ingredients with reported anti-inflammatory and antioxidant activities. The present work investigates the effect of geraniol and 10-gingerol on the changes in vascular reactivity associated with diabetes.

Design and method: Diabetes was induced in rats by single intraperitoneal injection of streptozotocin (50 mg.kg-1). Animals were left for 8 weeks after streptozotocin injection to develop vascular complications. Then, rings of rat isolated thoracic aorta were used to measure the vasoconstrictor responses to cumulative concentrations of phenylephrine (PE) and the relaxation responses to the endothelial dependent relaxant acetylcholine (ACh).

Results: Streptozotocin injection induced moderate hyperglycemia that lasts for 8 weeks. Aortic rings isolated from diabetic animals (C) showed exaggerated contractility responses to PE while showing impaired dilatation responses to ACh compared with control animals (C). While not affecting basal aortic contractility, incubating diabetic aorta for 1 hour with geraniol (R) or 10-gingerol (G) in a concentration range (0.01–1 M) reduced the exaggerated response to PE. In addition, geraniol or 10-gingerol incubation improved the impaired relaxation response to ACh in a dose dependent manner.

Conclusions: In conclusion, both geraniol and 10-gingerol restore normal vascular reactivity in aorta isolated from diabetic rats. Addition of geraniol and 10-gingerol to diabetic therapy may provide superior to alleviate the associated vascular complications.



| Research Title: | Ginsenoside Rb1 inhibits fibrillation and toxicity of |
|---------------------------|---|
| | alpha-synuclein and disaggregates preformed norms |
| | Neurobiology of Disease |
| Source: | Academic Press Inc Elsevier Science |
| | Vol. 74, Page: 89-101 |
| ISSN: | 1095-953X |
| Month and Year of | EED 2015 |
| Publication: | FEB 2013 |
| Impact Factor: | 5.202 |
| Affiliated Department(s): | Medicine; Anatomy |
| Author(s): | Mustafa T Ardah, Katerina E Paleologou, Guohua Lv, |
| | Sindhu A Menon, Salema B Abul Khair, Jia-Hong Lu, |
| | Bared Safieh-Garabedian, Abdulmonem A Al-Hayani, |
| | David Eliezer, Min Li, Omar MA El-Agnaf |
| Correspondent's Email: | n/a |

ABSTRACT

Compelling evidence indicates that a-synuclein (alpha syn) aggregation plays a central role in the pathogenesis of Parkinson's disease (PD) and other synucleinopathies. Identification of compounds that inhibit or reverse the aggregation process may thus represent a viable therapeutic strategy against PD and related disorders. Ginseng is a well-known medicinal plant that has been used in East Asia for more than two thousand years to treat several conditions. It is now understood that the pharmacological properties of ginseng can be attributed to its biologically active components, the ginsenosides, which in turn have been shown to have neuroprotective properties. We therefore sought to determine for the first time, the potential of the most frequently used and studied ginsenosides, namely Rg1, Rg3 and Rb1, as anti-amyloidogenic agents. The effect of Rg1, Rg3 and Rb1 on alpha-syn aggregation and toxicity was determined by an array of biophysical, biochemical and cell-culture-based techniques. Among the screened ginsenosides, only Rb1 was shown to be a potent inhibitor of alpha-syn fibrillation and toxicity. Additionally, Rb1 exhibited a strong ability to disaggregate preformed fibrils and to inhibit the seeded polymerization of alpha-syn. Interestingly, Rb1 was found to stabilize soluble non-toxic oligomers with no (beta-sheet content, that were susceptible to proteinase K digestion, and the binding of Rb1 to those oligomers may represent a potential mechanism of action. Thus, Rb1 could represent the starting point for designing new molecules that could be utilized as drugs for the treatment of PD and related disorders.


| Research Title: | Glycemic control, complications, and associated |
|----------------------------------|--|
| | autoimmune diseases in children and adolescents with |
| | type 1 diabetes in Jeddah, Saudi Arabia |
| Source: | Saudi Medical Journal |
| | Saudi Med J |
| | Vol. 36, Issue 1, Page: 26-31 |
| ISSN: | 0379-5284 |
| Month and Year of | IAN 2015 |
| Publication: | JAN 2015 |
| Impact Factor: | 0.554 |
| Affiliated Department(s): | Medicine; Pediatrics |
| Author(s): | Abdulmoein E Al-Agha, Maram Alafif, Ihab A Abd- |
| | Elhameed |
| Correspondent's Email: | n/a |

ABSTRACT

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

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

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

Conclusion: The level of HbA1c was found to be higher among the pubertal age group. A relationship between autoimmune diseases and gender was determined.



| Research Title: | Health related quality of life among military personnel: |
|----------------------------------|--|
| | what socio-demographic factors are important? |
| Source: | Applied Research in Quality of Life |
| | Springer |
| | Vol. 10, Issue 1, Page: 63-76 |
| ISSN: | 1871-2584 |
| Month and Year of | MAD 2015 |
| Publication: | MAR 2015 |
| Impact Factor: | 0.818 |
| Affiliated Department(s): | Medicine |
| Author(s): | Mohsen Saffari, Harold G Koenig, Amir H Pakpour, |
| | Mohammad Gamal Sehlo |
| Correspondent's Email: | saffari.ches@gmail.com; Harold.Koenig@duke.edu; |
| | pakpour_amir@yahoo.com; sehlo90@yahoo.com |

ABSTRACT

Health related quality of life (HRQOL) is an important indicator of health status. Knowledge about factors related to HRQOL among military personnel may assist in designing programs to maximize their fitness and readiness for action when called upon. The aim of present study was to assess the HRQOL of military personnel in Iran, compare it to that of other populations in Iran and the U.S., and identify sociodemographic variables related to HRQOL in Iranian military personnel. Using a crosssectional design, 502 male military personnel were recruited across the country. The SF-36 health survey was used to assess health status and demographic characteristics. Student t-test and multiple regression analysis were used to examine the associations between socio-demographic variables and HROOL. Subscale scores on the SF-36 were also compared to those in the general population. The mean age of participants was 33.0 (SD, 6.8) with an average working experience of 13.5 (SD, 6.2) years. Physical functioning was higher than other components of HRQOL. The mean scores for physical and mental subscale scores were 46.1 (8.6) and 46.6 (9.7), respectively. Significant differences were found on subscale scores of HRQOL between participants and the general population (p < 0.01). Variables such as age, marital status, disease history, and health status were associated with several components of HRQOL. These findings should assist in the development of programs to enhance HRQOL among military personnel, and underscore the need for further research to better understand the components of health status in soldiers and other military personnel.



| Research Title: | Histological Stains: A Literature Review and Case Study |
|----------------------------------|---|
| | Global Journal of Health Science |
| Source: | Canadian Center of Science and Education |
| | Vol. 8, Issue 3, Page: 1-8 |
| ISSN: | 1916-9744 |
| Month and Year of | HUN 2015 |
| Publication: | JUN 2013 |
| Impact Factor: | n/a |
| Affiliated Department(s): | Medicine |
| Author(s): | Hani A Alturkistani, Faris M Tashkandi, Zuhair M |
| | Mohammedsaleh |
| Correspondent's Email: | zuhair.saleh966@gmail.com |

ABSTRACT

The history of histology indicates that there have been significant changes in the techniques used for histological staining through chemical, molecular biology assays and immunological techniques, collectively referred to as histochemistry. Early histologists used the readily available chemicals to prepare tissues for microscopic studies; these laboratory chemicals were potassium dichromate, alcohol and the mercuric chloride to harden cellular tissues. Staining techniques used were carmine, silver nitrate, Giemsa, Trichrome Stains, Gram Stain and Hematoxylin among others.

The purpose of this research was to assess past and current literature reviews, as well as case studies, with the aim of informing ways in which histological stains have been improved in the modern age.

Results from the literature review has indicated that there has been an improvement in histopathology and histotechnology in stains used. There has been a rising need for efficient, accurate and less complex staining procedures. Many stain procedures are still in use today, and many others have been replaced with new immunostaining, molecular, non-culture and other advanced staining techniques. Some staining methods have been abandoned because the chemicals required have been medically proven to be toxic.

The case studies indicated that in modern histology a combination of different stain techniques are used to enhance the effectiveness of the staining process. Currently, improved histological stains, have been modified and combined with other stains to improve their effectiveness.



| | How does the new developed curriculum affect the |
|----------------------------------|---|
| Research Title: | perception of medical graduates at King Abdulaziz |
| | University about professionalism? |
| | International Journal of Research in Medical Sciences |
| Source: | ScopeMed |
| | Vol. 3, Issue 7, Page: 1677-1682 |
| ISSN: | 2320-6012 |
| Month and Year of | HU 2015 |
| Publication: | JOL 2013 |
| Impact Factor: | n/a |
| Affiliated Department(s): | Medicine; Medical Education; Pathology |
| | Basem S Eldeek, Naif A Alghamdi, Sarah S Alghamdi, |
| Author(s): | Logain G Alghanemi, Wael H Almaghthawi, Lana Al |
| | Shawwa, Nasra Ayuob |
| Correspondent's Email: | n/a |

ABSTRACT

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

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

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

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



| Research Title: | Human Immunodeficiency Virus-Associated Cerebral |
|---------------------------|--|
| | Aneurysmal Vasculopathy: A Systematic Review |
| | World Neurosurgery |
| Source: | Elsevier B.V. |
| | Vol. 15 |
| ISSN: | 1878-8750 |
| Month and Year of | NOV 2015 |
| Publication: | NOV 2013 |
| Impact Factor: | 2.878 |
| Affiliated Department(s): | Medicine; Surgery |
| Author(s): | Saleh S Baeesa, Mohamad Bakhaidar, Mohammed A |
| | Almekhlafi, Tariq A Madani |
| Correspondent's Email: | n/a |

ABSTRACT

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

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

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

Conclusion: HIV-associated cerebral aneurysmal arteriopathy is associated with high mortality. The optimal management is not well established but early initiation of antiretroviral therapy may improve the survival rate in those patients.



| Research Title: | Hyperlipidemia in rheumatoid arthritis patients in Saudi Arabia Correlation with C-reactive protein levels and disease activity |
|-----------------------------------|---|
| Source: | Saudi Medical Journal Saudi Med J Vol. 36, Issue 6, Page 684-690 |
| ISSN: | 0379-5284 |
| Month and Year of Publication: | JUN 2015 |
| Impact Factor: | 0.588 |
| Affiliated Department(s): | Medicine |
| Author(s): | Suzan M Attar |
| Correspondent's Email: | suzan_attar@hotmail.com |

ABSTRACT

Objectives: To determine the prevalence of hyperlipidemia in patients from Saudi Arabia with rheumatoid arthritis (RA), and to investigate its relationship with C-reactive protein level and disease activity.

Methods: A cross-sectional 3-year study was conducted on RA patients at King Abdulaziz University Hospital, Saudi Arabia between January 2011 and December 2013. Lipid profiles were determined following 12-hour overnight fasting, and the association of lipid profiles with C-reactive protein (CRP) levels and disease activity was determined.

Results: This study involved a total of 180 RA patients (mean age: 40.49 +/- 12.19 years). These subjects displayed a high prevalence of elevated total cholesterol (55.1%), and low-density lipoprotein cholesterol (51.2%). Notably, we detected a significant association between increased total cholesterol and high CRP levels (p=0.002). Moreover, we observed a positive correlation between total cholesterol and disease activity, as measured using the 28-Joint Disease Activity Score index (r=0.23, p=0.036).

Conclusions: Hyperlipidemia is common among RA patients and is significantly associated with CRP levels and disease activity. Our findings emphasize the need to raise awareness among healthcare professionals regarding the development of hyperlipidemia when RA is active.



| Research Title: | Immunoexpression of cyclin D1 in colorectal carcinomas |
|---------------------------|--|
| | is not correlated with survival outcome |
| | Journal of Microscopy and Ultrastructure |
| Source: | Elsevier B.V. |
| | Vol. 3, Issue 2, Page: 62-67 |
| ISSN: | 2213-879X |
| Month and Year of | HIN 2015 |
| Publication: | JUN 2013 |
| Impact Factor: | n/a |
| Affiliated Department(s): | Medicine; Pathology; Colon Cancer Chair |
| | Jaudah Al-Maghrabi, Shagufta Mufti, Wafaey Gomaa, |
| Author(s): | Abdelbaset Buhmeida, Mohammed Al-Qahtani, |
| | Mahmoud Al-Ahwal |
| Correspondent's Email: | n/a |

ABSTRACT

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

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

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

Results: There were more cases with low nuclear immunoexpression of CCND1in both primary tumours and nodal metastasis (p < 0.001). Cyclin D1 did not show association with clinicopathological features except with lymphovascular invasion. Low nuclear immunoexpression of CCND1 was associated with negative lymphovascular invasion (p = 0.046). There was no statistically significant correlation between CCND1 immunoexpression and survival probability (Log Rank = 2.474, p = 0.116).

Conclusion: Our study indicates that CCND1 immunoexpression cannot be used as a predictor of survival in CRC. It also shows no significant correlation with clinicopathological features except with lymphovascular invasion.



| Research Title: | Immunoexpression of PAX-8 as a Useful Marker in |
|---------------------------|--|
| | Distinguishing Gynecological Malignancy fromColorectal |
| | Carcinomas: a Tissue Microarray-Based Approach |
| Source: | Journal of American Science |
| | Marsland Press |
| | Vol. 11, Issue 2, Page: 76-81 |
| ISSN: | 1545-1003 |
| Month and Year of | ADD 2015 |
| Publication: | AFK 2015 |
| Impact Factor: | 1.054 |
| Affiliated Department(s): | Medicine; Pathology; Colon Cancer Chair |
| Author(s): | Jaudah Al-Maghrabi, Abdelbaset Buhmeida, Mohammad |
| | Al-Qahtani, Mahmoud Al-Ahwal |
| Correspondent's Email: | n/a |

ABSTRACT

Introduction: PAX 8 is a transcription factor that belongs to PAX gene family. The data on the diagnostic applications of PAX-8 is limited. In this study, the expression of PAX-8 in colorectal, endometrial and ovarian carcinomas is evaluated.

Material and methods: Tissue microarrays were prepared from archival of colorectal carcinomas (n: 133), endometrial carcinomas (n: 79) and ovarian carcinomas (75) obtained from the Department of Pathology at King Abdulaziz University Jeddah, Saudi Arabia. Tissue sections were immunostained using monoclonal antibodies to PAX-8. The immunohistochemical stains were scored semiquantitatively from 0 to 4+.

Results: PAX-8 immunoexpression was detected in 132/154 (83%) of the Mullerian carcinomas (93 and 43% for non-mucinous and mucinous carcinomas, respectively). PAX-8 expression was found in all serous carcinomas from ovarian and endometrial origin. PAX-8 was not detected in any of the colorectal carcinoma.

Conclusion: PAX-8 is a sensitive marker for non-mucinous carcinomas of Mullerian origin and it is a useful marker indifferentiating endometrial and ovarian carcinomas from colorectal carcinomas.



| | Impact of Physiological Symptoms and Complications of |
|----------------------------------|---|
| Research Title: | Colorectal Cancer on the Quality of Life of Patients at |
| | King Abdulaziz University Hospital |
| | Journal of Cancer Education |
| Source: | Springer International Publishing AG |
| | Vol. 2015, Page: 1-7 |
| ISSN: | 1543-0154 |
| Month and Year of | MAX 2015 |
| Publication: | WIA I 2013 |
| Impact Factor: | 1.054 |
| Affiliated Department(s): | Medicine; Family Medicine |
| | Faisal F Alabbas, Ssakher M Al-Otaibi, Majed H Chamsi |
| Author(s): | Pasha, Abdullah M Alghamdi, Hisham M Al-Hindi, |
| | Mahmoud S Al-Ahwal, Basem S El-Deek |
| Correspondent's Email: | n/a |

ABSTRACT

Colorectal cancer (CRC) is common worldwide. The high prevalence of the disease raises concerns about how CRC influences the health-related quality of life (OoL). To explore the impact of physiological symptoms and complications of CRC on patients' QoL, we conducted a cross-sectional survey using the FACT-C self-report instrument. The chi-square test was used to compare qualitative data. We found that pain was reported by most of the patients (n = 31; 77.5 %). Furthermore, male patients were more likely to complain of pain "mostly" as compared with females (P = .032). We found no significant differences between genders regarding general health-related questions. A greater proportion of male patients often complained of abdominal cramps (P = .542), weight loss (P = .086), and diarrhea (P = .408). More than half of the patients (n = 26; 65 %) reported having a good appetite; a greater proportion of males reported having a good appetite "mostly" (P = .014). Social and psychological qualities of life were not significantly different between male and female patients. Male and female patients did not differ in their report of disease acceptance (P = .420) and ability to enjoy life (P = .744). No difference was also found between genders regarding contentment with QoL (P = .793) or ability to sleep well (P = .695). Furthermore, there were no differences between genders regarding job fulfillment (P = .272). Our results add to the growing body of knowledge about the effect of CRC on QoL. Importantly, the differences in self-reported pain and appetite between male and female patients in our study suggest the importance of gender-based treatments in improving patients' OoL.



| | Internal medicine residents' perspectives and practice |
|----------------------------------|---|
| Research Title: | about do not resuscitate orders: survey analysis in the |
| | western region of Saudi Arabia |
| | Advances in Medical Education and Practice |
| Source: | Dove Press |
| | Vol. 6, Page: 393-398 |
| ISSN: | 1179-7258 |
| Month and Year of | MAX 2015 |
| Publication: | MAT 2015 |
| Impact Factor: | n/a |
| Affiliated Department(s): | Medicine |
| Author(s): | Ahmed Aljohaney, Yasser Bawazir |
| Correspondent's Email: | drajohani@yahoo.com |

ABSTRACT

Background: The purpose of this study was to analyze the perceptions and practices of internal medicine residents in the western region of Saudi Arabia regarding the implementation of do not resuscitate (DNR) orders to improve future training practices among physicians.

Methods: Medical residents involved in training programs in the western region of Saudi Arabia, including Jeddah, Makah, Medinah, and Taif, were invited to participate in a cross-sectional, anonymous, online survey regarding DNR orders. The 16-question survey was distributed to residents in all training programs in the region using surveymonkey.com, and the results were collected and tabulated.

Results: Of 364 residents, 157 completed the questionnaire, resulting in a 43% response rate. The study showed that most (66%) internal medicine residents in the western region of Saudi Arabia participate in DNR discussions with patients and family or surrogate decision-makers. In addition, 43% were observed by faculty members, and half of them (51.9%) reported feeling comfortable during these discussions. Furthermore, most residents believed that additional educational programs would enhance their competence in addressing issues related to DNR discussions.

Conclusion: This study highlights the need for a structured curriculum to teach skills relating to end-of-life issues such as DNR orders to residents in the Saudi Arabian medical system. The majority of residents surveyed believe they would benefit from additional training in DNR discussions. Therefore, an evidence-based curriculum providing instruction for improving discussions regarding DNR orders would improve physician confidence and effectiveness in caring for critically ill patients.



| | Interprofessional Education as a Need: The Perception of |
|----------------------------------|--|
| Research Title: | Medical, Nursing Students and Graduates of Medical |
| | College at King Abdulaziz University |
| | Creative Education |
| Source: | Scientific Research Publishing Inc. |
| | Vol. 2015, Issue 6, Page: 248-254 |
| ISSN: | 2151-4771 |
| Month and Year of | EED 2015 |
| Publication: | FEB 2013 |
| Impact Factor: | 0.62 |
| Affiliated Department(s): | Medicine |
| Author(s): | Hind Ibrahim Fallatah, Razan Jabbad, Heba K Fallatah |
| Correspondent's Email: | n/a |

ABSTRACT

Interprofessional education (IPE) is when members or students of two or more professions learn from and about each other to improve collaboration and quality of care. The aim of this study was to identify the awareness and importance of IPE among medical and nursing students and graduates at King Abdulaziz University. A crosssectional study was conducted with fourth-year medical students, fourth-year nursing students, interns, and internal medical residents at King Abdulaziz University and hospital. A survey was completed by all the participants after they gave their consent. Participants were asked whether they knew the meaning of IPE. We explained IPE to those who did not know what it was. Then, each participant was asked to rate all 11 items on the survey with one of five choices: strongly agree, agree, undecided, disagree and strongly disagree. A total of 105 professionals participated in the study. The participants were primarily fourth-year medical and nursing students, all of whom were women. However, for the medical interns and medical residents, we included both men and women. Only 12 (11.4%) participants knew the meaning of IPE, all of whom were medical residents. The majority-77 of 103 (75%), most of whom were nursing students-responded that IPE is important. The difference between the groups was also significant (P = 0.008). In conclusion: Our study showed that our medical students and graduates valued IPE and thought that the implementation of IPE in their education would improve both patient care and health care provider satisfaction.



| Research Title: | Lifestyle Factors and their Relation to Measures of |
|---------------------------|--|
| | Obesity Amongst Adults Living in Jeddah- Saudi Arabia: |
| | A Cross-Sectional Study |
| Sammaa | Current Research in Nutrition and Food Science |
| Source: | Vol. 3, Issue 2, Page: 98-111 |
| ISSN: | 2322–0007 |
| Month and Year of | AUC 2015 |
| Publication: | AUG 2013 |
| Impact Factor: | n/a |
| Affiliated Department(s): | Medicine; Clinical Biochemistry; Mohammed Hussein |
| | Al-Amoudi Chair for Diabetic Foot Research |
| Author(s): | Sarah Bandar Aljoudi, Eman Talal Kotbi, Fatimah |
| | Abdulaziz Alsomali, Yasser Haddawi, Emtenan Mansour |
| | Meer, Anas Binsalman |
| Correspondent's Email: | n/a |

ABSTRACT

Although the prevalence of obesity and overweight in Saudi Arabia is high, studies of associated factors are lacking. This study aimed to investigate the relationship between socio-demographic and lifestyles factors and different measures of obesity amongst adults living in Jeddah. A cross sectional design was used employing a multi stage geographical cluster random sampling technique to select survey locations. Only families living in KSA for \geq 5 years were included. Participants were interviewed about dietary and socio-demographic information, and their anthropometric measurements (weight, height, waist and hip circumference) were taken. Body mass index (BMI) and waist to hip ratio (WHR) were used as measures of general and abdominal obesity, respectively. 331 adults were included in the study; mean age \pm SD was 37.12 \pm 13.58. General and central obesity were both inversely related to educational level, fast food consumption, number of snacks consumed and the level of physical activity. Central obesity was more prevalent in frequent breakfast consumers and smokers. Males who consumed less snacks and were physically inactive had higher odds of being generally obese, while those with increasing breakfast intake and decreasing fast food consumption were prone to central obesity. Females with a greater number of meals consumption had higher odds of general obesity while those who consumed less snacks and were physically inactive were prone to central obesity. The design of health programs and strategies to reduce the prevalence of obesity tailored to associated factors is a health priority.



| 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 |
| | Angiology |
| Source: | Sage Publications Inc |
| | Vol. 66, Issue 9, Page: 837-844 |
| ISSN: | 1940-1574 |
| Month and Year of | OCT 2015 |
| Publication: | 0C1 2015 |
| Impact Factor: | 2.97 |
| Affiliated Department(s): | Medicine |
| Author(s): | Khalid F AlHabib, Tarek Kashour, Abdelfatah A Elasfar, |
| | Hussam Alfaleh, Ahmad Hersi, Mostafa Alshamiri, Fayez |
| | Alshaer, Layth Mimish, Ali Almasood, Waleed |
| | AlHabeeb, Saleh AlGhamdi, Abdullah Ghabashi, |
| | KaziNur Asfina, Hani Altaradi, Omar Alnobani, Nour |
| | Alkamel, Lukman Thalib |
| Correspondent's Email: | n/a |

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.



| | Lycopene powers the inhibition of glycation-induced |
|----------------------------------|---|
| Research Title: | diabetic nephropathy: A novel approach to halt the AGE- |
| | RAGE axis menace |
| | Biofactors |
| Source: | Wiley-Blackwell |
| | Vol. 41, Issue 5, Page: 372-381 |
| ISSN: | 1872-8081 |
| Month and Year of | SEPT 2015 |
| Publication: | |
| Impact Factor: | 4.592 |
| Affiliated Department(s): | Medicine |
| Author(s): | Shams Tabrez, Khalid Zaki Al-Shali, Saheem Ahmad |
| Correspondent's Email: | stabrez@kau.edu.sa; saheem@iul.ac.in |

ABSTRACT

There are accumulating evidences suggesting that interaction between advanced glycation end products (AGEs) and their receptors (RAGEs) induces oxidative stress and subsequently encourages inflammatory reactions, thereby resulting in progressive alteration in renal architecture and function. Interventions that reduce the tissue burden of AGEs have yielded significant positive results in inhibiting the progression of diabetic complications such as diabetic nephropathy. Lycopene, a carotenoid, plays an important role in protection against oxidative stress and hence might prove an efficient antiglycating agent. Current study investigates the effect of lycopene in downregulating the menace caused by ribose-induced glycation both in vitro and in vivo. We observed that treatment with lycopene decelerated the ribose induced AGE formation in HK-2 cells and in rat kidneys thereby downregulating the expression RAGE. HK-2 cells with decreased levels of RAGE showed a decline in nuclear factor B (NFB) and matrix metalloproteinase 2 (MMP 2) expressions. Administration of ribose not only induced hyperglycemia in Wistar rats but also developed diabetic nephropathy (DN). However, lycopene was found effective in relieving the biochemical symptoms of DN. Thus lycopene provides protection against development of diabetic nephropathy and ameliorates renal function by halting AGE-RAGE axis.



| Research Title: | Multi-phase CTA: A new tool for the imaging triage of |
|---------------------------|---|
| | patients with acute ischemic stroke |
| | International Journal of Stroke |
| Source: | Wiley-Blackwell |
| | Vol. 10, Issue 2, Page: 307-308 |
| ISSN: | 1747-4930 |
| Month and Year of | ADD 2015 |
| Publication: | APK 2015 |
| Impact Factor: | 3.833 |
| Affiliated Department(s): | Medicine |
| Author(s): | BK Menon, CD d'Esterre, E Qazi, M Almekhlafi, L Hahn, |
| | A Demchuk, M Goyal |
| Correspondent's Email: | n/a |

ABSTRACT

Purpose: To describe an imaging selection tool, multi-phase CTA (mCTA) for use in acute ischemic stroke (AIS), and to demonstrate its inter-rater reliability, and ability to determine clinical outcome.

Methods: The local ethics board has approved the study. Data is from the pilot phase of PRoveIT, a prospective observational study analyzing utility of multi-modal imaging in the triage of AIS patients. Patients had baselinen on-contrast CT (NCCT), single-phase CTA head/neck, mCTA, and per-fusion CT (PCT). mCTA generates time-resolved images of pial arteries. Pial arterial filling was scored on a 6-point ordinal scale and interrater reliability tested. Clinical outcomes included \geq 50% drop in NIHSS over 24hours and 90 day mRS 0–2. Ability to predict clinical outcomes were compared between sCTA, mCTA and PCT using receiver operating curve(ROC) analysis, Akaike Information Criterion (AIC) and Bayesian Information Criterion (BIC).

Results: One hundred forty-seven patients were included. Inter-rater reliability for mCTA is excellent (n = 30, kappa = 0.81, p < 0.001). On ROC analysis, ability to predict clinical outcome is modest (c-statistic 0.56, 95%CI:0.52–0.63 for \ge 50% drop in NIHSS over 24 hours and 0.6,95%,CI:0.53–0.68 for 90 day mRS 0–2), but better than models using sCTA and PCT..p < 0.05 overall) Using AIC and BIC, models using mCTA are better than models using sCTA and PCT for \ge 50% drop in NIHSS over 24 hours(AIC = 166 and BIC = 171.7; values least for mCTA) and 90 day mRS 0–2(AIC = 132.1 and BIC = 137.4; values least for mCTA).

Conclusion: mCTA is a reliable tool for imaging selection in patients with acute ischemic stroke.



| | Neonterin: An immune biomarker of coronary artery |
|----------------------------------|---|
| Research Title: | Neopterini. All minimule biomarker of coronary artery |
| | disease and its association with other CAD markers |
| Source: | IUBMB Life |
| | Wiley-Blackwell |
| | Vol. 67, Issue 6, Page: 453-459 |
| ISSN: | 1521-6551 |
| Month and Year of | HIN 2015 |
| Publication: | JUN 2015 |
| Impact Factor: | 2.755 |
| Affiliated Department(s): | Medicine; Radiology |
| Author(s): | Chelapram Kandy Firoz, Nasimudeen R Jabir, |
| | Mohammad A Kamal, Mohammed Nabil Alama, Ghazi A |
| | Damanhouri, Waseem Khan, Anas S Alzahrani, Hussein |
| | A Almehdar, Shams Tabrez |
| Correspondent's Email: | shamstabrez1@gmail.com |

ABSTRACT

Neopterin has been considered as an important marker of cellular inflammation. The primary objective of the current study was to determine the role of neopterin in cardiovascular disease and its association with other well known cardiac markers. The study was composed of total 200 subjects (100 confirmed coronary artery disease (CAD) patients, 50 recently diagnosed, and 50 managed CAD patients) both men and women and 100 healthy control individuals of matching age and weight. Serum neopterin analysis was done using commercial available ELISA kits. Other cardiac markers viz. troponin, creatine kinase (CK), CK MB isoenzyme (CKMB), lactate dehydrogenase (LDH), fibrinogen, C-reactive protein (CRP), alanine aminotransferase (ALT), and aspartate aminotransferase (AST) estimation was done by standard routine biochemical methods. Neopterin level was found to be remarkably enhanced by 150% and 513% in the recently diagnosed and managed CAD patients, respectively. CK level also showed a significant rise by 62% in the managed patients. However, recently diagnosed patients did not show any significant change. Moreover, cross correlation study showed statistically significant (P<0.01) change in neopterin and CK levels between recently and managed patients. In the other studied CAD markers such as CKMB, fibrinogen and LDH also showed a significant increase in both categories of patients. CRP level was also found to be significantly enhanced by 357% (P<0.01) and 341% (P<0.05) in recently diagnosed and managed patients respectively. Because of cost effectiveness, easy and quick analysis of neopterin in the serum sample, we propose neopterin as the prognostic as well as diagnostic biomarker of CAD before other markers could be tested especially in Saudi population.



| Research Title: | Neurosyphilis in psychiatric practice: a case-based |
|----------------------------------|--|
| | discussion of clinical evaluation and diagnosis |
| | General Hospital Psychiatry |
| Source: | Elsevier Science Inc |
| | Vol. 37, Issue 5, Page: 459-463 |
| ISSN: | 1873-7714 |
| Month and Year of | |
| Publication: | SEP 1 2015 |
| Impact Factor: | 2.606 |
| Affiliated Department(s): | Medicine |
| Author(s): | Jennifer Gatchel, Benalfew Legesse, Safwan Tayeb, Evan |
| | Murray, Bruce Price |
| Correspondent's Email: | blegesse@partners.org |

ABSTRACT

Objective: Neurosyphilis can present with a wide range of neuropsychiatric symptoms. Hence, psychiatrists need to be familiar with tests for syphilis screening and how to interpret syphilis serologic tests.

Methods: We present four cases of patients with positive syphilis tests encountered in a psychiatric hospital.

Results: Two cases were treated for neurosyphilis, while the other two cases did not have active syphilis infection despite positive results.

Conclusion: We thus highlight the challenges encountered by psychiatrists in screening for and diagnosing cases of neurosyphilis.



| Research Title: | Participation of Medical Students in Health Research: |
|----------------------------------|---|
| | Local and International Experiences |
| Source: | Scholars Journal of Applied Medical Sciences |
| | Scholars Academic and Scientific Publisher |
| | Vol. 2015, Issue 3, Page: 797-801 |
| ISSN: | 2320-6691 |
| Month and Year of | MAD 2015 |
| Publication: | MAR 2013 |
| Impact Factor: | n/a |
| Affiliated Department(s): | Medicine; Medical Education; Pathology |
| Author(s): | Yasmeen Zaki, Basem Eldeek, Nasra Ayuob, |
| | SafwanAltayeb, Reda Jamjoom |
| Correspondent's Email: | n/a |

ABSTRACT

Medical Students' role in health research is of great importance. It is trending worldwide that medical students learn and apply research skills early during their undergraduate studies. The objectives of this article are to explore the students research activities in national and international medical schools, and to postulate some actions to effectively enhance students' participation in research. In this review article, research conduction by medical students at some local and international studies were being surveyed; along with methods medical schools (including Faculty of Medicine, King Abdulaziz University) are using to improve the medical students' involvement in research. Many studies have proved effectiveness of specific approaches for enhancing students' research. There were still many actions to be taken by the medical schools which are willing to improve their students' participation in research. Depending on this review we suggest that efforts, finance and time should be appropriately invested to promote and early student's involvement in research. Integrating the research further in the curriculum, promoting the extracurricular research activities, providence of research protected time for students and the establishment of a student medical research unit is all recommended.



| Research Title: | Pattern of Drug Overdose and Chemical Poisoning |
|----------------------------------|--|
| | Among Patients Attending an Emergency Department, |
| | Western Saudi Arabia |
| | Journal of Community Health |
| Source: | Springer |
| | Vol. 40, Issue 1, Page: 57-61 |
| ISSN: | 1573-3610 |
| Month and Year of | EED 2015 |
| Publication: | FEB 2013 |
| Impact Factor: | n/a |
| Affiliated Department(s): | Medicine |
| Author(s): | Mohamad Bakhaidar, Saber Jan, Fayssal Farahat, Ahmad |
| | Attar, Basim Alsaywid, Wesam Abuznadah |
| Correspondent's Email: | n/a |

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 nonsteroidal 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: | Pattern of drugs use and association with anti-mutated |
|----------------------------------|---|
| | citrullinated vimentin antibody in rheumatoid arthritis |
| | Saudi Medical Journal |
| Source: | Saudi Med J |
| | Vol. 36, Issue 3, Page: 316-323 |
| ISSN: | 0379-5284 |
| Month and Year of | MAR 2015 |
| Publication: | |
| Impact Factor: | 0.588 |
| Affiliated Department(s): | Medicine; Microbiology and Medical Parasitology |
| Author(s): | Mohammad-Ayman A Safi, Omar A Fathaldin |
| Correspondent's Email: | aymansafi3@hotmail.com |

ABSTRACT

Objectives: To demonstrate the pattern of disease-modifying antirheumatic drugs (DMARDs) use in Saudi and non-Saudi rheumatoid arthritis (RA) patients, and to evaluate the association of DMARDs use with anti-mutated citrullinated vimentin (anti-MCV) positivity and other factors.

Methods: Retrospectively, for a period of 7 years (2007-2014), we studied 205 RA patients, at King Abdulaziz University Hospital (KAUH), Jeddah, Saudi Arabia. All patients used DMARDs. Pattern of use for all 6 DMARDs was almost the same among Saudis and non-Saudis with no significant difference (p>0.05) for each DMARD; MTX was the most commonly used DMARD (71-76%).

Results: There was no association between anti-MCV positivity and different DMARDs use. Methotrexate was used 76 times as combination, scoring the highest in this respect. There was a significant correlation (p<0.05) between Plaquenil with Methotrexate and with Sulfasalazine; Leflunomide with anti-TNF and with Prednisolone; age with Methotrexate and with Plaquenil; anti-MCV positivity with Prednisolone. Saudi/non-Saudi status showed no correlation with all factors or drugs. There was no significant association between DMARDs and comorbidity.

Conclusion: Similar to worldwide results, MTX was the most commonly used DMARD; with the addition of anti-TNF to increase the effect, and folic acid to minimize the side effects. In this cohort, the pattern of use for all DMARDs was similar among Saudis and non-Saudis; treatment depended neither on anti-MCV positivity nor on the presence of comorbid conditions. A study of the association of DMARDs with disease activity is recommended.



| Research Title: | Perceptions of clinical years' medical students and interns |
|---------------------------|---|
| | towards assessment methods used in King Abdulaziz |
| | University, Jeddah |
| | Pakistan Journal of Medical Sciences |
| Source: | E Journal System |
| | Vol. 31, Issue 4, Page: 757-762 |
| ISSN: | 1682-024X |
| Month and Year of | IUN 2015 |
| Publication: | JOIN 2013 |
| Impact Factor: | 0.098 |
| Affiliated Department(s): | Medicine; Family Medicine |
| Author(s): | Nahla Khamis Ibrahim, Budoor Mohammed Al-Sharabi, |
| | Rasha Abdullah Al-Asiri, Najat Abdullah Alotaibi, |
| | Wejdan Ibrahim Al-Husaini, Hussa Adel Al-Khajah, |
| | Reem Mohammad Rakkah, Afnan Mohammed Turkistani |
| Correspondent's Email: | n/a |

ABSTRACT

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

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

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

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



| Research Title: | Perceptions of medical students towards antibiotic prescribing for upper respiratory tract infections in Saudi |
|---------------------------|--|
| | Arabia |
| | BMJ Open Respiratory Research |
| Source: | BMJ Publishing Group Ltd & British Thoracic Society |
| | Vol. 2015, Issue 2, Page 1-11 |
| ISSN: | 2052-4439 |
| Month and Year of | JUN 2015 |
| Publication: | |
| Impact Factor: | n/a |
| Affiliated Department(s): | Medicine |
| | Steve Harakeh, Musab Almatrafi, Haifa Ungapen, Rotana |
| | Hammad, Feras Olayan, Reema Hakim, Mohammed |
| | Ayoub, Noura Bakhsh, Saad B Almasaudi, Elie Barbour, |
| Author(s). | Suhad Bahijri, Esam Azhar, Ghazi Damanhouri, Yousef |
| | Qari, Taha Kumosani, Zeena Harakeh, Muhammad S |
| | Ahmad, JochenW L Cals |
| Correspondent's Email: | Sharakeh@gmail.com |

ABSTRACT

Introduction: This survey evaluates knowledge, attitudes and practices of medical students towards use of antibiotics for upper respiratory infections (URTIs).

Methodology: Cross-sectional questionnaire study among 1042 randomly selected medical students in Saudi Arabia.

Results: Respondents were mostly Saudis (97.5%), had previous knowledge of antibiotics (99.7%) and their usage (98.3%) against bacterial infections (93.7%). 18.1% thought that they could be used for viral infections. Nearly all students (97.2%) used antibiotics themselves during the previous year and self-medication without a prescription was high at 49% of cases. Most antibiotics were taken for URTI symptoms (61.8%). Female medical students had better knowledge on antibiotic effectiveness against bacteria and viruses, and overall knowledge increased with study year. Health seeking behaviour rates for symptoms of RTI and associated estimated necessity for antibiotics varied but were highest for cough with yellow/green phlegm.

Conclusions: The depth of knowledge that healthcare professionals have in relation to the proper use of antibiotics is essential in spreading the right message within communities. This is the first large study among medical students in Saudi Arabia, shedding important light on areas for improvement in the medical curriculum as well as antibiotic practices of medical students themselves.



| Research Title: | Periodontal findings in systemic lupus erythematosus |
|----------------------------------|--|
| | patients and healthy controls |
| | Saudi Medical Journal |
| Source: | Saudi Med J |
| | Vol. 36, Issue 4, Page: 463-468 |
| ISSN: | 0379-5284 |
| Month and Year of | ADD 2015 |
| Publication: | AFK 2015 |
| Impact Factor: | 0.588 |
| Affiliated Department(s): | Medicine |
| Author(s): | Khalid D Al-Mutairi, Mohammad S Al-Zahrani, Sami M |
| | Bahlas, Rayyan A Kayal, Khalid H Zawawi |
| Correspondent's Email: | kzawawi@kau.edu.sa |

ABSTRACT

Objectives: To compare periodontal findings in systemic lupus erythematosus (SLE) patients and healthy controls, and to determine, whether there is a correlation between periodontal parameters and SLE biomarkers.

Methods: This cross-sectional study was conducted in the Faculty of Dentistry, King Abdulaziz University, Jeddah, Kingdom of Saudi Arabia between November 2012 and February 2014. Twenty-five participants diagnosed with SLE and 50 healthy controls were selected. Periodontal assessment consisted of clinical attachment level (CAL), probing depth (PD), bleeding on probing, and plaque scores. For the SLE group, several laboratory tests were obtained, such as, white blood cell count, hemoglobin level, platelet count, anti-nuclear antibody, anti-double-stranded DNA antibody, calcium level, and vitamin D.

Results: Periodontal findings in SLE patients and controls were not significantly different. The SLE patients who had no flare-ups for more than a year showed significant bleeding on probing and deeper PD compared with those who had flare-ups less than a year before starting the study. The SLE patients with arthritis symptoms showed more CAL than those without arthritis. In the SLE patients, no significant correlation was found between their periodontal findings and SLE biomarkers.

Conclusion: Periodontal health was not different between SLE patients and healthy controls. In SLE patients however, flare-ups and presence of arthritis had a significant relation with periodontal health.



| Research Title: | Prevalence and predictors of habitual snoring in a sample |
|----------------------------------|---|
| | of Saudi middle-aged adults |
| Source: | Saudi Medical Journal |
| | Saudi Med J |
| | Vol. 36, Issue 8, Page: 920-927 |
| ISSN: | 0379-5284 |
| Month and Year of | AUC 2015 |
| Publication: | AUG 2013 |
| Impact Factor: | 0.554 |
| Affiliated Department(s): | Medicine; Family Medicine |
| Author(s): | Siraj O Wali, Bahaa A Abaalkhail |
| Correspondent's Email: | n/a |

ABSTRACT

Objectives: To determine the prevalence of habitual snoring among a sample of middleaged Saudi adults, and its potential predictors.

Methods: A cross-sectional study was conducted from March 2013 until June 2013 in randomly selected Saudi Schools in Jeddah, Kingdom of Saudi Arabia. The enrolled subjects were 2682 school employees (aged 30-60 years, 52.1% females) who were randomly selected and interviewed. The questionnaire used for the interview included: the Wisconsin Sleep Questionnaire to assess for snoring, medical history, and socio-demographic data. Anthropometric measurements and blood pressure readings were recorded using standard methods.

Results: Forty percent of the 2682 enrolled subjects were snorers: 23.5% were habitual snorers, 16.6% were moderate snorers, and 59.9%, were non-snorers. A multivariate analysis revealed that independent predictors of snoring were ageing, male gender, daytime sleepiness, hypertension, family history of both snoring and obstructive sleep apnea, water-pipe smoking, and consanguinity.

Conclusion: This study shows that snoring is a common condition among the Saudi population. Previously reported risk factors were reemphasized but consanguinity was identified as a new independent predictive risk factor of snoring. Exploring snoring history should be part of the clinical evaluation.



| Research Title: | Placebo response and remission rates in Ulcerative Colitis |
|---------------------------|--|
| | clinical trials: Systematic review and meta-analysis |
| Source: | Gastroenterology |
| | W B Saunders Co-Elsevier Inc |
| | Vol. 148, Issue 4, Page: 396-396 |
| ISSN: | 1528-0012 |
| Month and Year of | ADD 2015 |
| Publication: | AFK 2015 |
| Impact Factor: | 16.716 |
| Affiliated Department(s): | Medicine |
| | Vipul Jairath, Claire E Parker, Guangyong Zou, John K |
| | MacDonald, Turki AlAmeel, Mohammad Al Beshir, |
| Author(s): | Majid A Almadi, Talal Al-Taweel, Nathan Atkinson, |
| | Sujata Biswas, Thomas Chapman, Parambir Dulai, Mark |
| | A Glaire, Daniel R Hoekman, Andreas L Koutsoumpas, |
| | Elizabeth Minas, Mahmoud H Mosli, Mark A Samaan, |
| | Margaret K Vandervoort, Simon Travis, Geert R D'Haens, |
| | Barrett G Levesque, William Sandborn, Brian G Feagan |
| Correspondent's Email: | n/a |

ABSTRACT

Background: Defining the magnitude and modifiers of placebo (PBO) rates in randomized controlled trials (RCTs) of ulcerative colitis (UC) is essential for the design and conduct of efficient trials and to optimize the detection of true drug-PBO differences. We conducted a contemporary meta-analysis of PBO response and remission rates in induction and maintenance phases of RCTs for active UC and assessed factors influencing these rates. We report the Results of our analysis of induction trials here.

Methods: MEDLINE, EMBASE, Cochrane Central Register of Controlled Trials and the Cochrane IBG group specialized trials register were searched from inception to April 2014. Conference proceedings were searched between 2002-2014. Eligible studies were PBO-controlled trials of UC in adult patients which: (1) contained an induction and/or maintenance phase; (2) used the UCDAI (Mayo/Sutherland/partial equivalent) as criterion for enrolment and assessment of response/remission; and (3) evaluated the efficacy of 4 drug classes (steroids, aminosalicylates, immunosuppressives, biologics). Data were extracted independently in pairs and disagreements resolved with a third reviewer. PBO rates for each outcome were pooled using a binomial-normal model for meta-analysis of proportions.

Results: We identified 7,587 citations and 55 studies eligible for inclusion (46 induction, 9 maintenance). Pooled PBO remission (n=40) and response (n=43) rates were 10% (95% CI 7%-13%; range 1%-49%) and 33% (95% CI 28%-38%; range 6%-92%) respectively, both with significant heterogeneity (P < 0.001). Features associated with a lower PBO response were longer disease duration prior to enrolment (33% for >5 yrs vs 47% for \leq 5 yrs), endoscopy subscore \geq 2 at study entry (34% for score \geq 2 vs 46% for score \geq 1) and requirement for improvements in endoscopy and bleeding subscores as outcome measures. Features associated with lower PBO remission rates were longer disease duration prior to enrolment (10% for >5 yrs vs 19% for \leq 5 yrs), endoscopy subscore \geq 2



at study entry (11% for score ≥ 2 vs 24% for score ≥ 1), the requirement for improvement in the endoscopy subscore from baseline as an outcome measure and publication date after 2005 (12% for ≤ 2005 vs 9% ≥ 2005). No difference in PBO rates was observed when disease was classified as mild-moderate vs moderate-severe at study entry, for a UCDAI cut-point ≥ 6 vs <6, or follow-up duration.

Conclusion: Lower PBO response and remission rates were observed in UC induction trials enrolling patients with more active disease defined by endoscopic subscore, rather than a higher composite UCDAI. This reinforces the importance of enrolling patients and assessing outcomes using objective markers of active disease.



| Research Title: | Prevalence and predictors of habitual snoring in a sample |
|----------------------------------|---|
| | of Saudi middle-aged adults |
| Source: | Saudi Medical Journal |
| | Saudi Med J |
| | Vol. 36, Issue 8, Page: 920-927 |
| ISSN: | 0379-5284 |
| Month and Year of | AUC 2015 |
| Publication: | AUG 2013 |
| Impact Factor: | 0.554 |
| Affiliated Department(s): | Medicine; Family Medicine |
| Author(s): | Siraj O Wali, Bahaa A Abaalkhail |
| Correspondent's Email: | n/a |

ABSTRACT

Objectives: To determine the prevalence of habitual snoring among a sample of middleaged Saudi adults, and its potential predictors.

Methods: A cross-sectional study was conducted from March 2013 until June 2013 in randomly selected Saudi Schools in Jeddah, Kingdom of Saudi Arabia. The enrolled subjects were 2682 school employees (aged 30-60 years, 52.1% females) who were randomly selected and interviewed. The questionnaire used for the interview included: the Wisconsin Sleep Questionnaire to assess for snoring, medical history, and socio-demographic data. Anthropometric measurements and blood pressure readings were recorded using standard methods.

Results: Forty percent of the 2682 enrolled subjects were snorers: 23.5% were habitual snorers, 16.6% were moderate snorers, and 59.9%, were non-snorers. A multivariate analysis revealed that independent predictors of snoring were ageing, male gender, daytime sleepiness, hypertension, family history of both snoring and obstructive sleep apnea, water-pipe smoking, and consanguinity.

Conclusion: This study shows that snoring is a common condition among the Saudi population. Previously reported risk factors were reemphasized but consanguinity was identified as a new independent predictive risk factor of snoring. Exploring snoring history should be part of the clinical evaluation.



| Research Title: | Prevalence and risk factors of asymptomatic |
|----------------------------------|---|
| | bronchiectasis in patients with rheumatoid arthritis at a |
| | tertiary care center in Saudi Arabia |
| | Annals of Thoracic Medicine |
| Source: | Medknow Publications & Media Pvt Ltd |
| | Vol. 10, Issue 3, Page: 176-180 |
| ISSN: | 1998-3557 |
| Month and Year of | HH 2015 |
| Publication: | JUL 2013 |
| Impact Factor: | 1.338 |
| Affiliated Department(s): | Medicine |
| Author(s): | Suzan Mansour Attar, Omer Saeed Alamoudi, Assma |
| | Abdullah Aldabbag |
| Correspondent's Email: | n/a |

ABSTRACT

Introduction And Objectives: Bronchiectasis is a pulmonary manifestation that often occurs in individuals with rheumatoid arthritis (RA). Nevertheless, the prevalence of bronchiectasis in RA patients and predictors of its development/progression remain ill-defined. Our objective was to investigate the prevalence of bronchiectasis in a group of RA patients and examine possible clinical or biochemical risk factors that might contribute to its development.

Methods: This was an observational study analyzing 100 RA patients with no pulmonary symptoms selected from King Abdulaziz University Hospital in the Western region of Saudi Arabia from October 2013 to 2014. Demographic, clinical and laboratory information were collected for all patients. Diagnosis was based on the 2010 American College of Rheumatology (ACR)/European League Against Rheumatism (EULAR) classification system, and disease activity was assessed using the 28-Joint Disease Activity Score Index with C-reactive protein; high-resolution computed tomography chest scans were performed. The prevalence of bronchiectasis was recorded and its association with different risk factors was examined using standard statistical methods.

Results: All 100 patients fulfilled the ACR and EULAR classification criteria for RA diagnosis. Their mean age was 51.05 +/- 13.5 years, disease duration was 6.19 +/- 6.4 years and disease activity index was 4 +/- 1.3 (moderate activity). A total of 35 (35%) patients developed bronchiectasis. Notably, we observed significant positive associations of bronchiectasis with age, disease duration and male gender (P < 0.001, P = 0.006, P = 0.028, respectively).

Conclusions: Asymptomatic bronchiectasis represents a common complication in moderately active RA patients within the Western Region of Saudi Arabia. Furthermore, several predictors of bronchiectasis development were identified, which can contribute to effective risk stratification in RA patients. Further prospective studies are needed to detect the prognosis of asymptomatic bronchiectasis in RA patients.



| | Prevalence of hypothyroidism in a cohort of Saudi women |
|----------------------------------|---|
| Research Title: | with heart failure and effect on systolic and diastolic |
| | function |
| | Journal of The Pakistan Medical Association |
| Source: | Pakistan Medical Assoc |
| | Vol. 65, Issue 12, Page: 1300-1304 |
| ISSN: | 0030-9982 |
| Month and Year of | DEC 2015 |
| Publication: | DEC 2015 |
| Impact Factor: | 0.414 |
| Affiliated Department(s): | Medicine |
| Author(s): | Kamal AlGhalayini |
| Correspondent's Email: | kalghalayini@kau.edu.sa |

ABSTRACT

Objectives: To determine the prevalence of hypothyroidism in a cohort of Saudi women with heart failure; to define the demographic variables associated with heart failure; and the impact of hypothyroidism on systolic function in relation to non-hypothyroidism group.

Methods: The cross-sectional cohort study was conducted at King Abdulaziz University Hospital, Jeddah, Saudi Arabia, and comprised all women diagnosed with heart failure who were seen in the Cardiology outpatients clinic between February 2010 and March 2013. All of them were subjected to complete medical history and clinical examination, including complete cardiac clinical examination, electrocardiogram, echocardiography, blood pressure reading as well as thyroid examination. Laboratory tests were performed for thyroid stimulating hormone, total cholesterol, triglycerides, low-density lipoprotein and high-density lipoprotein.

Results: Of the 111 patients, 37 (33.3%) had hypothyroidism (p<0.001), and 16(14.4%) of them showed subclinical hypothyroidism. The mean value for thyroid stimulating hormone was 4.79+/-4.98U/L. There was a significant negative correlation between thyroid stimulating hormone and ejection fraction.

Conclusion: There was close relation between hypothyroidism and heart failure. Further large-scale studies are recommended for early detection of hypothyroidism.



| Research Title: | Prevalence of obesity and hypertension among University students' and their knowledge and attitude towards risk factors of Cardiovascular Disease (CVD) in Jeddah, Saudi Arabia |
|----------------------------------|--|
| Source: | Pakistan Journal of Medical Sciences Professional Medical Publications Vol. 31, Issue 4, Page: 816-820 |
| ISSN: | 1682-024X |
| Month and Year of Publication: | JUL 2015 |
| Impact Factor: | 0.231 |
| Affiliated Department(s): | Medicine; Clinical Biochemistry |
| Author(s): | Mukhtiar Baig, Zohair J Gazzaz, Mamdooh A Gari, Haidar G Al-Attallah, Khaled S Al-Jedaani, Amjad TA Mesawa, Abdulrahman A Al-Hazmi |
| Correspondent's Email: | n/a |

ABSTRACT

Objectives: To investigate the prevalence of obesity and hypertension among University students' and their knowledge and attitude towards risk factors of cardiovascular disease (CVD) in Jeddah, Saudi Arabia.

Methods: A total of 610 male students were selected for present cross sectional study and their blood pressure (BP) and body mass index (BMI) was determined, other data was gathered through a questionnaire, and SPSS-16 was used for analyzing data.

Results: Out of 610 students, 7.5% were hypertensive (systolic 2.6% and diastolic 6.3%) while the BM! of 51.6% was in the normal range, 29.8% were overweight and 10.7% were moderately obese and 7.9% were severely obese. Majority of the participants considered that smoking, increased fatty food intake, obesity, high BP, and increased LDL-cholesterol level, are the main causes of the CVD. Most of the participants agreed that one should know his BP, blood sugar, serum cholesterol and one should maintain normal body weight and should do regular exercise. They were also aware that healthy lifestyle could prevent CVD. However, majority of the participants were not practicing healthy lifestyle.

Conclusion: A huge gap exists in the knowledge, attitude and practice regarding risk factors of CVD among the university students.



| Research Title: | Prevalence of obstructive sleep apnea among patients with |
|---------------------------|---|
| | coronary artery disease in Saudi Arabia |
| Source: | Somnologie 2015 |
| | Springer-Verlag Berlin Heidelberg |
| | Vol. 19, Issue 1, Page: 4 |
| ISSN: | 1432-9123 |
| Month and Year of | ADD 2015 |
| Publication: | AFK 2015 |
| Impact Factor: | n/a |
| Affiliated Department(s): | Medicine |
| | Siraj O Wali, Muath A Alsharif, Mohammed H Albanji, |
| Author(s): | Murad S Baabbad, Haneen M Almotary, Nabil Alama, |
| | Layth Mimish, Adil Alsulami, Muntasir M Abdelaziz |
| Correspondent's Email: | n/a |

ABSTRACT

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

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

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

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

Conclusion: This local study concurs with reports in the literature indicating that OSA is very common among CAD patients.



| Research Title: | Prevalence of restless legs syndrome and associated risk |
|---------------------------|--|
| | factors among middle-aged Saudi population |
| | Annals of Thoracic Medicine |
| Source: | Medknow Publications & Media Pvt Ltd |
| | Vol. 10, Issue 3, Page 193-198 |
| ISSN: | 1998-3557 |
| Month and Year of | II II 2015 |
| Publication: | JOE 2015 |
| Impact Factor: | 1.338 |
| Affiliated Department(s): | Medicine; Family Medicine |
| Author(s): | Siraj Omar Wali, Bahaa Abaalkhail |
| Correspondent's Email: | sowali@kau.edu.sa |

ABSTRACT

Background And Aim: The prevalence of restless legs syndrome (RLS) in the general population ranges from 5 to 15%; however, locally, such data are scarce. The aim of this study was to estimate the prevalence of RLS in the middle-aged Saudi population.

Methods: This was a cross-sectional study that was conducted from February 2013 to June 2013 in Jeddah, Saudi Arabia. The target study population was Saudi school employees. Saudi employees aged 30-60 years were randomly selected and interviewed individually. Trained interviewers completed the Wisconsin Sleep Questionnaire, questions about demographics, the Epworth Sleepiness Scale to measure daytime sleepiness, and questions regarding symptoms of RLS based on the criteria defined by the International Restless Legs Syndrome Study Group (IRLSSG).

Results: This survey revealed that 8.4% (95% confidence interval (CI): (7.35-9.45)) of the 2,682 participants (62.5% of them were males) had RLS. There was no age effect on the prevalence of RLS. RLS was found to be significantly associated with other sleep disorders, including excessive daytime sleepiness and habitual snoring. A univariate analysis revealed significant correlation of many factors with the RLS, including gender, consanguinity, snoring, diabetes, hypertension, asthma, chronic bronchitis, and smoking. However, when a multivariate logistic regression analysis performed, RLS continued to be associated with male gender, diabetes, asthma, and habitual snoring only.

Conclusion: The prevalence of RLS is 8.4%, which is within the range reported by Western studies. However, unlike findings of most studies, RLS significantly affects males more than females. In addition, snoring, asthma, and consanguinity are potential new risk factors for RLS.



| Research Title: | Prospective study of depression among dialysis patients in |
|-------------------------------|--|
| | Saudi Arabia |
| Source: | International Urology and Nephrology |
| | Springer |
| | Vol. 47, Issue 6, Page: 1001-1010 |
| ISSN: | 1573-2584 |
| Month and Year of | IUN 2015 |
| Publication: | JUN 2013 |
| Impact Factor: | 1.293 |
| Affiliated Department(s): | Medicine |
| Author(s): | Faten Al Zaben, Mohammad Gamal Sehlo, Doaa Ahmed |
| | Khalifa, Saad Al Shohaib, Faisul Shaheen, Linda |
| | Alzaben, Rami Ghazi Ahmad, Jafar Ayman Ashy, Reema |
| | Ghazi Felemban, Harold G Koenig |
| Correspondent's Email: | n/a |

ABSTRACT

The purpose was to determine the short-term course of depression among dialysis patients in Saudi Arabia and identify baseline characteristics that may influence course.

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

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

Nearly one-half of depressed dialysis patients in Saudi Arabia continue to have significant symptoms beyond 12 weeks of follow-up, few of whom were treated. Specific characteristics at baseline identify depressed dialysis patients at greater risk of persistent symptoms who need treatment.



| | Deiedie Dynatylate And Canoinie Managetone Have Detent |
|---------------------------|--|
| Research Title: | Psiadia Punctulata And Garcinia Mangostana Have Potent |
| | Vasorelaxant Activity On Isolated Rat Aorta |
| Source: | Journal of Hypertension |
| | Wolters Kluwer Health, Inc. |
| | Vol. 33, Issue 14, Page: 246 |
| ISSN: | 1473-5598 |
| Month and Year of | HDI 2015 |
| Publication: | JUN 2015 |
| Impact Factor: | 4.222 |
| Affiliated Department(s): | Medicine |
| Author(s): | H Abdallah, H El-Bassossy, A El-Halawany, G |
| | Mohamed, K Alshali, Z Banjar |
| Correspondent's Email: | n/a |

ABSTRACT

Objective: Hypertension and vascular dysfunction are major complications of many diseases like diabetes and metabolic syndrome. Psiadia punctulata Vatke (PP), Garcinia mangostana L. (GM) are two plants used in Saudi community. The present work investigated the effect the vasodilatation effect of the extracts and their fractions in isolated rat aorta through bioassay-guided fractionation procedures.

Design and method: The aerial parts of PP and GM were died and extracted with methanol. Methanol extract was suspended in a suitable amount of water and extracted with chloroform (I). The remaining mother liquor was fractionated on a Diaion HP-20 step wisely eluted with H2O, 50% and 100% methanol. The eluates were evaporated under vacuum to afford 50% MeOH fraction (II), and 100% methanol fraction (III). The vasorelaxant effect of the total extract of PP and GM as well as their fractions were examined in isolated adult rat aorta by adding cumulative concentrations (0.01- 1 mg/ml) of the extracts or the fractions to the organ bath after precontraction with phenylephrine (PE) at concentration of 10 M.

Results: Addition of PP total extract to the organ bath led to concentration dependent relaxation of isolated rat aorta with 100% relaxation of PE pre-contraction at concentration of 1 mg/ml. The same relaxation response was observed with fraction I of PP while fraction II did not show any relaxation and fraction III showed mild relaxation. On the other hand, addition of GM total extract to the organ bath led to concentration dependent relaxation of the isolated rat aorta with 90% relaxation of PE pre-contraction at concentration of 1 mg/ml. The same relaxation response was observed with fraction II of PP while fraction I did not show any relaxation and fraction III showed mild relaxation of PE pre-contraction at concentration of 1 mg/ml. The same relaxation response was observed with fraction II of PP while fraction I did not show any relaxation and fraction III showed mild relaxation.

Conclusions: In conclusion, PP and GM have strong vasorelaxant activity. Addition of PP and GM to the standard therapies may provide superior means to alleviate the associated vascular complications.



| Research Title: | Psychometric evaluation of the Persian version of the Type 2 |
|---------------------------|--|
| | Diabetes and Health Promotion Scale (T2DHPS): a diabetes- |
| | specific measure of lifestyle |
| Source: | Scandinavian Journal of Caring Sciences |
| | Wiley-Blackwell |
| | Vol. 29, Issue 3, Page: 603-612 |
| ISSN: | 1471-6712 |
| Month and Year of | SEDT 2015 |
| Publication: | SEF 1 2013 |
| Impact Factor: | 1.197 |
| Affiliated Department(s): | Medicine |
| Author(s): | Mohsen Saffari, Tooba Karimi, Harold G Koenig, Faten |
| | Al-Zaben |
| Correspondent's Email: | m.saffari@bmsu.ac.ir |

ABSTRACT

Background: A healthy lifestyle is important for maintaining health and preventing complications in patients with type 2 diabetes, and yet, few instruments are available to measure this.

Aim: The aim of the present study was to examine the psychometrics of a recently developed tool that can be used to screen for a health-promoting lifestyle in patients with type 2 diabetes.

Methods: Data were collected from outpatients attending diabetes clinics. The Type 2 Diabetes and Health Promotion Scale (T2DHPS), EQ-5D, medical records and a demographic questionnaire were administered to 368 participants. Forward-backward translation of the original English version was used to develop a Persian version. Internal consistency of the scale was assessed by Cronbach's alpha and item-to-total correlation. Acceptability was measured by assessing floor and ceiling effects for each item and subscale. The item scaling test was used to determine the predictive validity of the scale. An explanatory factor analysis and known-group method were used to establish construct validity.

Results: Adjusted item-total correlations were higher than 0.20. Cronbach's alpha for the 28item scale was 0.88 and for subscales ranged from 0.53 to 0.94. Correlations between the total score and subscale scores were significant (<0.01) and adequate (r's0.53). There were significant relationships between the T2DHPS and both the EQ-5D and indicators of glycaemic control. Convergent and discriminant validity of the scale was established. Significant differences in lifestyle dimensions were present between different groups of patients, demonstrating known-group validity. A six-factor solution was obtained that explained 54.6% of the total variance.

Conclusion: The T2DHPS is a valid and reliable tool for investigating lifestyle behaviours in patients with type 2 diabetes. Further studies to establish the psychometric properties of the scale in other languages and cultures are suggested.



| Research Title: | PTEN Depletion Decreases Disease Severity and |
|----------------------------------|---|
| | Modestly Prolongs Survival in a Mouse Model of Spinal |
| | Muscular Atrophy |
| | Molecular Therapy |
| Source: | Nature Publishing Group |
| | Vol. 23, Issue 2, Page: 270-277 |
| ISSN: | 1525-0024 |
| Month and Year of | EED 2015 |
| Publication: | FEB 2013 |
| Impact Factor: | 6.425 |
| Affiliated Department(s): | Medicine |
| | Daniel Little, Chiara F Valori, Chantal A Mutsaers, Ellen |
| Author(s): | J Bennett, Matthew Wyles, Basil Sharrack, Pamela J |
| | Shaw, Thomas H Gillingwater, Mimoun Azzouz, Ke Ning |
| Correspondent's Email: | n/a |

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 (SMNA7) 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 postnatal day 1 resulted in a modest threefold extension of the lifespan of SMNA7 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 SMNA7 mice and therapies aimed at lowering PTEN expression may therefore offer a potential therapeutic strategy for SMA.


| Research Title: | Pubertal Developmental Age among Saudi and Non-Saudi |
|----------------------------------|--|
| | Young Females Living in Jeddah, Saudi-Arabia |
| Source: | Pediatrics & Therapeutics |
| | OMICS International |
| | Vol. 5, Issue 2, Page: 1-3 |
| ISSN: | 2161-0665 |
| Month and Year of | APR 2015 |
| Publication: | |
| Impact Factor: | 1.32 |
| Affiliated Department(s): | Medicine; Pediatrics |
| Author(s): | AE Al-Agha, RI Jamal Aldeen, BO Tatwany |
| Correspondent's Email: | n/a |

ABSTRACT

Puberty has different factors affecting its onset e.g. race, nutrition, hormonal stimulation. The aim of this research is to investigate the racial differences in onset of puberty among Saudi and non-Saudi young females living in the same environment. This cross-sectional study includes 568 healthy young females aged between 6-14 years living in Jeddah. In the present study, 60.7% of females were Saudis and 38.2% were non-Saudis. There were no significant differences found between each of the age of breasts development (p=0.187), age of first appearance of pubic hair (p=0.308), and the age of menarche (p=0.651) among Saudi and non-Saudi young females living in Jeddah. There were no significant differences between pubertal developmental age among Saudi and non-Saudi young females living in Jeddah.



| Research Title: | Pulmonary manifestations in systemic lupus |
|---------------------------|--|
| | erythematosus: Association with disease activity |
| Source: | Respirology |
| | Wiley-Blackwell |
| | Vol. 20, Issue 3, Page: 474-480 |
| ISSN: | 1323-7799 |
| Month and Year of | ADD 2015 |
| Publication: | AI K 2015 |
| Impact Factor: | 3.495 |
| Affiliated Department(s): | Medicine |
| Author(s): | Omer SB Alamoudi, Suzan M Attar |
| Correspondent's Email: | n/a |

ABSTRACT

Background and objective: Although systemic lupus erythematosus (SLE) is the most common connective tissue disease affecting the lung, few studies have assessed risk factors that predict pulmonary manifestations. The objectives of the present study were to determine the prevalence of lung manifestations in SLE patients from Western Saudi Arabia by analysing results from high-resolution computed tomography (HRCT) scans and to identify independent risk factors for lung involvement.

Methods: This was a 10-year retrospective study involving 184 SLE patients. We examined all HRCT lung abnormalities and determined whether findings were associated with the presence of lupus nephritis (LN), SLE disease activity (as defined by SLE Disease Activity Index 2000 item scores 4 for any and all items) or levels of complement and anti-double-stranded DNA (anti-dsDNA).

Results: We identified 61 patients (33%) with pulmonary involvement, and 52 (85%) of these subjects showed HRCT abnormalities. The most common HRCT findings were pleural effusion, consolidation and atelectasis (58%, 42% and 42%, respectively). There was a significant association between abnormal HRCT results and hypocomplementemia, high levels of anti-dsDNA and disease activity (P<0.05), particularly with regard to pleuropericardial effusion and consolidation. Pulmonary abnormalities were significantly higher within the first five years after SLE diagnosis (P<0.001). However, neither disease duration nor LN was associated with increased risk.

Conclusions: Lung manifestations were frequent in SLE patients from Saudi Arabia, with pleural effusion, consolidation and atelectasis being the most common. Low complement levels, high anti-dsDNA levels and disease activity were significantly associated with abnormal HRCT findings (all P<0.001).



| Research Title: | Punishment for bedwetting is associated with child |
|---------------------------|--|
| | depression and reduced quality of life |
| Source: | Child Abuse & Neglect |
| | Pergamon-Elsevier Science Ltd |
| | Vol. 43, Page: 22-29 |
| ISSN: | 1873-7757 |
| Month and Year of | MAY 2015 |
| Publication: | WIA I 2013 |
| Impact Factor: | 2.574 |
| Affiliated Department(s): | Medicine |
| Author(s): | Faten Nabeel Al-Zaben, Mohammad Gamal Sehlo |
| Correspondent's Email: | n/a |

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 assessment and counselling offered by |
|----------------------------------|--|
| | community pharmacists and medication sale without |
| | prescription to patients presenting with acute cardiac |
| | symptoms: a simulated client study |
| | European Journal of Clinical Pharmacology |
| Source: | Springer Berlin Heidelberg |
| | Vol. 2015, Page: 1-8 |
| ISSN: | 0031-6970 |
| Month and Year of | NOV 2015 |
| Publication: | 140 V 2013 |
| Impact Factor: | 2.697 |
| Affiliated Department(s): | Medicine |
| Author(s): | Tarek Seifaw Kashour, Abdulaziz Joury, Abdullah M |
| | Alotaibi, Mahmoud Althagafi, Aws S Almufleh, Ahmad |
| | Hersi, Lukman Thalib |
| Correspondent's Email: | tkashour@gmail.com |

ABSTRACT

Purpose: Self-medication is common worldwide. However, the prevalence of sale of prescription medications without prescription and the quality of assessment and counselling provided by community pharmacists to cardiac patients is unknown. We sought to determine the prevalence of prescription medication sales and explore how pharmacists assess and counsel patients with acute cardiac conditions.

Methods: Six hundred community pharmacies in the two largest cities in Saudi Arabia were selected. Two simulated clients presented either an acute coronary syndrome (ACS) scenario or an acute heart failure (AHF) scenario to the pharmacists. Descriptive statistics and regression models were used to analyse and present the collected data.

Results: Of 600 pharmacies, 379 (63.2 %) sold various prescription medications to simulated patients without prescription. Assessment and counselling provided by pharmacists were inadequate. Almost a quarter of pharmacists did not ask simulated patients any questions; 52 % asked one or two questions; and only 24 % asked three or more questions. Only 28 pharmacists (4.7 %) inquired about drug allergies; 48.5 % instructed simulated patients on the dosage and frequency of the sold medications; 21.6 % provided instruction on treatment duration; and 19.4 % gave instructions on dose, frequency, and duration of treatment. Compared to AHF, ACS simulated patients were more likely to be asked about other symptoms and comorbidities (59.7 % vs. 48.7 %, p = 0.007 and 46.3 % vs. 37.3 %, p = 0.005, respectively) and were more likely to be advised to go to hospital (70.3 % vs. 56.3 %, p < 0.001).

Conclusions: The sale of prescription medications by community pharmacists to simulated cardiac patients without prescription is very common; assessment and counselling qualities are suboptimal.



| Research Title: | Religious beliefs, practices, and health in colorectal |
|----------------------------------|--|
| | cancer patients in Saudi Arabia |
| Source: | Psycho-Oncology |
| | Wiley Online Library |
| | Vol. 2015, Page: 1-8 |
| ISSN: | 1099-1611 |
| Month and Year of | MAX 2015 |
| Publication: | MA 1 2015 |
| Impact Factor: | 4.044 |
| Affiliated Department(s): | Medicine |
| Author(s): | Mahmoud Shaheen Al Ahwal, Faten Al Zaben, |
| | Mohammad Gamal Sehlo, Doaa Ahmed Khalifa, Harold |
| | G Koenig |
| Correspondent's Email: | n/a |

ABSTRACT

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

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

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

Conclusions: Religious involvement was widespread in this sample of CRC patients in Saudi Arabia and was related to fewer depressive symptoms and less suicidal ideation. No relationship was found with stage of disease or duration of treatment.



| Research Title: | Religious Involvement and Health in Dialysis Patients in |
|---------------------------|--|
| | Saudi Arabia |
| Source: | Journal of Religion & Health |
| | Springer |
| | Vol. 54, Issue 2, Page: 713-730 |
| ISSN: | 1573-6571 |
| Month and Year of | ADD 2015 |
| Publication: | AFK 2015 |
| 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 |
| Correspondent's Email: | n/a |

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 and Mental Disorders in Mainland |
|---------------------------|--|
| | China |
| Source: | PLOS One |
| | Public Library Science |
| | Vol. 10, Issue 6, Page: 1 |
| ISSN: | 1932-6203 |
| Month and Year of | HIN 2015 |
| Publication: | JUN 2013 |
| Impact Factor: | 3.234 |
| Affiliated Department(s): | Medicine |
| Author(s): | Zhizhong Wang, Harold G Koenig, Yuhong Zhang, |
| | Wanrui Ma, Yueqin Huang |
| Correspondent's Email: | huangyq@bjmu.edu.cn |

ABSTRACT

Purpose: The present study aims to examine the association between religious involvement and mental disorder (anxiety disorder, mood disorder, alcohol use disorder) in a general Chinese population, and explore connections between religious belief and mental disorders in the Hui and Han ethnic groups.

Method: Data were examined from a representative sample of 2,770 communitydwelling adults in the province of Ningxia located in western China. Self-reported religious attendance and the importance of religious in daily life were measured. The WHO Composite International Diagnostic Interview was used to diagnose mental disorders.

Results: In the overall sample, the importance of religious affiliation was positively associated with mental disorders (especially anxiety) (p<0.01). No association was found between any religious characteristic and mood disorders or alcohol use disorders. With regard to analyses within different ethnic groups, religious affiliation was positively associated with mental disorder in Han ethnicity (p<0.01), but not in Hui ethnicity. When stratified by age and ethnic group, religious affiliation was associated positively with mental disorder in younger Han (p<0.01); whereas high religiosity was associated positively with mental disorder in older Hui (p<0.05). Among older Hui, however, religious affiliation was inversely associated with mood disorder (p<0.05).

Conclusions: In contrast to most previous studies in Western populations, religious involvement is less likely to be inversely related to mental disorder in Mainland China, although this association varies by age and ethnic group.



| Research Title: | Restless legs syndrome among Saudi end-stage renal |
|-------------------------------|--|
| | disease patients on hemodialysis |
| | Saudi Medical Journal |
| Source: | Saudi Med J |
| | Vol. 36, Issue 2, Page: 204-210 |
| ISSN: | 0379-5284 |
| Month and Year of | EED 2015 |
| Publication: | 1 EB 2015 |
| Impact Factor: | 0.554 |
| Affiliated Department(s): | Medicine |
| Author(s): | Siraj O Wali, Abeer F Alkhouli |
| Correspondent's Email: | n/a |

ABSTRACT

Objectives: To determine the prevalence of restless legs syndrome (RLS) in Saudi patients with end-stage renal disease (ESRD) on hemodialysis.

Methods: A cross-sectional study was carried out in 3 hemodialysis centers in Jeddah, Saudi Arabia, between June 2012 and September 2013. All patients were individually interviewed and data was collected on the following: demographic features, medical history, laboratory test, the International Restless Legs Syndrome Study Group questionnaire, Epworth Sleepiness Scale (ESS), and Berlin Questionnaire.

Results: Three hundred and fifty-five patients were recruited. The prevalence of RLS among ESRD patients was 19.4%, with most patients having moderate to severe disease. The RLS was significantly associated with obstructive sleep apnea (p<0.0001) and excessive daytime sleepiness based on the ESS (p=0.009). The RLS showed no correlation with hemodialysis adequacy, chronicity, frequency per week, and hemodialysis duration per session; however, there was a weak negative relation between adequacy of hemodialysis and RLS severity. None of the comorbidities showed any association with RLS. The odds of developing RLS increased significantly with an increasing body mass index (p=0.001). Administration of aspirin (p=0.037) and anticoagulants (p=0.035) were also associated with increased risk of RLS.

Conclusion: Restless legs syndrome is common in ESRD patients on hemodialysis, and it is an important source of sleep disruption. In addition to body mass index, Aspirin and anticoagulants may be important risk factors.



| Research Title: | Risk of obstructive sleep apnea among Saudis with |
|-------------------------------|---|
| | chronic renal failure on hemodialysis |
| Source: | Annals of Thoracic Medicine |
| | Medknow Publications & Media Pvt Ltd |
| | Vol. 10, Issue 4, Page: 263-268 |
| ISSN: | 1998-3557 |
| Month and Year of | OCT 2015 |
| Publication: | 0C1 2015 |
| Impact Factor: | 1.803 |
| Affiliated Department(s): | Medicine |
| | Siraj Omar Wali, Abeer Alkhouli, Mohannad Howladar, |
| Author(s): | Ibrahim Ahmad, Saad Alshohaib, Saeed Al-Ghamdi, |
| | Ayman Krayem |
| Correspondent's Email: | sowali@kau.edu.sa |

ABSTRACT

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

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

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

Conclusions: In Saudi Arabia, the risk of OSA is more common in ESRD patients than in the general population. OSA is strongly associated with EDS. Interestingly, a significant negative correlation between OSA and hepatitis C infection was noted, which warrants further investigation.



| | Self-Screening for Malnutrition Risk in Outpatient |
|---------------------------|--|
| Research Title: | Inflammatory Bowel Disease Patients Using the |
| | Malnutrition Universal Screening Tool |
| | Journal of Parenteral & Enteral Nutrition |
| Source: | SAGE |
| | Vol. 2015, Page: 1-4 |
| ISSN: | 1941-2444 |
| Month and Year of | LAN 2015 |
| Publication: | JAN 2013 |
| Impact Factor: | 3.151 |
| Affiliated Department(s): | Medicine |
| | Amindeep Sandhu, Mahmoud Mosli, Brian Yan, Thomas |
| Author(s): | Wu, Jamie Gregor, Nilesh Chande, Terry Ponich, Melanie |
| | Beaton, Adam Rahman |
| Correspondent's Email: | n/a |

ABSTRACT

Background and Aims: Malnutrition is common in patients with inflammatory bowel disease (IBD) and is associated with poor outcomes. Our aim is to determine if patient self-administered malnutrition screening using the malnutrition universal screening tool (MUST) is reliable by comparing patient scores with those derived from the healthcare practitioner (HCP), the gold standard.

Methods: We conducted a prospective validation study at a tertiary Canadian academic center that included 154 adult outpatients with IBD. All patients with IBD completed a self-administered nutrition screening assessment using the MUST score followed by an independent MUST assessment performed by HCPs. The main outcome measure was chance-corrected agreement (κ) of malnutrition risk categorization.

Results: For patient-administered MUST, the chance-corrected agreement κ (95% confidence interval [CI]) was 0.83 (0.74–0.92) when comparing low-risk and combined medium- and high-risk patients with HCP screening. Weighted κ analysis comparing all 3 risks groups yielded a κ (95% CI) of 0.85 (0.77–0.93) between patient and HCP screening. All patients were able to screen themselves. Overall, 96% of patients reported the MUST questionnaire as either very easy or easy to understand and to complete.

Conclusion: Self-administered nutrition screening in outpatients with IBD is valid using the MUST screening tool and is easy to use. If adopted, this tool will increase utilization of malnutrition screening in hectic outpatient clinic settings and will help HCPs determine which patients require additional nutrition support.



| Research Title: | Ser129 phosphorylation of endogenous alpha-synuclein |
|----------------------------------|---|
| | induced by overexpression of polo-like kinases 2 and 3 in |
| | nigral dopamine neurons is not detrimental to their |
| | survival and function |
| Source: | Neurobiology of Disease |
| | Academic Press Inc Elsevier Science |
| | Vol. 78, Page: 100-114 |
| ISSN: | 1095-953X |
| Month and Year of | HIN 2015 |
| Publication: | JUN 2013 |
| Impact Factor: | 5.202 |
| Affiliated Department(s): | Medicine |
| Author(s): | Kerstin Buck, Natalie Landeck, Ayse Ulusoy, Nour K |
| | Majbour, Omar MA El-Agnaf, Deniz Kirik |
| Correspondent's Email: | kerstin.buck@imail.de |

ABSTRACT

Phosphorylation of the alpha-synuclein (alpha-syn) protein at Ser129 [P(S129)-alphasyn] was found to be the most abundant form in intracellular inclusions in brains from Parkinson's disease (PD) patients. This finding suggests that P(S129)-alpha-syn plays a central role in the pathogenesis of PD. However, it is at present unclear whether P(S129)alpha-syn is pathogenic driving the neurodegenerative process. Rodent studies using neither the phosphomimics of human alpha-syn nor co-expression of human wild-type alpha-syn and kinases phosphorylating alpha-syn at Ser129 gave consistent results. One major concern in interpreting these findings is that human alpha-syn was expressed above physiological levels inducing neurodegeneration in rat nigral neurons. In order to exclude this confounding factor, we took a different approach and increased the phosphorylation level of endogenous alpha-syn. For this purpose, we took advantage of recombinant adeno-associated viral (rAAV) vectors to deliver polo-like kinase (PLK) 2 or PLK3 in the substantia nigra and investigated whether increased levels of P(S129)alpha-syn compromised the function and survival of nigral dopaminergic neurons. Interestingly, we observed that hyperphosphorylated alpha-syn did not induce nigral dopaminergic cell death, as assessed at 1 and 4 months. Furthermore, histological analysis did not show any accumulation of alpha-syn protein or formation of inclusions. Using in vivo microdialysis, we found that the only measurable functional alteration was the depolarisation-induced release of dopamine, while the in vivo synthesis rate of DOPA and dopamine baseline release remained unaltered. Taken together, our results suggest that phosphorylation of alpha-syn at Ser129 does not confer a toxic gain of function per se.



| Research Title: | Severe Vitamin D Deficiency: A Significant Predictor of |
|---------------------------|---|
| | Early Hypocalcemia after Total Thyroidectomy |
| Source: | Otolaryngology-Head and Neck Surgery |
| | Sage Publications Ltd |
| | Vol. 152, Issue 3, Page: 424-431 |
| ISSN: | 1097-6817 |
| Month and Year of | MAD 2015 |
| Publication: | MAR 2013 |
| Impact Factor: | 1.721 |
| Affiliated Department(s): | Medicine |
| Author(s): | Talal Al-Khatib, Abdulrahman M Althubaiti, Alaa |
| | Althubaiti, Hala H Mosli, Reem O Alwasiah, Lojain M |
| | Badawood |
| Correspondent's Email: | n/a |

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.



| | Specialty selection satisfaction and regret among medical |
|----------------------------------|---|
| Research Title: | school postgraduates and faculty at King Abdulaziz |
| | University |
| | International Journal of Research in Medical Sciences |
| Source: | Medip Academy |
| | Vol. 3, Issue 4, Page: 899-904 |
| ISSN: | 2320-6012 |
| Month and Year of | ADD 2015 |
| Publication: | AFK 2015 |
| Impact Factor: | n/a |
| Affiliated Department(s): | Medicine; Medical Education |
| | Muhammed A Mashat, Nawaf T Aboalfaraj, Hussam |
| Author(s): | Daghistani, Basem S Eldeek, Nasra N Ayuob, Lana A |
| | Alshawa |
| Correspondent's Email: | n/a |

ABSTRACT

Background: In the field of medicine, specialty selection is a life-altering decision that plays a crucial role in career satisfaction, and in turn patient-care. This study explores the significant factors affecting specialty selectionsatisfaction and regret from the perspective of medical postgraduates and faculty in King Abdulaziz University(KAU).

Methods: A cross sectional study was carried out on a sample of 172 medical school postgraduates and faculty working at KAU using self-administered questionnaire.

Results: The majority of the participants were residents (51.7%), The analysis showed that 11% of the participants regret their choice of specialty. The results showed that the level of satisfaction increases as the academic degree of the participants increase. Among the significant factors affected specialty selection satisfaction and regret were; income (P = 0.003), long length of training (P = 0.027), vast options of sub-specialties (P = 0.001) and interesting and exciting field.

Conclusion: These results identify the essential factors that have a potential impact on specialty satisfaction and regret among medical school postgraduates and faculty. This highlights the importance of career counseling for the proper specialty selection.



| Research Title: | Strategies to overcome barriers to implementing osteoporosis and fracture prevention guidelines in long- term care: a qualitative analysis of action plans suggested by front line staff in Ontario, Canada |
|-----------------------------------|--|
| Source: | BMC Geriatrics Biomed Central Ltd Vol. 15, Page: 94 |
| ISSN: | 1471-2318 |
| Month and Year of Publication: | AUG 2015 |
| Impact Factor: | 2 |
| Affiliated Department(s): | Medicine |
| Author(s): | Sultan H Alamri, Courtney C Kennedy, Sharon Marr, Lynne Lohfeld, Carly J Skidmore, Alexandra Papaioannou |
| Correspondent's Email: | shalamri1@kau.edu.sa |

ABSTRACT

Background: Osteoporosis is a major global health problem, especially among long-term care (LTC) facilities. Despite the availability of effective clinical guidelines to prevent osteoporosis and bone fractures, few LTC homes actually adhere to these practical recommendations. The purpose of this study was to identify barriers to the implementation of evidence-based practices for osteoporosis and fracture prevention in LTC facilities and elicit practical strategies to address these barriers.

Methods: We performed a qualitative analysis of action plans formulated by Professional Advisory Committee (PAC) teams at 12 LTC homes in the intervention arm of the Vitamin D and Osteoporosis Study (ViDOS) in Ontario, Canada. PAC teams were comprised of medical directors, administrators, directors of care, pharmacists, dietitians, and other staff. Thematic content analysis was performed to identify the key themes emerging from the action plans.

Results: LTC teams identified several barriers, including lack of educational information and resources prior to the ViDOS intervention, difficulty obtaining required patient information for fracture risk assessment, and inconsistent prescribing of vitamin D and calcium at the time of admission. The most frequently suggested recommendations was to establish and adhere to standard admission orders regarding vitamin D, calcium, and osteoporosis therapies, improve the use of electronic medical records for osteoporosis and fracture risk assessment, and require bone health as a topic at quarterly reviews and multidisciplinary conferences.

Conclusions: This qualitative study identified several important barriers and practical recommendations for improving the implementation of osteoporosis and fracture prevention guidelines in LTC settings.



| Research Title: | Targeting Leukocyte Trafficking in Inflammatory Bowel |
|---------------------------|---|
| | Disease: What Is the Clinical Evidence? |
| | Digestive Diseases |
| Source: | Karger |
| | Vol. 33, Page: 95-104 |
| ISSN: | 1421-9875 |
| Month and Year of | SEPT 2015 |
| Publication: | |
| Impact Factor: | 2.101 |
| Affiliated Department(s): | Medicine |
| Author(s): | Reena Khanna, Mahmoud H Mosli, Brian G Feagan |
| Correspondent's Email: | n/a |

ABSTRACT

Since the cause of inflammatory bowel disease (IBD) is unknown, therapy has traditionally been based on the empiric use of anti-inflammatory drugs. However, the recent identification of specific mechanisms that regulate cellular migration into inflamed intestinal tissue has provided novel targets for drug development. In this article, we discuss these mechanisms and review emerging safety and efficacy data regarding use of selective inhibitors of leukocyte trafficking for the treatment of IBD.



| Research Title: | The Association between Leisure Time Physical Activity |
|----------------------------------|--|
| | and Pancreatic Cancer Risk in Adults: A Systematic |
| | Review and Meta-analysis |
| | Cancer Epidemiology Biomarkers & Prevention |
| Source: | Amer Assoc Cancer Research |
| | Vol. 24, Issue 10, Page: 1462-1473 |
| ISSN: | 1538-7755 |
| Month and Year of | OCT 2015 |
| Publication: | 001 2015 |
| Impact Factor: | 4.125 |
| Affiliated Department(s): | Medicine |
| Author(s): | Farris MS, Mosli MH, McFadden AA, Friedenreich CM, |
| | Brenner DR |
| Correspondent's Email: | Darren.Brenner@albertahealthservices.ca |

ABSTRACT

We conducted a meta-analysis of the association between leisure time physical activity (LTPA) and risk of pancreatic cancer to update previous analyses in light of newly published studies, to examine subgroups of interest and potential sources of heterogeneity. We searched the PubMed and MEDLINE data-bases for studies until February 2015. Study information was collected using a standardized form to abstract relevant data on study design, number of cases, participant and study characteristics, assessment of LTPA, risk estimates, and adjustments for confounding by two independent abstractors. We used random-effects models to pool estimates from included studies of lowest versus highest comparison of LTPA. The search identified 26 studies eligible for inclusion into the meta-analysis. The combined summary risk estimate was [relative risk (RR), 0.89; 95% confidence interval (CI), 0.82-0.96]. There was evidence of heterogeneity across studies (I-2 = 22.1%, P-heterogeneity = 0.130). Some of the heterogeneity could be explained by study design, with stronger protective effects observed among case-control studies (RR, 0.69; 95% CI, 0.59-0.81) compared with cohort studies (RR, 0.96; 95% CI, 0.91-1.02). Across study designs, age of population was a source of heterogeneity, with stronger effects observed among younger (<50 years) populations. The present meta-analysis supports a protective association between LTPA and pancreatic cancer with an 11% risk reduction observed. LTPA appears to have the strongest effect among young populations. Additional investigations are needed to provide insights regarding the impact of LTPA in healthy adult populations, to reduce the risk of pancreatic cancer and encourage increases in LTPA.



| Research Title: | The effect of lifetime adversities on resistance to |
|----------------------------------|---|
| | antipsychotic treatment in schizophrenia patients |
| | Schizophrenia Research |
| Source: | Elsevier Science BV |
| | Vol. 161, Issue 2, Page: 496-500 |
| ISSN: | 1573-2509 |
| Month and Year of | FEB 2015 |
| Publication: | |
| Impact Factor: | 3.923 |
| Affiliated Department(s): | Medicine |
| Author(s): | Ahmed N Hassan, Vincenzo De Luca |
| Correspondent's Email: | vincenzo.deluca@camh.ca |

ABSTRACT

Aim: The aim of this study is to examine whether there is an association between cumulative life adversities and treatment-resistant schizophrenia.

Methods: We recruited 186 participants diagnosed with schizophrenia spectrum disorders. Adverse life-events were assessed using the Stressful Life Events Screening Questionnaire (SLESQ) and the Childhood Trauma Questionnaire (CTQ). Treatment resistant status was identified using the criteria of the American Psychiatric Association for refractory schizophrenia. We performed a multiple logistic regression model, including life adversities, to predict the treatment resistant status controlling for confounding variables.

Results: Forty two percent of the patients were found to be treatment resistant (n = 78) and 58% were non-treatment resistant (n = 108). The treatment resistant group had higher score on both SLESQ and CTQ (4.5 +/- 3.3 and 54.7 +/- 19.7) than the non-treatment resistant group (2.5 +/- 2.3 and 47.7 +/- 17.5) and the difference between the two groups was significant for both SLESQ (p < 0.001) and CTQ (p = 0.011). After adjustment for demographic variables and previously reported risk factors of treatment resistance, the association remained significant for SLESQ (OR = 1.20, 95% CI 1.05-1.38; p = 0.009) but not for CTQ (p = 0.13).

Discussion: The results suggest that cumulative lifetime adversities could have an independent effect on the resistance to treatment in schizophrenia spectrum disorders. Routine assessment of trauma exposures and an individualized bio-psycho-social formulation is necessary for a personalized treatment.



| Research Title: | The effect of vitamin D supplements on the severity of |
|----------------------------------|--|
| | restless legs syndrome |
| | Sleep and Breathing |
| Source: | Springer Heidelberg |
| | Vol. 19, Issue 2, Page: 579-583 |
| ISSN: | 1522-1709 |
| Month and Year of | MAX 2015 |
| Publication: | MAT 2015 |
| Impact Factor: | 2.482 |
| Affiliated Department(s): | Medicine |
| Author(s): | Siraj Wali, Afnan Shukr, Ayah Boudal, Ahmad Alsaiari, |
| | Ayman Krayem |
| Correspondent's Email: | n/a |

ABSTRACT

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

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

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

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



| Research Title: | The impact of biological interventions for ulcerative |
|----------------------------------|---|
| | colitis on health-related quality of life |
| | Cochrane Database of Systematic Reviews |
| Source: | Wiley-Blackwell |
| | Issue 9, Article no.: CD008655 |
| ISSN: | 1361-6137 |
| Month and Year of | LAN 2015 |
| Publication: | JAIN 2013 |
| Impact Factor: | 6.035 |
| Affiliated Department(s): | Medicine |
| Author(s): | Katie LeBlanc, Mahmoud Mosli, Kenneth A Baker, John |
| | K MacDonald |
| Correspondent's Email: | le7blanc@aol.com |

ABSTRACT

Background: Ulcerative colitis (UC) is a chronic inflammatory disorder of the colon that has a relapsing-remitting course. Health related quality of life (HRQL) is significantly lower in patients with UC than the general population due to the negative effects of the disease on physical, psychological and social well-being. Randomized controlled trials (RCTs) evaluating medical interventions for UC have traditionally used clinical disease activity indices that focus on symptoms to define primary outcomes such as clinical remission or improvement. However, this approach does not evaluate benefits that are highly relevant to patients such as HRQL

Objectives: The primary objective was to assess the impact of biologic therapy on the HRQL of UC patients.

Search methods: We searched PubMed, MEDLINE, EMBASE and CENTRAL from inception to September, 2015. Conference abstracts and reference lists were also searched.

Selection criteria: RCTs that compared biologics to placebo in UC patients and reported on HRQL using the Inflammatory Bowel Disease Questionnaire (IBDQ), or the SF-36 or EQ-5D to measure HRQL were included.

Data collection and analysis: Two authors independently screened studies for inclusion, extracted data and assessed study quality using the Cochrane risk of bias tool. The primary outcome was improvement in HRQL. For dichotomous outcomes we calculated the risk ratio (RR) and 95% confidence interval (CI). For continuous outcomes we calculated the mean difference (MD) and 95% CI. The overall quality of the evidence supporting the primary outcome was assessed using GRADE.

Main results: Nine RCTs (n = 4143) were included. Biologics included rituximab (one small study), interferon-beta-1a (one study), vedolizumab (one study), and the tumor necrosis factor-alpha (TNF-alpha) antagonists infliximab (two studies), adalimumab (three studies), and golimumab (one study). Risk of bias was low in eight studies. The rituximab study was judged to be at high risk of bias due to attrition bias. The studies comparing interferon-beta-1a and rituximab to placebo found no clear evidence of a difference in the proportion of patients who experienced an improvement in HRQL at 8 or 12 weeks respectively. The proportion of patients with a clinically meaningful improvement in HRQL at 6 or 52 weeks was significantly higher in vedolizumab patients compared to placebo. At 6 weeks 37%



(83/225) of vedolizumab patients had an improvement in IBDQ score of at least 16 points from baseline compared to 23% (34/149) of placebo patients (RR 1.62, 95% CI 1.15 to 2.27; 1 study). At 52 weeks, 64% (157/247) of vedolizumab patients had an improvement in IBDO score of at least 16 points from baseline compared to 38% (48/126) of placebo patients (RR 1.62, 95% CI 1.15 to 2.27; 1 study). A GRADE analysis indicated that the overall quality of the evidence supporting these outcomes was moderate due to sparse data (< 400 events). Patients who received maintenance vedolizumab every eight weeks had significantly higher mean SF-36 scores than placebo patients at 52 weeks (MD 3.40, 95% CI 1.56 to 5.24, 1 study 248 patients). This difference appears to be clinically meaningful as the lower boundary for a clinically meaningful change in SF-36 is three points. A GRADE analysis indicated that the overall quality of the evidence supporting this outcome was moderate due to sparse data (< 400 events). Adalimumab patients had significantly higher mean IBDQ scores than placebo patients at weeks 8 (MD 9.00, 95% CI 2.65 to 15.35; 1 study, 494 patients) and 52 (MD 8.00, 95% CI 0.68 to 15.32; 1 study, 494 patients). However, these differences may not be clinically meaningful as the lower boundary for a clinically meaningful change in IBDQ is 16 points. A GRADE analysis indicated that the overall quality of the evidence supporting this outcome was moderate due to sparse data (< 400 events). Golimumab patients who received a dose of 200/100 mg (MD 12.20, 95% CI 6.52 to 17.88; 504 patients) or 400/200 mg (MD 12.10, 95% CI 6.40 to 17.80; 508 patients) had significantly higher mean IBDQ scores than placebo patients at week 6. Although a GRADE analysis indicated that the overall quality of the evidence supporting these outcomes was high, the difference in IBDQ scores may not be clinically meaningful. Infliximab patients had significantly higher mean IBDQ scores at week 6 or 8 than placebo patients (MD 18,58, 95% CI 13.19 to 23.97; 2 studies, 529 patients). This difference in HRQL is clinically meaningful. A GRADE analysis indicated that the overall quality of the evidence supporting this outcome was high. The proportion of patients with a clinically meaningful improvement in HRQL at eight weeks was significantly higher in infliximab patients compared to placebo. Sixty-nine per cent (333/484) of infliximab patients had an improvement in IBDQ score of >= 16 points from baseline compared to 50% of placebo patients (RR 1.39, 95% CI 1.21 to 1.60; 1 study). A GRADE analysis indicated that the overall quality of the evidence supporting this outcome was high. Similar results were found between infliximab and placebo when HROL was measured using the SF-36 instrument.

One small study (n = 43) found no difference in HRQL between infliximab and placebo when measured by the EQ-5D. Pooled analyses of TNF-alpha antagonists showed a benefit in HRQL favouring TNF-alpha over placebo.

Authors' conclusions: These results suggest that biologics have the potential to improve HRQL in UC patients. High quality evidence suggests that infliximab provides a clinically meaningful improvement in HRQL in UC patients receiving induction therapy. Moderate quality evidence suggests that vedolizumab provides a clinically meaningful improvement in HRQL in UC patients receiving maintenance therapy. These findings are important since there is a paucity of effective drugs for the treatment of UC that have the potential to both decrease disease activity and improve HRQL. More research is needed to assess the longterm effect of biologic therapy on HRQL in patients with UC. More research is needed to assess the impact of golimumab and adalimumab on HRQL in UC patients. Trials involving direct head to head comparisons of biologics would help determine which biologics provide optimum benefit for HRQL.



| Research Title: | The prevalence of sexual dysfunction in the female health |
|----------------------------------|---|
| | care providers in Jeddah, Saudi Arabia |
| Source: | Scientific Reports |
| | Nature Publishing Group |
| | Vol. 5, Page: 7905 |
| ISSN: | 2045-2322 |
| Month and Year of | LAN 2015 |
| Publication: | JAN 2015 |
| Impact Factor: | 5.578 |
| Affiliated Department(s): | Medicine; Ob-gyne |
| Author(s): | Abdulrahim A Rouzi, Nora Sahly, Dana Sawan, Souzan |
| | Kafy, Faten Alzaban |
| Correspondent's Email: | n/a |

ABSTRACT

The objective of this study was to determine the prevalence of sexual dysfunction in Saudi and non-Saudi female health care providers in Jeddah, Saudi Arabia. One -hundred twenty (60 Saudi and 60 non-Saudi) sexually active female health care professionals in Jeddah, Saudi Arabia, were anonymously surveyed using the English version of the female sexual function index questionnaire. The individual domain scores for pain, arousal, lubrication, orgasm, satisfaction, pain, and overall score for the Saudi and non-Saudi women were calculated and compared. The two groups were comparable in demographic characteristics. No statistically significant differences were found between Saudi and non-Saudi women in desire (P=.22) and arousal scores (P=.47). However, non-Saudi women had significantly higher lubrication (P<.001), orgasm (P=.015), satisfaction (P=.004), and pain scores (P=.015). The overall scores in Saudi and non-Saudi women had a significantly higher overall score (P=.005). Taken together, sexual dysfunction is prevalent among Saudi and non-Saudi female health care providers, with Saudi women demonstrating lower scores in four sexual function domains and the overall score.



| Research Title: | The protective effect of Moringa oleifera leaves against |
|---------------------------|---|
| | cyclophosphamide-induced urinary bladder toxicity in rats |
| Source: | Tissue & Cell |
| | Churchill Livingstone |
| | Vol. 47, Issue 1, Page: 94-104 |
| ISSN: | 0040-8166 |
| Month and Year of | FEB 2015 |
| Publication: | |
| Impact Factor: | n/a |
| Affiliated Department(s): | Medicine |
| Author(s): | Nevine R Taha, Hanan Ali Amin, Asrar A Sultan |
| Correspondent's Email: | n/a |

ABSTRACT

Cyclophosphamide (CP), an alkylating antineoplastic agent is widely used in the treatment of solid tumors and B-cell malignant disease. It is known to cause urinary bladder damage due to inducing oxidative stress. Moringa oleifera (Mof) is commonly known as drumstick tree. Moringa leaves have been reported to be a rich source of betacarotene, protein, vitamin C, calcium, and potassium. It acts as a good source of natural antioxidants; due to the presence of various types of antioxidant compounds such as ascorbic acid, flavonoids, phenolics and carotenoids. The aim of this work was to test the possible antioxidant protective effects of M. oleifera leaves against CP induced urinary bladder toxicity in rats. Female Wister albino rats were divided into 4 groups. Group I served as control, received orally normal saline, group II received a single dose CP 100 mg/kg intraperitoneally, group III and VI both received orally hydroethanolic extract of Mof; 500 mg/kg and 1000 mg/kg respectively daily for a week, 1 h before and 4 h after CP administration. Rats were sacrificed 24 h after CP injection. The bladder was removed, sectioned, and subjected to light, transition electron microscopic studies, and biochemical studies (measuring the parameter of lipid peroxidation; malondialdehyde along with the activities of the antioxidant enzyme reduced glutathione). The bladders of CP treated rats showed ulcered mucosa, edematous, hemorrhagic, and fibrotic submucosa by light microscopy. Ultrastructure observation showed; losing large areas of uroepithelium, extended intercellular gaps, junction complexes were affected as well as damage of mitochondria in the form of swelling and destruction of cristae. Biochemical analysis showed significant elevation of malondialdhyde, while reduced glutathione activity was significantly lowered. From the results obtained in this work, we can say that Moringa leaves play an important role in ameliorating and protecting the bladder from CP toxicity.



| 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 |
| | Public Health Nutrition |
| Source: | Cambridge Univ Press |
| | Vol. 18, Issue 6, Page: 968-976 |
| ISSN: | 1475-2727 |
| Month and Year of | ADD 2015 |
| Publication: | AFK 2015 |
| Impact Factor: | 2.483 |
| Affiliated Department(s): | Medicine |
| Author(s): | Hadeil M Alsufiani, Fatmah Yamani, Taha A Kumosani, |
| | Dianne Ford, John C Mathers |
| Correspondent's Email: | n/a |

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 < 0.001). 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 > 0.68, P < 0.001) 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 significance of sonic hedgehog immunohistochemical |
|-------------------------------|--|
| | expression in colorectal carcinoma |
| | Journal of Microscopy and Ultrastructure |
| Source: | Elsevier B.V. |
| | Vol. 2015, Page: 1-6 |
| ISSN: | 2213-879X |
| Month and Year of | HUN 2015 |
| Publication: | JUN 2013 |
| Impact Factor: | n/a |
| Affiliated Department(s): | Medicine; Pathology; Colon Cancer Chair |
| | Doaa Al Ghamdi, Wafaey Gomaa, Abdulrhman |
| Author(s): | Abulaban, Mahmoud Al-Ahwal, Abdelbaset Buhmeida, |
| | Mohammed Al-Qahtani, Jaudah Al-Maghrabi |
| Correspondent's Email: | n/a |

ABSTRACT

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



| Research Title: | The utility of α -synuclein as biofluid marker in |
|----------------------------------|--|
| | neurodegenerative diseases: a systematic review of the |
| | literature |
| Sources | Biomarkers in Medicine |
| Source: | Future Medicine Ltd |
| ISSN: | 1752-0363 |
| Month and Year of | AUC 2015 |
| Publication: | AUG 2013 |
| Impact Factor: | 2.858 |
| Affiliated Department(s): | Medicine |
| Author(s): | Anja Hviid Simonsen, Bea Kuiperij, Omar Mukhtar Ali |
| | El-Agnaf, Sebastian Engelborghs, Sanna-Kaisa Herukka, |
| | Lucilla Parnetti, Irena Rektorova, Eugeen Vanmechelen, |
| | Elisabeth Kapaki, Marcel Verbeek, Brit Mollenhauer |
| Correspondent's Email: | brit.mollenhauer@paracelsus-kliniken.de |

ABSTRACT

The discovery of α -synuclein (α -syn) as a major component of Lewy bodies, neuropathological hallmark of Parkinson's disease (PD), dementia with Lewy bodies and of glial inclusions in multiple system atrophy initiated the investigation of α -syn as a biomarker in cerebrospinal fluid (CSF). Due to the involvement of the periphery in PD the quantification of α -syn in peripheral fluids such as serum, plasma and saliva has been investigated as well. We review how the development of multiple assays for the quantification of α -syn has yielded novel insights into the variety of α -syn species present in the different fluids; the optimal preanalytical conditions required for robust quantification and the potential clinical value of α -syn as biomarker. We also suggest future approaches to use of CSF α -syn in neurodegenerative diseases.



| | The validity and reliability of the sixth-year internal |
|----------------------------------|---|
| Research Title: | medical examination administered at the King Abdulaziz |
| | University Medical College |
| | Bmc Medical Education |
| Source: | Biomed Central LTD |
| | Vol. 15, Issue 10, Page: 1-6 |
| ISSN: | 1472-6920 |
| Month and Year of | FEB 2015 |
| Publication: | |
| Impact Factor: | 1.409 |
| Affiliated Department(s): | Medicine |
| Author(s): | Hind I Fallatah, Ara Tekian, Yoon S Park, Lana Al Shawa |
| Correspondent's Email: | n/a |

ABSTRACT

Background: Exams are essential components of medical students' knowledge and skill assessment during their clinical years of study. The paper provides a retrospective analysis of validity evidence for the internal medicine component of the written and clinical exams administered in 2012 and 2013 at King Abdulaziz University's Faculty of Medicine.

Methods: >Students' scores for the clinical and written exams were obtained. Four faculty members (two senior members and two junior members) were asked to rate the exam questions, including MCQs and OSCEs, for evidence of content validity using a rating scale of 1-5 for each item. Cronbach's alpha was used to measure the internal consistency reliability. Correlations were used to examine the associations between different forms of assessment and groups of students.

Results: A total of 824 students completed the internal medicine course and took the exam. The numbers of rated questions were 320 and 46 for the MCQ and OSCE, respectively. Significant correlations were found between the MCQ section, the OSCE section, and the continuous assessment marks, which include 20 long-case presentations during the course; participation in daily rounds, clinical sessions and tutorials; the performance of simple procedures, such as IV cannulation and ABG extraction; and the student log book. Although the OSCE exam was reliable for the two groups that had taken the final clinical OSCE, the clinical long-and short-case exams were not reliable across the two groups that had taken the oral clinical exams. The correlation analysis showed a significant linear association between the raters with respect to evidence of content validity for both the MCQ and OSCE, r = .219 P < .001 and r = .678 P < .001, respectively, and r = .241 P < .001 and r = .368 P = .023 for the internal structure validity, respectively. Reliability measured using Cronbach's alpha was greater for assessments administered in 2013.

Conclusion: The pattern of relationships between the MCQ and OSCE scores provides evidence of the validity of these measures for use in the evaluation of knowledge and clinical skills in internal medicine. The OSCE exam is more reliable than the short-and long-case clinical exams and requires less effort on the part of examiners and patients.



| Research Title: | Thyroid function status and its impact on clinical outcome |
|----------------------------------|--|
| | in patients admitted to critical care |
| Source: | Pakistan Journal of Medical Sciences |
| | Vol. 31, Issue 4, Page: 915-919 |
| ISSN: | 1682-024X |
| Month and Year of | OCT 2015 |
| Publication: | |
| Impact Factor: | 0.231 |
| Affiliated Department(s): | Medicine |
| Author(s): | Faiza A Qari |
| Correspondent's Email: | n/a |

ABSTRACT

Objective: To analyze alterations in thyroid function and the correlation between results of thyroid function test and mortality in medical and surgical intensive care unit (ICU) patients. It also aimed to evaluate the effect of thyroid dysfunction in ICU patients and their need for mechanical ventilation (MV).

Methods: A single-center, prospective, observational study was conducted on patients admitted to medical and surgical ICU between 2013-2014. Clinical and paraclinical findings (free triiodothyronine, free thyroxine and thyroid stimulating hormone) were documented for all patients. Regression analysis and chi-square were used for death and MV outcome variables.

Results: We included 502 patients. Of these, 340 (67.7%) were admitted to the medical ICU. Results of thyroid function tests were normal in 320 (64%) and 162 (32.3%) medical and surgical ICU patients, respectively. Euthyroid sick syndrome (ESS) was documented in 86 patients (17%). Mortality was twice higher among surgical ICU patients with ESS compared to those with normal thyroid function (p=0.085), which is not statistically significant. Based on thyroid function status, no differences in the risk to be mechanically ventilated was found between medical or surgical ICU patients.

Conclusion: There is a significant association between ESS and mortality in ICU patients. Future studies should determine whether abnormal thyroid function increases the risk for MV in ICU patients.



| Research Title: | Thyroid Hormone Profile in Patients With Acute |
|----------------------------------|--|
| | Coronary Syndrome |
| | Iranian Red Crescent Medical Journal |
| Source: | Iranian Red Crescent Medical Journal |
| | Vol. 17, Issue 7, Page: 1-5 |
| ISSN: | 2074-1812 |
| Month and Year of | JUL 2015 |
| Publication: | |
| Impact Factor: | 0.979 |
| Affiliated Department(s): | Medicine |
| Author(s): | Faiza Abdulaziz Qari |
| Correspondent's Email: | faizaqari@gmail.com |

ABSTRACT

Background: Thyroid hormone has the a major role in the cardiovascular system function and cardiac a As well as to maintain the cardiovascular homeostasis A slightly change ind thyroid status actually affects cardiovascular mortality hemodynamic The background of this study was to define the prevalence of thyroid dysfunction in acute coronary syndrome (ACS)

Objective: The primary objective was to define the prevalence of thyroid dysfunction in acute coronary syndrome, including Non-ST Segment Elevation Myocardial Infarction (NSTEMI), ST-segment Elevation Myocardial Infarction (STEMI), and unstable angina groups. The secondary objective was to determine any associations of thyroids function tests with cardiac catheterization and mortality.

Patients and Methods: In a prospective, observational, and cross section study, we enrolled 400 patients admitted at the coronary care unit of King Abdulaziz University Hospital in Jeddah, Saudi Arabia. Venous blood samples were collected from patients for the evaluation of thyroid function (thyroids stimulating hormones, free triiodothyronine, and free thyroxin).

Results: Excluding those taking thyroid hormone preparations, 76.7% of patients admitted with acute coronary heart disease (ST-segment elevation myocardial infarction and Non-ST segment elevation myocardial infarction), and unstable angina had euthyroidism. Thyroid dysfunction was reported in 23.3% of patients with coronary heart disease. Overall hypothyroidism prevalence was 7.8%, while subclinical hyperthyroidism in our study was 2.7%. Overt hyperthyroidism and subclinical hyperthyroidism was reported 2.0% and 0.5%, respectively. Euthyroid sick syndrome was noticed in 41 (10.2%) of critically ill patients. The mortality rate was 9.8%; all death patients had low triiodothyronine (T3) syndrome and were associated with statistically significant low free triiodothyronine (FT3) (P > 0.001).

Conclusions: No significant variance was observed among patients underwent for cardiac catheterization, STEMI, NSTEMI, unstable angina, and atrial fibrillation with respect to FT4, FT3, and TSH levels during coronary care unit hospitalization based on their profile data.



| Research Title: | Treatment of psoriasis by using Hijamah: A case report |
|---------------------------|--|
| Source: | Saudi Journal of Biological Sciences |
| | Elsevier Science BV |
| | Vol. 22, Issue 1, Page: 117-121 |
| ISSN: | 1319-562X |
| Month and Year of | LAN 2015 |
| Publication: | JAN 2013 |
| Impact Factor: | 0.741 |
| Affiliated Department(s): | Medicine; Yousef Abdullatif Jameel Research Chair for |
| | Prophetic Medicine |
| Author(s): | Imran Ahmad Malik, Sohail Akhter, Mohammad Amjad |
| | Kamal |
| Correspondent's Email: | n/a |

ABSTRACT

Hijamah (a well-known Prophetic complimentary treatment) has been used for centuries to treat various human diseases. It is considered that this traditional treatment (also known as wet cupping) has the potential to treat many kinds of diseases. It is performed by creating a vacuum on the skin by using a cup to collect the stagnant blood in that particular area. The vacuum at the end is released by removing the cup. Superficial skin scarification is then made to draw the blood stagnation out of the body. This technique needs to be performed in aseptic conditions by a well trained Hijamah-physician. Prophet Muhammad (PBUH) had described Hijamah as the best treatment humans can have. This novel treatment methodology has been successfully used as cure for numerous diseases including skin diseases. In this case report, we discuss about the application of this method in the treatment of psoriasis (an autoimmune skin disease). Results illustrated that with Hijamah, disease can not only be controlled but can be brought to a nearly complete remission.



| Research Title: | Vedolizumab for Induction and Maintenance of |
|---------------------------|--|
| | Remission in Ulcerative Colitis: A Cochrane Systematic |
| | Review and Meta-analysis |
| | Inflammatory Bowel Diseases |
| Source: | Lippincott Williams & Wilkins |
| | Vol. 21, Issue 5, Page: 151-1159 |
| ISSN: | 1536-4844 |
| Month and Year of | MAY 2015 |
| Publication: | |
| Impact Factor: | 4.464 |
| Affiliated Department(s): | Medicine |
| Author(s): | Mahmoud H Mosli, John K MacDonald, Stephen J |
| | Bickston, Brian W Behm, David J Tsoulis, Jianfeng |
| | Cheng, Reena Khanna, Brian G Feagan |
| Correspondent's Email: | brian.feagan@robartsinc.com |

ABSTRACT

Background: We performed a systematic review to evaluate the efficacy and safety of vedolizumab for induction and maintenance of remission in ulcerative colitis.

Methods: A literature search to June 2014 identified all applicable randomized trials. Outcome measures were clinical and endoscopic remission, clinical and endoscopic response, quality of life, and adverse events. The risk ratio (RR) and 95% confidence intervals (CI) were estimated for each outcome. Study quality was evaluated using the Cochrane risk of bias tool. The GRADE criteria were used to assess the quality of the evidence.

Main Results: Four studies (606 patients) were included. The risk of bias was low. Pooled analyses indicated that vedolizumab was significantly superior to placebo for induction of remission (RR = 0.86, 95% CI, 0.80-0.91), clinical response (RR = 0.82, 95% CI, 0.75-0.91), endoscopic remission (RR = 0.82, 95% CI, 0.75-0.91), and for achieving remission at 52 weeks in week 6 responders (RR = 2.73, 95% CI, 1.78-4.18). GRADE analyses suggested that the overall quality of the evidence was high for induction of remission and moderate for maintenance therapy (due to sparse data consisting of 246 events). No statistically significant difference was observed in the incidence of adverse events between vedolizumab and placebo.

Conclusions: Vedolizumab is superior to placebo as induction and maintenance therapy for ulcerative colitis. Future studies are needed to define long-term efficacy and safety of this agent.



| Research Title: | Vedolizumab for the Treatment of Moderately to Severely |
|---------------------------|---|
| | Active Ulcerative Colitis |
| Source: | Pharmacotherapy |
| | Wiley-Blackwell |
| | Vol. 35, Issue 4, Page: 412-423 |
| ISSN: | 1875-9114 |
| Month and Year of | APR 2015 |
| Publication: | |
| Impact Factor: | 2.662 |
| Affiliated Department(s): | Medicine |
| Author(s): | Parambir S Dulai, Mahmoud Mosli, Reena Khanna, |
| | Barrett G Levesque, William J Sandborn, Brian G Feagan |
| Correspondent's Email: | brian.feagan@robartsinc.com |

ABSTRACT

Ulcerative colitis is a chronic, idiopathic, inflammatory bowel disease characterized by a relapsing and remitting course. A substantial proportion of patients fail conventional therapies despite therapy with immunosuppressives and tumor necrosis factor antagonists. Accordingly, newer therapeutic agents that target disease-specific inflammation and minimize adverse events are required. Central to the pathogenesis of ulcerative colitis is an aberrant host response to commensal microorganisms with a resultant dysregulation of gut immune homeostasis and lymphocyte trafficking. Recently, a newer biologic, vedolizumab, which blocks lymphocyte trafficking, has been developed for use in moderate to severe ulcerative colitis. The efficacy of this agent has been demonstrated to be similar to that of other currently available biologics, and the selectivity of this agent in blocking lymphocyte migration to the gut has substantially reduced treatment-related adverse events. The drug has now been approved for use in the United States and Europe, and, although the exact positioning of this biologic in clinical practice is yet to be defined, it represents an important new chapter in our armamentarium of treatment options for this population. In this review, we will highlight key considerations to be made by providers when using this agent in clinical practice.





<u>Department of</u> <u>Microbiology and Medical Parasitology</u>

<u>Head of Department I department أ.د. أصف أحمد محمد فطاني Members</u>

حسن البنا محمد احمد يونس شريف عبدالعزيز حامد السعدنى محمد عفيفي عفيفي محمد ميرفت محمد عبد الهادى السيد نشأت عبد العزيز عبد الرحمن إسماعيل أصف أحمد محمد فطانى رزينة محمد قمر زمان سلوى عبدالمنعم عطوه شمس الدين عبد القادر محمد داود عبد القادر جمبى تنكل عبد الله أحمد عبد الرحمن الغامدى فاتن عبد الله على البريكان محمد ونيس عمير الربيع منال احمد المليجي مصطفى منال بكر حسن جمجوم هاني زكريا يحيى عصفور أنور محمد هادى هاشم إيمان كامل سلامة الدقس جميل عبدالوالى راوح المغلس سارة عبد العزيز عبد الله التويم شادى أحمد إسماعيل زكائي محمد أيمن عبدالكريم صافي محمود على حسن حسن فؤاد مها محمود سعد العلاوي نبيل حسين بكر هلال الحسينى نوره اسماعيل على دفع نوف رفعت محمد حلمى نهى عبدالله حبيب الله جمعه هند عبدالرزاق ياسين عبدالمجيد رشا احمد محمد ابو قمر الاء أحمد أحمد ازهرى

بندر حسن هارون صالح تغريد ياسر صالح جمال جواهر أحمد محمد مختار شيماء عبدالعزيز محمد على عبدالعال طارق سعد صالح إخميمى عبدالله سعود فواز الفايز عبدالعزيز بخيت سعد الصاعدى عزة سعيد عيد الحربي كريم احمد رفقي شوقي ابراهيم محمد حامد بشيبش الرحيلي محمد سعد محمد المحياوى منال عبدالوهاب عبدالله زبير منى عبدالرحمن عائض القرنى هتون عبدالله محمد سعيد نيازي هنوف عبدالله محمد سعيد نيازى أريج احمد عبدالمجيد تلمسانى رنا أحمد عمر بغلف زينه عبد الله أحمد الراجحي سلوى إسماعيل الحسن الجعلى سمير سليمان جابر مسرحى شذى محمد حسن مرزوقي عبدالعزيز بكر محمود برناوي عبدالعزيز عزيز عبدالعزيز السلمى فاطمة عمر محمد شريف فواز محمد حضرم الشماسى حسن فهد سعيد الصاعدى مهند خالد امين عطاس نجلاء مضيان ماضي الظاهري هانی یوسف محمد عبدالله



| Research Title: | A broadly protective anti-influenza neuraminidase monoclonal antibody (VAC11P.1100) |
|----------------------------------|--|
| | The Journal of Immunology |
| Source: | The American Association of Immunologists, Inc. |
| | Vol. 194, Issue 1, Page: 1 |
| ISSN: | 1550-6606 |
| Month and Year of | MAY 2015 |
| Publication: | |
| Impact Factor: | 5.362 |
| Affiliated Department(s): | Microbiology and Medical Parasitology |
| | Anwar Hashem, Tracey Doyle, Changgui Li, Gary Van |
| Author(s): | Domselaar, Junzhi Wang, Aeron Hurt, Earl Brown, |
| | Xuguang Li |
| Correspondent's Email: | n/a |

ABSTRACT

Hemagglutinin (HA) and neuraminidase (NA) are the major surface glycoproteins of influenza viruses and the main targets of vaccine-induced antibodies (Abs). While several broadly neutralizing anti-HA Abs can cross-protect against diverse influenza subtypes, NA-specific Abs could only protect partially against strains from the same subtype. Through comprehensive bioinformatics analyses of all publicly available influenza A and B NA sequences, we found a universally conserved 9-mer peptide (ILRTQESEC) amongst all influenza NA proteins (amino acids 222-230). Growth kinetics of recombinant viruses with single alanine substitutions within this epitope proved its crucial roles in viral fitness and replication. Importantly, a monoclonal Ab (HCA-2 mAb) raised against this sequence showed broad in vitro inhibition against multiple strains from all influenza A NA subtypes (N1-N9) and influenza B lineages. It also provided in vivo heterosubtypic protection against lethal doses of H1N1 and H3N2 strains. Amino acid residues I222 and E227, located in close proximity to the active site, were found to be indispensable for inhibition by HCA-2 mAb. These findings reveal the essential role of this highly-conserved sequence in NA function and viral replication and show that it is sufficiently exposed to allow access of inhibitory Abs during the course of infection. Thus, it could represent a potential target for novel antivirals or vaccines against diverse strains of influenza A and B viruses.



| Research Title: | A new focus of autochthonous transmission of Cordylobia |
|----------------------------------|---|
| | anthropophaga in Saudi Arabia |
| Source: | Journal of Microscopy and Ultrastructure |
| | Elsevier |
| | Vol. 2015, Page: 1-4 |
| ISSN: | 2213-879X |
| Month and Year of | JAN 2015 |
| Publication: | |
| Impact Factor: | n/a |
| Affiliated Department(s): | Microbiology and Medical Parasitology; Pediatrics |
| Author(s): | Mohammed A Afifi, Asif A Jiman-Fatani, Fayza I Alsiny, |
| | Wasim S Anshasi |
| Correspondent's Email: | n/a |

ABSTRACT

Background: Cordylobia anthropophaga, is responsible for nodular cutaneous myiasis in sub-Saharan Africa. The fly has long been limited to tropical Africa except for Asir Province, Saudi Arabia. Al Baha Province; north of Asir has an ecological pattern close to that dominant in subtropical Africa. The Southern parts of Saudi Arabia, including Al Baha, are considered part of the Afro-tropical zoogeographical belt where C. anthropophaga is dominant. A case, with cutaneous nodular lesions, was presented to us, where comprehensive investigations were done to establish the diagnosis and to relate it to the known epidemiological background.

Materials and methods: A thorough history taking, comprehensive clinical examination and an intensive parasitological examination on a viable larva recovered from the cutaneous lesions, were performed. Taxonomic identification of the larva was done based on various criteria including shape, size, cuticle spine pattern and the posterior spiracles of the recovered larva.

Results: We report a case of cutaneous myiasis, caused by Cordylobia anthropophaga, indigenously acquired in Al-Baha. The recovered larva was identified as the third instar of C. anthropophaga. With no history of travel to Africa or to Asir, along with a comprehensive epidemiological assessment, an autochthonous pattern of transmission was confirmed.

Conclusion: We present a new focus of autochthonous transmission of C. anthropophaga in Saudi Arabia suggesting a need for an epidemiological reassessment. We also propose considering Cordylobia myiasis as a differential diagnosis in furuncular skin lesions, even in individuals with no history of traveling to Africa.


| Research Title: | A Randomized, Controlled Clinical Trial of Honey- |
|---------------------------|---|
| | Impregnated Dressing for Treating Diabetic Foot Ulcer |
| | Jcpsp-Journal of The College of Physicians and Surgeons |
| Sources | Pakistan |
| Source: | Coll Physicians & Surgeons Pakistan |
| | Vol. 25, Issue 10, Page: 721-725 |
| ISSN: | 1681-7168 |
| Month and Year of | OCT 2015 |
| Publication: | 001 2013 |
| Impact Factor: | 0.318 |
| Affiliated Department(s): | Microbiology and Medical Parasitology; Clinical |
| | Biochemistry; Surgery |
| Author(s): | Muhammad Imran, Muhammad Barkaat Hussain, |
| | Mukhtiar Baig |
| Correspondent's Email: | surgeonimran@gmail.coin |

ABSTRACT

Objective: To investigate the effect of Ben-honey-impregnated dressing on diabetic foot ulcer and compare it with normal saline dressing.

Study Design: A randomized, controlled trial.

Place and Duration of Study: Sughra Shafi Medical Complex, Narowal, Pakistan and Bhatti International Trust (BIT) Hospital, Affiliated with Central Park Medical College, Lahore, from February 2006 to February 2010.

Methodology: Patients with Wagner's grade 1 and 2 ulcers were enrolled. Those patients were divided in two groups; group A (n=179) treated with honey dressing and group B (n=169) treated with normal saline dressing. Outcome measures were calculated in terms of proportion of wounds completely healed (primary outcome), wound healing time, and deterioration of wounds. Patients were followed-up for a maximum of 120 days.

Results: One hundred and thirty six wounds (75.97%) out of 179 were completely healed with honey dressing and 97 (57.39%) out of 169 with saline dressing (p=0.001). The median wound healing time was 18.00 (6 - 120) days (Median with IQR) in group A and 29.00 (7 - 120) days (Median with IQR) in group B (p <0.001).

Conclusion: The present results showed that honey is an effective dressing agent instead of conventional dressings, in treating patients of diabetic foot ulcer.



| Research Title: | Anti-Mutated Citrullinated Vimentin Antibody and |
|----------------------------------|--|
| | Rheumatoid Factor (Prevalence and Association) in |
| | Rheumatoid Arthritis Patients; Saudi and Non-Saudi |
| | Clinical Laboratory |
| Source: | Clin Lab Publ |
| | Vol. 61, Issue 3, Page: 259-267 |
| ISSN: | 1433-6510 |
| Month and Year of | LAN 2015 |
| Publication: | JAN 2013 |
| Impact Factor: | 1.084 |
| Affiliated Department(s): | Microbiology and Medical Parasitology; Medicine |
| Author(s): | MA Safi, Suzan M Attar, Omar A Fathaldin, OM Safi |
| Correspondent's Email: | n/a |

ABSTRACT

Background: The aims of this study were to assess the prevalence of anti-mutated citrullinated vimentin (MCV) antibodies and rheumatoid factor (RF) and to evaluate their association in rheumatoid arthritis patients, both Saudi and non-Saudi.

Methods: Retrospectively, we studied 280 rheumatoid arthritis patients, at King Abdulaziz University Hospital. The antibodies were measured by enzyme linked immunosorbent assay and rheumatoid factor by nephelometry.

Results: The 280 patients included 196 Saudis and 84 non-Saudis, 88% females and 12% males, and the mean age was 45.3 years (SD = 14.3). Prevalence of rheumatoid factor was 141/280(50%) divided as 93/196(47.5%) Saudis and 48/84 (57%) non-Saudis, with no significant differences (p > 0.05). Prevalence of mutated citrullinated vimentin antibodies was 165/280 (58.2%) divided as 121/196 (61.7%) Saudis and 44/84 (52.4%) non-Saudis, with no significant differences (p > 0.05). Among RE -ve patients, considerable numbers were anti-MCV +ve, and vice versa. Also, among the anti-MCV - ve patients, considerable numbers were RE +ve, and vice versa. In all cohorts and in Saudi and non Saudi patients, anti-MCV positivity was significantly associated with RF positivity (odds ratio (OR) 3.15; 95% CI 1.9, 5.19/p = 0.000); ESR and CRP were high with significant correlation (p < 0.005) with each other, with RE positivity but not with anti-MC positivity. Anti-MC positivity showed no significant correlation with age and gender.

Conclusions: In this cohort of patients, anti-MCV antibodies are a useful diagnostic tool for RA, but its combination with RF is essential. Both markers are significantly associated. Larger scale studies are recommended. Correlation of anti-MCV with treatment and with disease activity still has to be published.



| Research Title: | Anti-Tuberculous Activity of Treponemycin Produced by |
|----------------------------------|---|
| | a Streptomyces Strain MS-6-6 Isolated from Saudi Arabia |
| Source: | Molecules |
| | Mdpi Ag |
| | Vol. 20, Issue 2, Page 2576-2590 |
| ISSN: | 1420-3049 |
| Month and Year of | EED 2015 |
| Publication: | FEB 2013 |
| Impact Factor: | 2.416 |
| Affiliated Department(s): | Microbiology and Medical Parasitology |
| Author(s): | Mahmoud A Yassien, Hossam M Abdallah, Ali M El- |
| | Halawany, Asif AM Jiman-Fatani |
| Correspondent's Email: | n/a |

ABSTRACT

A Streptomyces strain MS-6-6 with promising anti-tuberculous activity was isolated from soil samples in Saudi Arabia. The nucleotide sequence of its 16S rRNA gene (1426 bp) evidenced a 100% similarity to Streptomyces mutabilis. Through an anti-tuberculous activity-guided approach, a polyketide macrolide was isolated and identified as treponemycin (TP). The structure of the isolated compound was determined by comprehensive analyses of its 1D and 2D NMR as well as HRESI-MS. In addition to the promising anti-tuberculous activity (MIC = 13.3 mu g/mL), TP showed broad spectrum of activity against the Gram positive, Gram negative strains, and Candida albicans. Improvement of TP productivity (150%) was achieved through modification in liquid starch nitrate medium by replacing KNO3 with corn steep liquor and yeast extract or tryptone, and removing CaCO3 and K2HPO4. The follow up of TP percentage as well as its metabolites profile for each media was assessed by LC/DAD/MS.



| Research Title: | Assessment of educational games for health professions: |
|----------------------------------|---|
| | A systematic review of trends and outcomes |
| Source: | Medical Teacher |
| | Informa Healthcare |
| | Vol. 37, Issue 1, Page: 27-32 |
| ISSN: | 1466-187X |
| Month and Year of | APR 2015 |
| Publication: | |
| Impact Factor: | 1.679 |
| Affiliated Department(s): | Microbiology and Medical Parasitology |
| Author(s): | Hind Abdulmajed, Yoon Soo Park, Ara Tekian |
| Correspondent's Email: | habdulmajed@kau.edu.sa |

ABSTRACT

Background: Traditional lecturing used in teaching has the lowest retention rate; the use of games as part of an instruction method may enhance retention and reinforce learning by creating a dynamic educational environment. This study aims to systematically review the literature on educational games for the health professions to identify trends and investigate assessment tools used to measure its learning outcomes.

Methods: Seven databases were used in the search: ERIC, Education Research Complete, Medline, Medline Complete, Academic Search Complete, The Cochrane Library and PubMed.

Results: The search identified 2865 papers; among them, 1259 were excluded and 22 were evaluated. The selection incorporated five full papers which focused directly on the health professionals. Two studies involved the use of board games and two studies involved card games, crossword puzzles and one study involved a team quiz competition. Overall, studies lacked a strong link between the use of games for both instructional and assessment purposes.

Conclusion: Gaming makes a positive impact on the teaching/learning process. However, existing assessment methodologies have been not fully captured the learning that may occur in these games. Robust research is needed to address the use of games that have been assessed objectively.



| Research Title: | Collaborative studies on the development of national |
|----------------------------------|---|
| | reference standards for potency determination of H7N9 |
| | influenza vaccine |
| | Human Vaccines & Immunotherapeutics |
| Source: | Taylor & Francis Inc |
| | Vol. 11, Issue 6, Page: 1351-1356 |
| ISSN: | 2164-554X |
| Month and Year of | IUN 2015 |
| Publication: | JUN 2013 |
| Impact Factor: | 2.131 |
| Affiliated Department(s): | Microbiology and Medical Parasitology |
| Author(s): | Changgui Li, Kangwei Xu, Anwar Hashem, Ming Shao, |
| | Shuzhen Liu, Yong Zou, Qiang Gao, Yongchao Zhang, |
| | Liyong Yuan, Miao Xu, Xuguang Li, Junzhi Wang |
| Correspondent's Email: | n/a |

ABSTRACT

The outbreak of human infections of a novel avian influenza virus A (H7N9) prompted the development of the vaccines against this virus. Like all types of influenza vaccines, H7N9 vaccine must be tested for its potency prior to being used in humans. However, the unavailability of international reference reagents for the potency determination of H7N9 vaccines substantially hinders the progress in vaccine development. To facilitate clinical development, we enlisted 5 participants in a collaborative study to develop critical reagents used in Single Radial Immunodiffusion (SRID), the currently acceptable assay for potency determination of influenza vaccine. Specifically, the hemagglutinin (HA) content of one vaccine bulk for influenza A (H7N9), herein designated as Primary Liquid Standard (PLS), was determined by SDS-PAGE. In addition, the freeze-dried antigen references derived from PLS were prepared to enhance the stability for long term storage. The final HA content of lyophilized antigen references were calibrated against PLS by SRID assay in a collaborative study. Importantly, application of these national references standards to potency analyses greatly facilitated the development of H7N9 vaccines in China.



| Research Title: | Comparison of the gut microbiota of people in France and |
|-------------------------------|--|
| | Saudi Arabia |
| | Nutrition & Diabetes |
| Source: | Nature Publishing Group |
| | Vol. 5, Page: 153 |
| ISSN: | 2044-4052 |
| Month and Year of | ADD 2015 |
| Publication: | APK 2015 |
| Impact Factor: | 1.517 |
| Affiliated Department(s): | Microbiology and Medical Parasitology; Medicine |
| | M Yasir, E Angelakis, F Bibi, EI Azhar, D Bachar, JC |
| Author(s): | Lagier, B Gaborit, AM Hassan, AA Jiman-Fatani, KZ |
| | Alshali, C Robert, A Dutour, D Raoult |
| Correspondent's Email: | Didier.raoult@gmail.com |

ABSTRACT

Background/Objectives: The gut microbiota contributes to energy acquisition from food, and changes in the gut microbiome are associated with obesity. The eating habits of Saudis are much different than those of Europeans, and our objective was to compare the fecal microbiota of obese and normal weight Saudis and French.

Subjects/Methods: Illumina MiSeq deep sequencing was used to test the gut microbiota of 9 normal weight and 9 obese individuals from Saudi Arabia and 16 normal weight and 12 obese individuals from France.

Results: Obese French possessed significantly more relative Proteobacteria (P = 0.002) and Bacteroidetes (P = 0.05) and had lower richness and biodiversity at all the operational taxonomic unit (OTU) cutoffs (Po0.05) than normal weight French. Obese Saudis possessed significantly more Firmicutes (P = 0.001) without a difference in richness (P = 0.2) and biodiversity (P = 0.3) compared with normal weight Saudis. We found a common bacterial species core of 23 species existing in >= 50% of obese and normal weight Saudis and 29 species in. 50% of obese and normal weight French. Actinomyces odontolyticus, Escherichia coli and Ruminococcus obeum were present in at least 50% of all individuals tested. French individuals had significantly higher richness and biodiversity compared with Saudis at all the OTU cutoffs (P < 0.05).

Conclusion: Microbiota differences between obese and normal weight French were not similar to those between obese and normal weight Saudis. The studies of different populations can result in contrasting data regarding the associations of the gut microbiota and obesity.



| Research Title: | Complete genome sequencing and phylogenetic analysis of dengue type 1 virus isolated from Jeddah, Saudi Arabia |
|----------------------------------|---|
| Source: | Virology Journal |
| | Biomed Central LTD |
| | Vol. 11, Issue 1, Page: 1-11 |
| ISSN: | 1743-422X |
| Month and Year of Publication: | JAN 2015 |
| Impact Factor: | 2.089 |
| Affiliated Department(s): | Microbiology and Medical Parasitology; Medicine |
| Author(s): | Esam I Azhar, Anwar M Hashem, Sherif A El-Kafrawy, |
| | Said Abol-Ela, Adly MM Abd-Alla, Sayed Sartaj Sohrab, |
| | Suha A Farraj, Norah A Othman, Huda G Ben-Helaby, |
| | Ahmed Ashshi, Tariq A Madani, Ghazi Jamjoom |
| Correspondent's Email: | n/a |

ABSTRACT

Background: Dengue viruses (DENVs) are mosquito-borne viruses which can cause disease ranging from mild fever to severe dengue infection. These viruses are endemic in several tropical and subtropical regions. Multiple outbreaks of DENV serotypes 1, 2 and 3 DENV-1, DENV-2 and DENV-3) have been reported from the western region in Saudi Arabia since 1994. Strains from at least two genotypes of DENV-1 Asia and America/Africa genotypes) have been circulating in western Saudi Arabia until 2006. However, all previous studies reported from Saudi Arabia were based on partial sequencing data of the envelope E) gene without any reports of full genome sequences for any DENV serotypes circulating in Saudi Arabia.

Findings: Here, we report the isolation and the first complete genome sequence of a DENV-1 strain DENV-1-Jeddah-1-2011) isolated from a patient from Jeddah, Saudi Arabia in 2011. Whole genome sequence alignment and phylogenetic analysis showed high similarity between DENV-1-Jeddah-1-2011 strain and D1/H/IMTSSA/98/606 isolate Asian genotype) reported from Djibouti in 1998. Further analysis of the full envelope gene revealed a close relationship between DENV-1-Jeddah-1-2011 strain and isolates reported between 2004-2006 from Jeddah as well as recent isolates from Somalia, suggesting the widespread of the Asian genotype in this region.

Conclusions: These data suggest that strains belonging to the Asian genotype might have been introduced into Saudi Arabia long before 2004 most probably by African pilgrims and continued to circulate in western Saudi Arabia at least until 2011. Most importantly, these results indicate that pilgrims from dengue endemic regions can play an important role in the spread of new DENVs in Saudi Arabia and the rest of the world. Therefore, availability of complete genome sequences would serve as a reference for future epidemiological studies of DENV-1 viruses.



| Research Title: | Development and applications of universal H7 subtype- specific antibodies for the analysis of influenza H7N9 vaccines |
|-----------------------------------|--|
| Source: | Vaccine Elsevier Sci LTD Vol. 33, Issue 9, Page: 1129-1134 |
| ISSN: | 1873-2518 |
| Month and Year of Publication: | FEB 2015 |
| Impact Factor: | 3.624 |
| Affiliated Department(s): | Microbiology and Medical Parasitology; King Fahd Center for Medical Research - Special Infectious Agents Unit |
| Author(s): | Caroline Gravel, Cathie Elmgren, Abenaya Muralidharan, Anwar M Hashem, Bozena Jaentschke, Kangwei Xu, Jennifer Widdison, Kristin Arnold, Aaron Farnsworth, Aline Rinfret, Gary Van Domselaar, Junzhi Wang, Changgui Li, Xuguang Li |
| Correspondent's Email: | sean.li@hc-sc.gc.ca |

ABSTRACT

H7N9 is a newly emerged avian influenza virus with a relatively high mortality rate in humans. At this time, there is no licensed vaccine for human protection. Development of analytical tools for H7N9 vaccine could facilitate vaccine development. Here, a universally conserved epitope in all H7 hemagglutinin (HA) sequences was identified through comprehensive bioinformatics analyses. The peptide epitope, RSGSSFYAEMK, (aa positions 149 to 159), is located on the head of the HA molecule. Antibodies generated against this universal H7 epitope were remarkably specific against H7 viral sequence with no detectable cross-reactivity to other HA subtypes. A new immunoblotting assay based on the universal H7 antibody was developed and compared with the traditional single radial immunodiffusion assay (SRID) for potency analyses of candidate H7N9 vaccines. This new assay was more sensitive and rapid compared to SRID. In addition to statistically acceptable precision and reproducibility, the new assay differs from many other alternative potency assays for influenza vaccine in that it is potentially stability-indicating, which is an important requirement for industry vaccine stability studies analyses. Furthermore, the robustness of this new assay was demonstrated by the quantitative determination of HA content in four H7N9 vaccines (split or inactivated) from different manufacturers.



| Research Title: | Disease activity and its correlation with anti-mutated citrullinated vimentin antibodies and other factors in |
|----------------------------------|---|
| | rheumatoid arthritis |
| | Medical Science |
| Source: | The International Weekly journal |
| | Vol. 16, Issue 64, Page: 17-23 |
| ISSN: | 2321 - 7367 |
| Month and Year of | JAN 2015 |
| Publication: | |
| Impact Factor: | n/a |
| Affiliated Department(s): | Microbiology and Medical Parasitology; Medicine |
| Author(s): | Mohammad-Ayman Safi, Omar Fathaldin |
| Correspondent's Email: | n/a |

ABSTRACT

Objectives: Our aim was to determine the disease activity (DAS28) and its correlation with anti- Mutated Citrullinated Vimentin antibody (antiMCV) positivity and other factors in Rheumatoid Arthritis (RA) patients, Saudis and non-Saudis. And to compare Disease Activity measurements using ESR (DAS28-ESR) and CRP (DAS28-CRP).

Patients and methods: Retrospectively, data were obtained by files' reviewing, for a period of seven years (2007-2014), at king Abdulaziz university hospital (KAUH), Jeddah, Saudi Arabia. Disease Activity Scores were assessed by DAS28-ESR (104 patients), and together with DAS28-CRP (36 patients). One hundred and four (104) files had complete data for our objectives.

Results: DAS28-ESR was high [6 (SD=3)] among non-Saudi patients, moderate among Saudis [4.3 (SD=1.7)] and the total cohort [4.8(SD=2.3]); with significant differences (P=0.000; R2 =11.3%) between Saudi and non-Saudi patients for DAS28. In a linear regression and by correlation analysis; the variables (Sex, age, age-group, anti-MCV positivity) showed no correlations with DAS28, neither for Saudis nor for non-Saudis. Eighty one (81) patients had data concerning presence of comorbid conditions; 34/81(42%) were with comorbid conditions. There was no significant correlation between presence of comorbid condition and disease activity neither for the total cohort (P=0.75) nor for Saudis (P=0.65) and non-Saudis (P=0.70).

Conclusion and recommendation: In both Saudi and non-Saudi RA-patients, disease activity can neither be assessed by anti-MCV positivity nor correlated with, comorbidity, sex, age and age groups. DAS28-ESR and DAS28-CRP were significantly correlated. A larger scale study is recommended.



| Research Title: | Genome sequence of Oceanobacillus picturae strain S1, |
|----------------------------------|--|
| | an halophilic bacterium first isolated in human gut. |
| Source: | Standards in Genomic Sciences |
| | BioMed Central |
| | Vol. 10, Issue 91 |
| ISSN: | 1944-3277 |
| Month and Year of | OCT 2015 |
| Publication: | 001 2013 |
| Impact Factor: | 3.167 |
| Affiliated Department(s): | Microbiology and Medical Parasitology |
| Author(s): | Jean-Christophe Lagier, Saber Khelaifia, Esam Ibraheem |
| | Azhar, Olivier Croce, Fehmida Bibi, Asif Ahmad Jiman- |
| | Fatani, Muhammad Yasir, Huda Ben Helaby, Catherine |
| | Robert, Pierre-Edouard Fournier, Didier Raoult |
| Correspondent's Email: | didier.raoult@gmail.com |

ABSTRACT

Oceanobacillus picturae is a strain of a moderately halophilic bacterium, first isolated from a mural painting. We demonstrate, for the first time, the culture of human Oceanobacillus picturae, strain S1T, whose genome is described here, from a stool sample collected from a 25-year-old Saoudian healthy individual. We used a slightly modified standard culture medium adding 100 g/L of NaCl. We provide a short description of this strain including its MALDI-TOF spectrum, the main identification tool currently used in clinical microbiology. The 3,675,175 bp long genome exhibits a G + C content of 39.15 % and contains 3666 protein-coding and 157 RNA genes. The draft genome sequence of Oceanobacillus picturae has a similar size to the Oceanobacillus kimchii (respectively 3.67 Mb versus 3.83 Mb). The G + C content was higher compared with Oceanobacillus kimchii (respectively 39.15 % and 35.2 %). Oceanobacillus picturae shared almost identical number of genes (3823 genes versus 3879 genes), with a similar ratio of genes per Mb (1041 genes/Mb versus 1012 genes/Mb).

The genome sequencing of Oceanobacillus picturae strain S1 isolated for the first time in a human, will be added to the 778 genome projects from the gastrointestinal tract listed by the international consortium Human Microbiome Project.



| Research Title: | Immunodiagnostic Significance of Anti-RA33 |
|----------------------------------|--|
| | Autoantibodies in Saudi Patients with Rheumatoid |
| | Arthritis |
| Source: | Journal of Immunology Research |
| | Hindawi Publishing Corporation |
| | Article no.: 604305 |
| ISSN: | 2314-7156 |
| Month and Year of | LAN 2015 |
| Publication: | JAN 2013 |
| Impact Factor: | 2.934 |
| Affiliated Department(s): | Microbiology and Medical Parasitology |
| Author(s): | Jamil A Al-Mughales |
| Correspondent's Email: | almughales@hotmail.com |

ABSTRACT

The primary objective of this study was to evaluate and compare the immunodiagnostic significance and utility of anti-RA33 with anti-CCP, RF, and CRP in Saudi patients with rheumatoid arthritis. Methods. This was a prospective controlled clinical study conducted at King Abdul Aziz University Tertiary Medical Centre. The sera of 41 RA patients, 31 non-RA patients, and 29 healthy controls were collected. Anti-RA33 and anti-CCP were measured using commercially available ELISA principle kits. RF and CRP were measured using nephelometry. Results. Anti-RA33 antibodies had the lowest positive and negative predictive values and showed a sensitivity of 7.32% with 95.12% specificity. Of the other three markers (including anti-CCP antibodies, CRP, and RF), only anti-CCP showed specificity of 90.46% with sensitivity of 63.41% compared to non-RA patients + healthy control. There was a significant correlation with rheumatoid factor positivity with anti-CCP. With respect to CRP, a notable correlation was seen only with anti-RA33. Conclusion. Compared to rheumatoid factor, anti-CCP antibodies, and C-reactive proteins, the anti-RA33 autoantibodies seem to be not representing as an important additional immunodiagnosticmarker in Saudi patients with established RA. RA33 may have more interest in early RA or less severe RA and other systemic connective tissue disorders.



| Research Title: | Microbial Biofilm Development on Neonatal Enteral |
|----------------------------------|---|
| | Feeding Tubes |
| Source: | Biofilm-Based Healthcare-Associated Infections, Vol I |
| | Springer-Verlag Berlin |
| | Vol. 830, Page: 113-121 |
| ISSN: | 0065-2598 |
| Month and Year of | LAN 2015 |
| Publication: | JAN 2013 |
| Impact Factor: | n/a |
| Affiliated Department(s): | Microbiology and Medical Parasitology |
| Author(s): | Noha A Juma, Stephen J Forsythe |
| Correspondent's Email: | n/a |

ABSTRACT

Neonates in intensive care units often require supporting medical devices and antibiotic treatment. The intensive care treatment combined with their immature immune system, the increased permeability of mucosa, and the undeveloped microflora of the gut may render the neonates highly vulnerable to colonisation and subsequent infections when exposed to opportunistic pathogens. These infections may not only be local gastrointestinal infections, but also systematic following translocation from the gastrointestinal system. This could be particularly alarming considering that common antibiotics may not be effective if the causative strain is multi-drug resistant.

This chapter reviews our information on the microbial colonization of neonatal feeding tubes. The range of organisms which have been recovered are wide, and while primarily bacterial, fungi such as Candida have also been found. The bacteria are principally Staphylococcus spp. and Enterobacteriaceae. The Enterobacteriaceae isolates are predominantly Enterobacter cancerogenus, Serratia marcescens, Enterobacter hormaechei, Escherichia coli and Klebsiella pneumoniae. Many of these isolates encode for antibiotic resistance; E. hormaechei (ceftazidine and cefotaxime) and S. marcescens strains (amoxicillin and co-amoxiclav).



| Research Title: | Natural and disease-specific autoantibodies in chronic |
|---------------------------|--|
| | obstructive pulmonary disease |
| | Clinical And Experimental Immunology |
| Source: | Wiley-Blackwell |
| | Vol. 180, Issue 1, Page: 155-163 |
| ISSN: | 1365-2249 |
| Month and Year of | ADD 2015 |
| Publication: | AI K 2015 |
| Impact Factor: | 3.037 |
| Affiliated Department(s): | Microbiology and Medical Parasitology |
| Author(s): | NI Daffa, PJ Tighe, JM Corne, LC Fairclough, I Todd |
| Correspondent's Email: | lucy.fairclough@nottingham.ac.uk |

ABSTRACT

Autoimmunity may contribute to the pathogenesis of chronic obstructive pulmonary disease (COPD). Studies have identified disease-specific autoantibodies (DSAAbs) in COPD patients, but natural autoantibodies (NAAbs) may also play a role. Previous studies have concentrated on circulating autoantibodies, but lung-associated autoantibodies may be most important. Our aim was to investigate NAAbs and DSAAbs in the circulation and lungs of COPD smoking (CS) patients compared to smokers (S) without airway obstruction and subjects who have never smoked (NS). Immunoglobulin (Ig)G antibodies that bind to lung tissue components were significantly lower in the circulation of CS patients than NS (with intermediate levels in S), as detected by enzymelinked immunosorbent assay (ELISA). The levels of antibodies to collagen-1 (the major lung collagen) detected by ELISA were also reduced significantly in CS patients' sera compared to NS. The detection of these antibodies in NS subjects indicates that they are NAAbs. The occurrence of DSAAbs in some CS patients and S subjects was indicated by high levels of serum IgG antibodies to cytokeratin-18 and collagen-5; furthermore, antibodies to collagen-5 eluted from homogenized lung tissue exposed to low pH (01M glycine, pH28) were raised significantly in CS compared to S and NS. Thus, this study supports a role in COPD for both NAAbs and DSAAbs.



| Research Title: | Non contiguous-finished genome sequence and |
|----------------------------------|---|
| | description of Bacillus jeddahensis sp. Nov |
| | Standards in Genomic Sciences |
| Source: | BioMed Central |
| | Vol. 10, Issue 47, Page: 1-12 |
| ISSN: | 1944-3277 |
| Month and Year of | AUC 2015 |
| Publication: | AUG 2013 |
| Impact Factor: | 3.167 |
| Affiliated Department(s): | Microbiology and Medical Parasitology |
| | Fadi Bittar, Fehmida Bibi, Dhamodharan Ramasamy, |
| | Jean-Christophe Lagier, Esam I Azhar, Asif A Jiman- |
| Author(s): | Fatani, Ahmed K Al-Ghamdi, Ti Thien Nguyen, |
| | Muhammad Yasir, Pierre-Edouard Fournier, Didier |
| | Raoult |
| Correspondent's Email: | fadi.bittar@univ-amu.fr |

ABSTRACT

Strain JCE(T) was isolated from the fecal sample of a 24-year-old obese man living in Jeddah, Saudi Arabia. It is an aerobic, Gram-positive, rod-shaped bacterium. This strain exhibits a 16S rRNA nucleotide sequence similarity of 97.5 % with Bacillus niacini, the phylogenetically closest species with standing nomenclature. Moreover, the strain JCE(T) presents many phenotypic differences, when it is compared to other Bacillus species, and shows a low MALDI-TOF Mass Spectrometry score that does not allow any identification. Thus, it is likely that this strain represents a new species. Here we describe the features of this organism, together with the complete genome sequence and annotation. The 4,762,944 bp long genome (1 chromosome but no plasmid) contains 4,654 protein-coding and 98 RNAs genes, including 92 tRNA genes. The strain JCE(T) differs from most of the other closely Bacillus species by more than 1 % in G + C content. In addition, digital DNA-DNA hybridization values for the genome of the strain JCE(T) against the closest Bacillus genomes range between 19.5 to 28.1, that confirming again its new species status. On the basis of these polyphasic data made of phenotypic and genomic analyses, we propose the creation of Bacillus jeddahensis sp. nov. that contains the strain JCE(T).



| Research Title: | Pattern of drugs use and association with anti-mutated |
|----------------------------------|---|
| | citrullinated vimentin antibody in rheumatoid arthritis |
| | Saudi Medical Journal |
| Source: | Saudi Med J |
| | Vol. 36, Issue 3, Page: 316-323 |
| ISSN: | 0379-5284 |
| Month and Year of | MAD 2015 |
| Publication: | WAR 2013 |
| Impact Factor: | 0.588 |
| Affiliated Department(s): | Microbiology and Medical Parasitology; Medicine |
| Author(s): | Mohammad-Ayman A Safi, Omar A Fathaldin |
| Correspondent's Email: | aymansafi3@hotmail.com |

ABSTRACT

Objectives: To demonstrate the pattern of disease-modifying antirheumatic drugs (DMARDs) use in Saudi and non-Saudi rheumatoid arthritis (RA) patients, and to evaluate the association of DMARDs use with anti-mutated citrullinated vimentin (anti-MCV) positivity and other factors.

Methods: Retrospectively, for a period of 7 years (2007-2014), we studied 205 RA patients, at King Abdulaziz University Hospital (KAUH), Jeddah, Saudi Arabia. All patients used DMARDs. Pattern of use for all 6 DMARDs was almost the same among Saudis and non-Saudis with no significant difference (p>0.05) for each DMARD; MTX was the most commonly used DMARD (71-76%).

Results: There was no association between anti-MCV positivity and different DMARDs use. Methotrexate was used 76 times as combination, scoring the highest in this respect. There was a significant correlation (p<0.05) between Plaquenil with Methotrexate and with Sulfasalazine; Leflunomide with anti-TNF and with Prednisolone; age with Methotrexate and with Plaquenil; anti-MCV positivity with Prednisolone. Saudi/non-Saudi status showed no correlation with all factors or drugs. There was no significant association between DMARDs and comorbidity.

Conclusion: Similar to worldwide results, MTX was the most commonly used DMARD; with the addition of anti-TNF to increase the effect, and folic acid to minimize the side effects. In this cohort, the pattern of use for all DMARDs was similar among Saudis and non-Saudis; treatment depended neither on anti-MCV positivity nor on the presence of comorbid conditions. A study of the association of DMARDs with disease activity is recommended.



| Research Title: | Plasma Nuclear Factor Kappa B and Serum Peroxiredoxin |
|-------------------------------|---|
| | 3 in Early Diagnosis of Hepatocellular Carcinoma |
| | Asian Pacific Journal of Cancer Prevention |
| Source: | Asian Pacific Organization for Cancer Prevention |
| | Vol. 16, Issue 4, Page: 1657-1663 |
| ISSN: | 1513-7368 |
| Month and Year of | AUC 2015 |
| Publication: | AUG 2013 |
| Impact Factor: | 1.5 |
| Affiliated Department(s): | Microbiology and Medical Parasitology |
| | Saber Ismail, Wael Mayah, HE Battia, Hanaa Gaballah, |
| Author(s): | Asif Jiman-Fatani, Hala Hamouda, Mohamed A Afifi, |
| | Nehal Elmashad, SE Saadany |
| Correspondent's Email: | n/a |

ABSTRACT

Background: Early diagnosis of hepatocellular carcinoma (HCC) is the most important step in successful treatment. However, it is usually rare due to the lack of a highly sensitive specific biomarker so that the HCC is usually fatal within few months after diagnosis. The aim of this work was to study the role of plasma nuclear factor kappa B (NF- κ B) and serum peroxiredoxin 3 (PRDX3) as diagnostic biomarkers for early detection of HCC in a high-risk population.

Materials and Methods: Plasma nuclear factor kappa B level (NF- κ B) and serum peroxiredoxin 3 (PRDX3) levels were measured using enzyme linked immunosorbent assay (ELISA), in addition to alpha-fetoprotein (AFP) in 72 cirrhotic patients, 64 patients with HCC and 29 healthy controls.

Results: NF- κ B and PRDX3 were significantly elevated in the HCC group in relation to the others. Higher area under curve (AUC) of 0.854 (for PRDX3) and 0.825 (for NF- κ B) with sensitivity of 86.3% and 84.4% and specificity of 75.8% and 75.4% respectively, were found compared to AUC of alpha-fetoprotein (AFP) (0.65) with sensitivity of 72.4% and specificity of 64.3%.

Conclusions: NF- κ B and PRDX3 may serve as early and sensitive biomarkers for early detection of HCC facilitating improved management. The role of nuclear factor kappa B (NF- κ B) as a target for treatment of liver fibrosis and HCC must be widely evaluated.



| Research Title: | Prevalence of methicillin-resistant Staphylococcus aureus |
|----------------------------------|---|
| | nasal colonization among medical students in Jeddah, |
| | Saudi Arabia |
| | Saudi Medical Journal |
| Source: | Saudi Med J |
| | Vol. 36, Issue 7, Page: 807-812 |
| ISSN: | 0379-5284 |
| Month and Year of | HH 2015 |
| Publication: | JUL 2013 |
| Impact Factor: | 0.554 |
| Affiliated Department(s): | Microbiology and Medical Parasitology |
| Author(s): | Shadi A Zakai |
| Correspondent's Email: | szakai@kau.edu.sa |

ABSTRACT

Objectives: To identify Methicillin-resistant Staphylococcus aureus (MRSA) nasal carriage status among medical students during their clinical rotations.

Methods: This cross-sectional study detected the prevalence of MRSA among medical students at King Abdulaziz University (KAU), Jeddah, Saudi Arabia, using molecular approaches. Nasal swabs were collected from 150 internship and sixth-year medical students between September 2014 and January 2015, and compared with the control group of 32 third-year medical students who were not exposed to clinical work. Polymerase chain reaction (PCR) screening was performed to identify Staphylococcus aureus (S. aureus) nuc gene, and an additional PCR was performed on S. aureus positive samples to detect the presence of mecA gene.

Results: Out of 150 students screened, 38 were nasal carriers of S. aureus. The prevalence of methicillin-sensitive S. aureus (MSSA) carriers was 18.7% (n= 28), whereas 10 students (6.7%) were mecA-positive, representing MRSA carriers. Interns carry MRSA more than 6th year students and students who were not exposed to clinical work (p< 0.05), while MSSA is found more in students who were not exposed to clinical work (p< 0.01).

Conclusion: We found MRSA carriers among medical students at KAU, which showed a possible contribution of this group to transmit infection to hospitalized patients. Medical students must receive sufficient knowledge regarding control measures to avoid spread of this infection in hospitals.



| Research Title: | Rapid Identification of Microorganisms from Sterile Body |
|----------------------------------|--|
| | Fluids by Use of FilmArray |
| | Journal of Clinical Microbiology |
| Source: | Amer Soc Microbiology |
| | Vol. 53, Issue 2, Page: 710-712 |
| ISSN: | 0095-1137 |
| Month and Year of | EED 2015 |
| Publication: | FEB 2013 |
| Impact Factor: | 3.993 |
| Affiliated Department(s): | Microbiology and Medical Parasitology |
| Author(s): | Osman Altun, Mohammed Almuhayawi, Måns Ullberg, |
| | Volkan Özenci |
| Correspondent's Email: | volkan.ozenci@karolinska.se |

ABSTRACT

We evaluated the clinical performance of the FilmArray blood culture identification (BCID) panel in the identification of micro-organisms from positive blood culture bottles inoculated with sterile body fluids. All organisms included in the FA BCID panel were accurately identified in 84/84 (100%) and 18/24 (75%) samples with mono- and polymicrobial growth, respectively.



| | Pise of Microbial Culturamics: Noncontiguous Finished |
|----------------------------------|---|
| | Rise of Microbial Culturonnes. Noncontiguous Finished |
| Research Title: | Genome Sequence and Description of Beduini |
| | massiliensis gen. nov., sp nov |
| | Omics-A Journal of Integrative Biology |
| Source: | Mary Ann Liebert |
| | Vol. 19, Issue 12, Page: 766-776 |
| ISSN: | 1557-8100 |
| Month and Year of | DEC 2015 |
| Publication: | DEC 2015 |
| Impact Factor: | 2.362 |
| Affiliated Department(s): | Microbiology and Medical Parasitology |
| | Gaël Mourembou, Muhammad Yasir, Esam Ibraheem |
| | Azhar, Jean Christophe Lagier, Fehmida Bibi, Asif |
| Author(s): | Ahmad Jiman-Fatani, Nayel Helmy, Catherine Robert, |
| | Jaishriram Rathored, Pierre-Edouard Fournier, Didier |
| | Raoult, Matthieu Million |
| Correspondent's Email: | matthieumillion@gmail.com |

ABSTRACT

Microbial culturomics is a new field of omics sciences that examines the bacterial diversity of human gut coupled with a taxono-genomic strategy. Using microbial culturomics, we report here for the first time a novel Gram negative, catalase- and oxidase-negative, strict anaerobic bacilli named Beduini massiliensis gen. nov., sp nov. strain GM1 (=CSUR P1440=DSM 100188), isolated from the stools of a female nomadic Bedouin from Saudi Arabia. With a length of 2,850,586bp, the Beduini massiliensis genome exhibits a G+C content of 35.9%, and contains 2819 genes (2744 protein-coding and 75 RNA genes including 57 tRNA and 18 rRNA genes). It is composed of 6 scaffolds (composed of 6 contigs). A total of 1859 genes (67.75%) were assigned a putative function (by COGs or by NR blast). At least 1457 (53%) orthologous proteins were not shared with the closest phylogenetic species. 274 genes (10.0%) were identified as ORFans. These results show that microbial culturomics can dramatically improve the characterization of the human microbiota repertoire, deciphering new bacterial species and new genes. Further studies will clarify the geographic specificity and the putative role of these new microbes and their related functional genetic content in health and disease. Microbial culturomics is an emerging frontier of omics systems sciences and integrative biology and thus, warrants further consideration as part of the postgenomics methodology toolbox.



| Research Title: | Serological evidences link toxoplasmosis with |
|----------------------------------|---|
| | schizophrenia and major depression disorder |
| | Journal of Microscopy and Ultrastructure |
| Source: | Elsevier B.V. |
| | Vol. 3, Issue 3, Page: 148-153 |
| ISSN: | 2213-879X |
| Month and Year of | |
| Publication: | SEP 1 2015 |
| Impact Factor: | n/a |
| Affiliated Department(s): | Microbiology and Medical Parasitology |
| | Nabeel H Al-Hussainy, Ahmad M Al-saedi, Jehad H Al- |
| Author(s): | lehaibi, Yasser A Al-lehaibi, Yasser M Al-Sehli, |
| | Mohammed A Afifi |
| Correspondent's Email: | n/a |

ABSTRACT

The etiology of psychiatric disorders is largely unknown. A role of environmental insults during early neurodevelopment have been suggested. Infections are possible risk factors for psychiatric disorders especially Toxoplasma gondii, a neurotropic parasite with a lifelong residence in brain. This study has investigated a possible role of toxoplasmosis in the development of schizophrenia and major depression disorder (MDD). The influence of other covariates; age, gender and family history was also studied. A cross-sectional study on a total of 177 individuals, where anti-Toxoplasma IgG and IgM in sera of schizophrenia (n = 63) and MDD (n = 39) patients, all fulfilling DSM-5 diagnostic criteria, were compared to healthy volunteers (n = 55). Toxoplasma positivity was highest (31.75%) among schizophrenics followed by MDD (25.64%) and controls (14.55%). IgG levels were significantly higher in toxo-positive schizophrenics (230.1 \pm 22.9) and MDD (220.56 ± 24.8) compared to controls (9.98 ± 1.78) . Three patients only, all schizophrenic, have positive IgM antibodies. Age and male gender appear to have positive associations to toxoplasmosis and psychiatric disorders while family history has no obvious additive role. This report is one of few linking Toxoplasma infection to MDD and adds to many suggesting a link between latent toxoplasmosis and schizophrenia.



| Research Title: | Targeting the HA2 subunit of influenza A virus |
|----------------------------------|---|
| | hemagglutinin via CD40L provides universal protection |
| | against diverse subtypes |
| | Mucosal Immunology |
| Source: | Nature Publishing Group |
| | Vol. 8, Issue 1, Page: 211-220 |
| ISSN: | 1933-0219 |
| Month and Year of | IAN 2015 |
| Publication: | JAN 2015 |
| Impact Factor: | 7.537 |
| Affiliated Department(s): | Microbiology and Medical Parasitology |
| Author(s): | X Fan, AM Hashem, Z Chen, C Li, T Doyle, Y Zhang, Y |
| | Yi, A Farnsworth, K Xu, Z Li, R He, X Li, J Wang |
| Correspondent's Email: | n/a |

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 influenzaAvirus subtypes including H1N1, H3N2, and H9N2. Codonoptimization 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 fromimmunized 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.



| | The immunomodulatory effects of rolipram abolish drug- |
|----------------------------------|--|
| Research Title: | resistant latent phase of Toxoplasma gondii infection in a |
| | murine model |
| | Journal of Microscopy and Ultrastructure |
| Source: | Elsevier B.V. |
| | Vol. 3, Issue 2, Page: 86-91 |
| ISSN: | 2213-879X |
| Month and Year of | HIN 2015 |
| Publication: | JUN 2013 |
| Impact Factor: | n/a |
| Affiliated Department(s): | Microbiology and Medical Parasitology |
| Author(s): | Mohammed A Afifi, Mohammed W Al-Rabia |
| Correspondent's Email: | n/a |

ABSTRACT

Background: Latent toxoplasmosis always has the risk of reactivation leading to significant sequelae. The available medications, for chronic toxoplasmosis, are awfully limited by resistance of Toxoplasma cysts. Therefore, there is a growing necessity for novel therapeutic approaches. Agents increasing cAMP levels and downregulating proinflammatory cytokine could inhibit Toxoplasma conversion to the bradyzoite stage. This study explores a potential immunomodulatory effect of rolipram, a PDE4 inhibitor, on the course of experimental toxoplasmosis and links this role to deterrence of the resistant chronic phase of the disease.

Materials and methods: Mice infected with low pathogenic strain of Toxoplasma gondii were treated with rolipram for three weeks. The effect of rolipram was evaluated through tissue injury scoring, brain cyst count, specific IgG titers as well as TNF- α , IFN- γ and IL-12 assays.

Results: Rolipram was partially able to prevent the progression to chronic toxoplasmosis. Toxoplasma brain cyst burden showed a 74% reduction while Toxoplasma-induced inflammatory foci per liver area and nucleated cells per inflammatory focus were significantly reduced: 57.14% and 61.3% respectively. Significant reduction of TNF- α (84.6%), IFN- γ (76.7%) and IL-12 (71%) levels was demonstrated along with significant inhibition of anti-Toxoplasma antibody response.

Conclusion: Rolipram efficiently modulated the Toxoplasma-induced immunological changes with a consequent remission of chronic toxoplasmosis. This study is the first to report the utilization of PDE4 inhibitors as possible immune modulators of chronic phase of Toxoplasma infection.



| Research Title: | The Performance of the Four Anaerobic Blood Culture |
|----------------------------------|---|
| | Bottles BacT/ALERT-FN, -FN Plus, BACTEC-Plus and - |
| | Lytic in Detection of Anaerobic Bacteria and |
| | Identification by Direct MALDI-TOF MS |
| | PLOS One |
| Source: | Public Library Science |
| | Vol. 10, Issue 11, Article no.: e0142398 |
| ISSN: | 1932-6203 |
| Month and Year of | NOV 2015 |
| Publication: | NOV 2013 |
| Impact Factor: | 3.234 |
| Affiliated Department(s): | Microbiology and Medical Parasitology |
| Author(s): | Mohammed Almuhayawi, Osman Altun, Adam Dilshad |
| | Abdulmajeed, Måns Ullberg, Volkan Özenci |
| Correspondent's Email: | volkan.ozenci@karolinska.se |

ABSTRACT

Detection and identification of anaerobic bacteria in blood cultures (BC) is a wellrecognized challenge in clinical microbiology. We studied 100 clinical anaerobic BC isolates to evaluate the performance of BacT/ALERT-FN, -FN Plus (BioMerieux), BACTEC-Plus and -Lytic (Becton Dickinson BioSciences) BC bottles in detection and time to detection (TTD) of anaerobic bacteria. BACTEC Lytic had higher detection rate (94/100, 94%) than Bad/ALERT FN Plus (80/100, 80%) (p<0.01) in the studied material. There was no significant difference in detection of anaerobic bacteria among the remaining bottle types. The 67 anaerobic bacteria that signalled positive in all four bottle types were analyzed to compare the time to detection (TTD) and isolates were directly identified by MALDI-TOF MS. There was a significant difference in TTD among the four bottle types (p<0.0001). The shortest median TTD was 18 h in BACTEC Lytic followed by BacT/ALERT FN (23.5 h), BACTEC Plus (27 h) and finally BacT/ALERT FN Plus (38 h) bottles. In contrast, MALDI-TOF MS performed similarly in all bottle types with accurate identification in 51/67 (76%) BacT/ALERT FN, 51/67 (76%) BacT/ALERT FN Plus, 53/67 (79%) BACTEC Plus and 50/67 (75%) BACTEC Lytic bottles. In conclusion, BACTEC Lytic bottles have significantly better detection rates and shorter TTD compared to the three other bottle types. The anaerobic BC bottles are equally suitable for direct MALDI-TOF MS for rapid and reliable identification of common anaerobic bacteria. Further clinical studies are warranted to investigate the performance of anaerobic BC bottles in detection of anaerobic bacteria and identification by direct MALDI-TOF MS.



Department of Ob-gyne

Department of Ob-gyne

<u>Head of Department</u> د اسامة صادق مساعد باجوه <u>Members</u>

حسان صلاح عمر عبد الجبار خالد حسين ولي سيت سامية محمد عبد الرحمن العمودي شريفة بنت علي غالب الصبياني طارق يوسف جمال اليمانى الزمزمى عبد الرحيم علي روزي الخوتاني وفاء محمد خليل فقيه نبيل سالم حسين بندقجى هشام محمود محمد رمضانى السندى أنس محمد محمد المرزوقي نوال بنت سالم أحمد السناني هيفاء أحمد جميل منصورى احمد بكر محمد الوزان أحمد أنس حسين موسى احمد محمد سميح المرستاني اسامة صادق مساعد باجوه اعتدال عطية عبدالرحمن الجحدلى أيمن عبدالله غائب نظر بخارى أيمن محمد خضر محمد رشيد عريف حنان محمد على الشمرانى سارة منصور محمد نواوى غزالى سماء محمود محمد على ناظر سميرة فهد مرسال البصري سوزان محمد حسن كافي عمر احمد عمر بغلف نسرين محمد عمر مختار انفنان نسمة محمد صدقة المنصورى أحمد بكر محمد الوزان بروج سعيد خميس الاحمدي الزهرانى حسين محمد حسين مغربل حنان عدنان حمزة زاهد خلود عبدالعزيز على عرب

خلود عبدالعزيز علي عرب خلود محمد مشبب ال حفيان دعاء محمد احمد بهلكى دانه سهيل هاشم صوان رازان طارق صدقه امجد روان عبدالهادى عبدالفتاح قارى ريان صالح محمد حسنين ساره رباح واصل الظاهري ساره عبدالعزيز محمد مرزوق سارة منصور محمد الغزالى سها عبدالعزيز على عرب صهيب وائل احمد خياط عبدالله خالد عبدالله عقباوى عبدالله عبدالرحمن محمود النعمان عاصم فيصل سليمان صبغة الله غادة عابد محمد المالكي غزل سمير عبدالله عاشور فراس محمد مصطفى اللقانى محمد ابراهيم فؤاد خوجه محمد حسن محمد البار محمد عبدالله احمد اليافي محمد مازن محمد عبد اللطيف ملك نادين عبدالرحمن عبدالعزيز الغنيم نشوة فهد أحمد الدردير نداء محمد احمد بهكلى نورة نايف حمزه سحلى هبه رجاء خليف العنزي هتان جمال عادل عارف هشام طارق يوسف نصيف ياسر أحمد محمدموسى بخاري ياسر عطا ياسين عبدالقادر



| Research Title: | Androgen and Progesterone Receptors Are Targets for |
|----------------------------------|--|
| | Bisphenol A (BPA), 4-Methyl-2,4-bis-(P- |
| | Hydroxyphenyl)Pent-1-Ene-A Potent Metabolite of BPA, |
| | and 4-Tert-Octylphenol: A Computational Insight |
| | PLOS One |
| Source: | Public Library Science |
| | Vol. 10, Issue 9, Article no.: 0138438 |
| ISSN: | 1932-6203 |
| Month and Year of | SEDT 2015 |
| Publication: | SEF 1 2015 |
| Impact Factor: | 3.234 |
| Affiliated Department(s): | Ob-gyne |
| | Mohd Rehan, Ejaz Ahmad, Ishfaq A Sheikh, Adel M |
| Author(s): | Abuzenadah, Ghazi A Damanhouri, Osama S Bajouh, |
| | Samera F AlBasri, Mansour M Assiri, Mohd A Beg |
| Correspondent's Email: | mabeg15@gmail.com |

ABSTRACT

Exposure to toxic industrial chemicals that have capacity to disrupt the endocrine system, also known as endocrine disrupting chemicals (EDCs), has been increasingly associated with reproductive problems in human population. Bisphenol A (BPA; 4,4'-(propane-2,2divl)diphenol) and 4-tert-octylphenol (OP; 4-(1,1,3,3-tetramethylbutyl)phenol) are among the most common environmental contaminants possessing endocrine disruption properties and are present in plastics, epoxy resins, detergents and other commercial products of common personal and industrial use. A metabolite of BPA, 4-Methyl-2,4bis(4-hydroxyphenyl)pent-1-ene (MBP) is about 1000 times more biologically active compared to BPA. Epidemiological, clinical, and experimental studies have shown association of BPA and OP with adverse effects on male and female reproductive system in human and animals. The endocrine disruption activity can occur through multiple pathways including binding to steroid receptors. Androgen receptor (AR) and progesterone receptor (PR) are critical for reproductive tract growth and function. Structural binding characterization of BPA, MBP, and OP with AR and PR using molecular docking simulation approaches revealed novel interactions of BPA with PR, and MBP and OP with AR and PR. For BPA, MBP, and OP, five AR interacting residues Leu-701, Leu-704, Asn-705, Met-742, and Phe-764 overlapped with those of native AR ligand testosterone, and four PR interacting residues Leu-715, Leu-718, Met-756, and Met-759 overlapped with those of PR co-complex ligand, norethindrone. For both the receptors the binding strength of MBP was maximum among the three compounds. Thus, these compounds have the potential to block or interfere in the binding of the endogenous native AR and PR ligands and, hence, resulting in dysfunction. The knowledge of the key interactions and the important amino-acid residues also allows better prediction of potential of xenobiotic molecules for disrupting AR- and PR-mediated pathways, thus, helping in design of less potent alternatives for commercial use.



| Research Title: | Breaking the Silence: Breast Cancer Knowledge and |
|---------------------------|---|
| | Beliefs Among Somali Muslim Women in Seattle, |
| | Washington |
| Source: | Health Care for Women International |
| | Taylor & Francis Inc |
| | Vol. 36, Issue 5, Page: 608-616 |
| ISSN: | 1096-4665 |
| Month and Year of | MAX 2015 |
| Publication: | MA 1 2015 |
| Impact Factor: | 0.802 |
| Affiliated Department(s): | Ob-gyne; Sheikh Mohammed Hussien AL-Amoudi |
| | Center of Excellence in Breast Cancer |
| Author(s): | Samia Al-Amoudi, Jordan Cañas, Sarah D Hohl, Sandra |
| | R Distelhorst, Beti Thompson |
| Correspondent's Email: | shohl@fhcrc.org |

ABSTRACT

We elicited the perspectives of Somali women in Seattle, Washington, about breast cancer. We conducted a focus group of 14 Somali immigrant women at a community center in Seattle, Washington. Participants reported barriers to seeking cancer screening, including fear of pain, difficulty with transport, and lack of knowledge. Participants explained that Somali women tended not to discuss breast cancer or breast cancer screening, and said religion played a central role in their care and treatment decisions and coping mechanisms. If such barriers are addressed, fewer women may present with latestage breast cancer, resulting in greater chances for long-term breast cancer survival.



| Research Title: | Case series of multiple repeat caesarean sections: |
|---------------------------|--|
| | operative, maternal, and neonatal outcome |
| | The Journal of Maternal-Fetal & Neonatal Medicine |
| Source: | Informa Healthcare |
| | Vol. 2015, Page: 1-5 |
| ISSN: | 1476-4954 |
| Month and Year of | SEDT 2015 |
| Publication: | SEP1 2013 |
| Impact Factor: | 1.208 |
| Affiliated Department(s): | Ob-gyne |
| Author(s): | Abdullah Alnoman, Ziad El-Khatib, Ahmad MS |
| | Almrstani, Mark Walker, Darine El-Chaar |
| Correspondent's Email: | Abdullah.alnoman@hotmail.com |

ABSTRACT

Objective: The objective of this study is to review the maternal and neonatal morbidity and mortality associated with six or more caesarean section (CS).

Methods: We conducted a retrospective chart review, at King Abdulaziz University Hospital (KAUH) in Jeddah, for all patients admitted between 2000 through 2010 and identified five patients having more than six CS deliveries.

Results: Deliveries occurred in the ranges of 31-38 weeks, from which four cases required emergency CS. There were two cases in the series with a placenta previa. There was a single case of uterine dehiscence. Only one case required a blood transfusion and was complicated with a placenta accreta, bladder injury, urinary tract infection, and prolonged maternal hospital stay with neonatal intensive care unit (NICU) admission. All cases had moderate to severe adhesion intra-operatively. Operative time was long in all cases with a range 55-106 min. One of the five cases had a postoperative wound infection. Finally, none of the current series showed fetal or maternal mortalities.

Conclusions: The long-term complications associated with CS should be discussed with patients in the first and subsequent pregnancies. This case series highlighted the outcomes in these unique cases of higher order caesareans.



| Research Title: | Delayed Complications of Female Genital Mutilation in |
|---------------------------|---|
| | Children and Adolescent Girls |
| Source: | Reproductive Sciences |
| | Sage Publications Inc. |
| | Vol. 22, Issue 1, Page: 233 |
| ISSN: | 1933-7205 |
| Month and Year of | MAD 2015 |
| Publication: | MAR 2015 |
| Impact Factor: | 2.179 |
| Affiliated Department(s): | Ob-gyne |
| Author(s): | Abdulrahim Rouzi, Nora Alsahly |
| Correspondent's Email: | n/a |

ABSTRACT

Introduction: To review the complications of female genital mutilation (FGM) in children and adolescent girls.

Methods: Data for this review were identified by literature search in the electronic databases MEDLINE and PubMed and the references from relevant articles through April 1, 2014 using the search terms "complications" "FGM", "FGM/Cutting", "female circumcision" "children", and "adolescent girls." Only articles published in English were included.

Results: Most of the literature focuses mostly on the need for defibulation to allow vaginal delivery and in some cases to allow sexual intercourse. Detailed guidance on the procedures being used has been published. The most frequent delayed complication is epidermal clitoral inclusion cysts. Unfortunately, due to many reasons including ignorance, unfamiliarity, and under-reporting, it is characterized in some reports as a rare or even a very rare complication. Urinary problems are common complication of FGM. Progressive scar shrinkage may result in urethral strictures, urine retention, slow urine streaming, and urinary calculi. Dysmenorrhea and menorrhagia are other typical complications. Finally, there are very few reports on the psychological complications in children and adolescent girls.

Conclusions: Efforts and strategies are required to emphasize the importance of preventive medical management of pre-pubertal girls with FGM before long-term consequences befall them.



| Research Title: | Effects of increased paternal age on sperm quality, |
|----------------------------------|---|
| | reproductive outcome and associated epigenetic risks to |
| | offspring |
| Source: | Reproductive Biology and Endocrinology |
| | Biomed Central Ltd |
| | Vol. 13, Page: 1-20 |
| ISSN: | 1477-7827 |
| Month and Year of | A DD 2015 |
| Publication: | AFK 2015 |
| Impact Factor: | 2.409 |
| Affiliated Department(s): | Ob-gyne |
| Author(s): | Rakesh Sharma, Ashok Agarwal, Vikram Rohra, Mourad |
| | Assidi, Muhammad Abu-Elmagd, Rola F Turki |
| Correspondent's Email: | n/a |

ABSTRACT

Over the last decade, there has been a significant increase in average paternal age when the first child is conceived, either due to increased life expectancy, widespread use of contraception, late marriages and other factors. While the effect of maternal ageing on fertilization and reproduction is well known and several studies have shown that women over 35 years have a higher risk of infertility, pregnancy complications, spontaneous abortion, congenital anomalies, and perinatal complications. The effect of paternal age on semen quality and reproductive function is controversial for several reasons. First, there is no universal definition for advanced paternal ageing. Secondly, the literature is full of studies with conflicting results, especially for the most common parameters tested. Advancing paternal age also has been associated with increased risk of genetic disease. Our exhaustive literature review has demonstrated negative effects on sperm quality and testicular functions with increasing paternal age. Epigenetics changes, DNA mutations along with chromosomal aneuploidies have been associated with increasing paternal age. In addition to increased risk of male infertility, paternal age has also been demonstrated to impact reproductive and fertility outcomes including a decrease in IVF/ICSI success rate and increasing rate of preterm birth. Increasing paternal age has shown to increase the incidence of different types of disorders like autism, schizophrenia, bipolar disorders, and childhood leukemia in the progeny. It is thereby essential to educate the infertile couples on the disturbing links between increased paternal age and rising disorders in their offspring, to better counsel them during their reproductive years.



| Research Title: | Genome wide analysis of novel copy number variations |
|-------------------------------|---|
| | duplications/deletions of different epileptic patients in |
| | Saudi Arabia |
| Source: | Bmc Genomics |
| | Biomed Central Ltd |
| | Vol. 16, Supplement 1, Page: 10 |
| ISSN: | 1471-2164 |
| Month and Year of | LAN 2015 |
| Publication: | JAN 2015 |
| Impact Factor: | 4.041 |
| Affiliated Department(s): | Ob-gyne; Pediatrics |
| Author(s): | Muhammad Imran Naseer, Muhammad Faheem, Adeel G |
| | Chaudhary, Taha A Kumosani, Maha Mohsin Al-Quaiti, |
| | Mohammed M Jan, Hasan Saleh Jamal, Mohammad H |
| | Al-Qahtani |
| Correspondent's Email: | n/a |

ABSTRACT

Background: Epilepsy is genetically complex neurological disorder affecting millions of people of different age groups varying in its type and severity. Copy number variants (CNVs) are key players in the genetic etiology of numerous neurodevelopmental disorders and prior findings also revealed that chromosomal aberrations are more susceptible against the pathogenesis of epilepsy. Novel technologies, such as array comparative genomic hybridization (array-CGH), may help to uncover the pathogeneic CNVs in patients with epilepsy.

Results: This study was carried out by high density whole genome array-CGH analysis with blood DNA samples from a cohort of 22 epilepsy patients to search for CNVs associated with epilepsy. Pathogenic rearrangements which include 6p12.1 microduplications in 5 patients covering a total region of 99.9kb and 7q32.3 microdeletions in 3 patients covering a total region of 63.9kb were detected. Two genes BMP5 and PODXL were located in the predicted duplicated and deleted regions respectively. Furthermore, these CNV findings were confirmed by qPCR.

Conclusion: We have described, for the first time, several novel CNVs/genes implicated in epilepsy in the Saudi population. These findings enable us to better describe the genetic variations in epilepsy, and could provide a foundation for understanding the critical regions of the genome which might be involved in the development of epilepsy.



| Research Title: | Gestational Choriocarcinoma Presenting with Lacrimal |
|---------------------------|--|
| | Gland Metastasis: A First Reported Case |
| Source: | Case Reports in Obstetrics and Gynecology |
| | Hindawi Publishing Corporation |
| | Vol. 2015, Page: 1-7 |
| ISSN: | 2090-6692 |
| Month and Year of | MAY 2015 |
| Publication: | |
| Impact Factor: | n/a |
| Affiliated Department(s): | Ob-gyne; Radiology |
| Author(s): | Naushad AB Ahamed, Khalid Sait, Nisreen Anfnan, |
| | Khader Farwan, SHM Nizamuddin, Saleh S Baeesa |
| Correspondent's Email: | nashlib@gmail.com |

ABSTRACT

Background: Gestational choriocarcinoma (GC) is a recognized clinicopathological subtype of gestational trophoblastic neoplasia that usually metastasizes hematogenously to highly vascular organs like the lung, liver, and brain. However, orbital metastasis to the choroid and lacrimal gland is a rare occurrence.

Case Presentation: A 21-year-old female presented with headache and left orbital swelling one year after resection of a complete hydatidiform mole followed by adjuvant methotrexate chemotherapy. A metastatic imaging screening revealed multiple metastases in the lungs, brain, and adrenal gland, in addition to the choroid and lacrimal gland. Based on her modified WHO risk factors scoring she was started on chemotherapy and whole brain radiotherapy, which resulted in a complete response. At two-year follow-up, serum b-HCG level was with normal limits; imaging surveillance was uneventful.

Conclusion: We present the first case of lacrimal gland metastasis in a young girl from GC relapse.



| Research Title: | Hypermethylation of P-15, P-16, and E-cadherin genes in |
|---------------------------|---|
| | ovarian cancer |
| | Toxicology and Industrial Health |
| Source: | Sage Publications Inc |
| | Vol. 31, Issue 10, Page: 924-930 |
| ISSN: | 1477-0393 |
| Month and Year of | OCT 2015 |
| Publication: | 0C1 2015 |
| Impact Factor: | 1.859 |
| Affiliated Department(s): | Ob-gyne |
| Author(s): | Said S Moselhy, Taha A Kumosani, IH Kamal, JA Jalal, |
| | Hassan S Abdul Jabaar, Ashraf Dalol |
| Correspondent's Email: | n/a |

ABSTRACT

Both p16 and p15 proteins are inhibitors of cyclin-dependent kinases that prevent the cell going through the G1/S phase transaction. E-cadherin is a transmembrane glycoprotein that mediates calcium-dependent interactions between adjacent epithelial cells. Two groups of patients were selected: the first group suffered from epithelial serous ovarian tumors and the second group suffered from benign ovarian lesions; ovarian tissue samples from all the subjects (benign and malignant) were subjected to methylationspecific polymerase chain reaction for methylated and unmethylated alleles of the genes (E-cadherin, p15, and p16). Results obtained showed that aberrant methylation of p15 and p16 genes were detected in 64.29 and 50% of ovarian cancer patients, while Ecadherin hypermethylation was detected in 78.57% of ovarian cancer patients. Methylation of E-cadherin was significantly correlated with different stage of disease (p < 0.05). It was found that the risk of E-cadherin hypermethylation was 1.347-fold, while risk of p15 hypermethylation was 1.543-fold and p16 was 1.2-fold among patients with ovarian cancer than that among patients with benign ovarian lesions. In conclusion, Dysfunction of the cell cycle and/or the cell-cell adhesion molecule plays a role in the pathogenesis of ovarian cancer and that the analysis of the methylation of p15 and Ecadherin genes can provide clinically important evidence on which to base the treatment.



| Research Title: | Lycopene treatment against loss of bone mass, |
|---------------------------|--|
| | microarchitecture and strength in relation to regulatory |
| | mechanisms in a postmenopausal osteoporosis model |
| | Bone |
| Source: | Elsevier |
| | Vol. 83, Page: 127-140 |
| ISSN: | 8756-3282 |
| Month and Year of | NOV 2015 |
| Publication: | NUV 2015 |
| Impact Factor: | 3.973 |
| Affiliated Department(s): | Ob-gyne; Anatomy; Clinical Biochemistry; Hematology; |
| | Mohammed Hussein Al-Amoudi Chair for Diabetic Foot |
| | Research |
| Author(s): | Mohammed-Salleh M Ardawi, Mohammed H Badawoud, |
| | Sherif M Hassan, Abdulrahim A Rouzi, Jumanah MS |
| | Ardawi, Nouf M AlNosani, Mohammed H Qari, Shaker A |
| | Mousa |
| Correspondent's Email: | msmardawi@yahoo.com |

ABSTRACT

Lycopene supplementation decreases oxidative stress and exhibits beneficial effects on bone health, but the mechanisms through which it alters bone metabolism in vivo remain unclear. The present study aims to evaluate the effects of lycopene treatment on postmenopausal osteoporosis. Six-month-old female Wistar rats (n = 264) were shamoperated (SHAM) or ovariectomized (OVX). The SHAM group received oral vehicle only and the OVX rats were randomized into five groups receiving oral daily lycopene treatment (mg/kg body weight per day): 0 OVX (control), 15 OVX, 30 OVX, and 45 OVX, and one group receiving alendronate (ALN) (2 µg/kg body weight per day), for 12 weeks. Bone densitometry measurements, bone turnover markers, biomechanical testing, and histomorphometric analysis were conducted. Micro computed tomography was also used to evaluate changes in microarchitecture. Lycopene treatment suppressed the OVXinduced increase in bone turnover, as indicated by changes in biomarkers of bone metabolism: serum osteocalcin (s-OC), serum N-terminal propeptide of type 1 collagen (s-PINP), serum crosslinked carboxyterminal telopeptides (s-CTX-1), and urinary deoxypyridinoline (u-DPD). Significant improvement in OVX-induced loss of bone mass, bone strength, and microarchitectural deterioration was observed in lycopenetreated OVX animals. These effects were observed mainly at sites rich in trabecular bone, with less effect in cortical bone. Lycopene treatment down-regulated osteoclast differentiation concurrent with up-regulating osteoblast together with glutathione peroxidase (GPx) catalase (CAT) and superoxide dismutase (SOD) activities. These findings demonstrate that lycopene treatment in OVX rats primarily suppressed bone turnover to restore bone strength and microarchitecture.



| Research Title: | Molecular genetics of human primary microcephaly: an |
|----------------------------------|--|
| | overview |
| Source: | Bmc Medical Genomics |
| | Biomed Central Ltd |
| | Vol. 8, Issue 1, Page: 4 |
| ISSN: | 1755-8794 |
| Month and Year of | LAN 2015 |
| Publication: | JAN 2015 |
| Impact Factor: | 3.914 |
| Affiliated Department(s): | Ob-gyne |
| Author(s): | Muhammad Faheem, Muhammad Imran Naseer, |
| | Mahmood Rasool, Adeel G Chaudhary, Taha A |
| | Kumosani, Asad Muhammad Ilyas, Peter N Pushparaj, |
| | Farid Ahmed, Hussain A Algahtani, Mohammad H Al- |
| | Qahtani, Hasan Saleh Jamal |
| Correspondent's Email: | n/a |

ABSTRACT

Autosomal recessive primary microcephaly (MCPH) is a neurodevelopmental disorder that is characterised by microcephaly present at birth and non-progressive mental retardation. Microcephaly is the outcome of a smaller but architecturally normal brain; the cerebral cortex exhibits a significant decrease in size. MCPH is a neurogenic mitotic disorder, though affected patients demonstrate normal neuronal migration, neuronal apoptosis and neural function. Twelve MCPH loci (MCPH1-MCPH12) have been mapped to date from various populations around the world and contain the following genes: Microcephalin, WDR62, CDK5RAP2, CASC5, ASPM, CENPJ, STIL, CEP135, CEP152, ZNF335, PHC1 and CDK6. It is predicted that MCPH gene mutations may lead to the disease phenotype due to a disturbed mitotic spindle orientation, premature chromosomal condensation, signalling response as a result of damaged DNA, microtubule dynamics, transcriptional control or a few other hidden centrosomal mechanisms that can regulate the number of neurons produced by neuronal precursor cells. Additional findings have further elucidated the microcephaly aetiology and pathophysiology, which has informed the clinical management of families suffering from MCPH. The provision of molecular diagnosis and genetic counselling may help to decrease the frequency of this disorder.


| Research Title: | Medical Treatment of Ureteral Obstruction Associated |
|----------------------------------|---|
| | With Ovarian Remnants and/or Endometriosis: Report of |
| | Three Cases and Review of the Literature |
| | Journal of Minimally Invasive Gynecology |
| Source: | Elsevier Science Inc |
| | Vol. 22, Issue 3, Page: 462-468 |
| ISSN: | 1553-4669 |
| Month and Year of | MAD 2015 |
| Publication: | MAR 2013 |
| Impact Factor: | 1.830 |
| Affiliated Department(s): | Ob-gyne |
| Author(s): | George A Vilos, Jennifer L Marks-Adams, Angelos G |
| | Vilos, Ayman Oraif, Basim Abu-Rafea, Robert F Casper |
| Correspondent's Email: | george.vilos@lhsc.on.ca |

ABSTRACT

Study Objective: Experience with low-dose intermittent danazol or prolonged gonadotropin-releasing hormone agonist (GnRH-a) with and without add-back therapy in endometriosis-associated ureteral obstruction.

Design: Retrospective case series (Canadian Task Force classification II-2).

Setting: University-affiliated teaching hospital.

Patients: Three women with endometriosis-associated ureteral obstruction.

Intervention: The regimen of GnRH-a alone or with add-back included (1) leuprolide acetate 3.75 mg intramuscularly monthly; (2) micronized 17 alpha-estradiol 1 mg/day by mouth; (3) pulsed norethinedrone 0.35 mg/day by mouth, 2 days on and/or 2 days off; and (4) letrozole 2.5 mg by mouth for the first 5 days of the first GnRH-a injection. Danazol, 100 mg/day by mouth, was prescribed as a regimen of 3 months on, 3 months off, for 4 years.

Measurements and Main Results: The first case was a 50-year-old woman, gravida 3, para 3, body mass index (BMI) 27 kg/m(2), with multiple surgeries, including hysterectomy and bilateral salpingo-oophorectomy (HMO), and history of a stroke. She presented with right-sided pain and hydro-uretero-nephrosis. Magnetic resonance imaging identified a right adnexal cyst (4.5 X 3.4 X 2.4 cm). She was treated with leuprolide acetate monthly injections and a ureteric stent. The cyst, pain, and hydro-uretero-nephrosis resolved after 12 months. The second case was a 45-year-old woman, G(2)P(2), BMI 28 kg/m(2) with multiple surgeries, including HBSO. She presented with left-sided pelvic pain. Ultrasound identified a left adnexal cyst and hydronephrosis resolved. The third case was a 46-year-old woman, G(2)P(2), BMI 25 kg/m(2), who presented with left flank and pelvic pain. Magnetic resonance imaging indicated moderate left hydronephrosis and left adnexal pelvic side-wall involvement with possible endometriosis. Due to many previous surgeries, this patient was a high-risk surgical candidate, and therefore, she was offered medical therapy. After a normal serum liver and



lipid profile, she was started on danazol, 100 mg/day for 3 months. After 3 months of therapy, there was complete resolution of the patient's hydronephrosis and pain. She was then advised to continue with a 3-month on, 3-month off regimen. She discontinued the danazol and remained asymptomatic with no recurrence of hydronephrosis at 3 years.

Conclusions: Low-dose intermittent danazol or GnRH-a alone or with add-back, may be effective long-term therapies in endometriosis-associated ureteral obstruction when surgery is contraindicated, refused, or difficult to perform.



| Research Title: | Optimizing the modified laparoscopic Vecchietti |
|----------------------------------|---|
| | procedure |
| | Clinical and Experimental Obstetrics & Gynecology |
| Source: | IROG Canada |
| | Vol. 42, Issue 3. Page: 352-354 |
| ISSN: | 0390-6663 |
| Month and Year of | LAN 2015 |
| Publication: | JAIN 2013 |
| Impact Factor: | 0.424 |
| Affiliated Department(s): | Ob-gyne; Anesthesia |
| Author(s): | AA Rouzi, N Sahly, S Kafy, O Bajouh, A Kaki, H |
| | Abduljabbar |
| Correspondent's Email: | aarouzi@gmail.com |

ABSTRACT

Objective: To enhance the modified laparoscopic Vecchietti procedure.

Materials and Methods: A case series of five women with Mayer-Rokitansky-Kuster-Hauser syndrome at the Department of Obstetrics and Gynecology, King Abdulaziz University Hospital, Jeddah, Saudi Arabia underwent the modified laparoscopic Vecchietti procedure with intraperitoneal placement of sutures. This involved perforation of the vaginal dimple by a straight thread guide with two threads attached to the olive followed by pulling the two threads intra-peritoneally and through the abdominal wall to the traction device by grasping instruments under laparoscopic control.

Results: Intraperitoneal placement of the sutures was easily done without complications in all five women. The operative time was 50 10 (mean SD) minutes. After five postoperative days, the average vaginal length was seven to 7.5 cm. Two women were able to have vaginal intercourse without problems. After six months to one year of follow up, the vaginal length was at least ten cm and no postoperative complications occurred.

Conclusions: Intraperitoneal placement of sutures makes the modified laparoscopic Vecchietti procedure easy and appealing. Furthermore, it avoids potential damage to the vital structures at the pelvic side walls.



| Research Title: | Pure Immature Teratoma of the Ovary in Adults: Thirty- |
|----------------------------------|--|
| | Year Experience of a Single Tertiary Care Center |
| Source: | International Journal of Gynecological Cancer |
| | Lippincott Williams & Wilkins |
| | Vol. 2015, Page: 1-7 |
| ISSN: | 1525-1438 |
| Month and Year of | HIN 2015 |
| Publication: | JUN 2013 |
| Impact Factor: | 1.949 |
| Affiliated Department(s): | Ob-gyne |
| Author(s): | Ahmad Bakr Alwazzan, Shaundra Popowich, Erin Dean, |
| | Christine Robinson, Robert Lotocki, Alon D Altman |
| Correspondent's Email: | n/a |

ABSTRACT

Objective: The aim of this study was to evaluate clinicopathologic characteristics, treatment outcome, and reproductive function in women diagnosed with ovarian immature teratoma (IT). Our standard chemotherapy regime is currently etoposide/cisplatin (EP), creating a unique opportunity to evaluate this protocol in ovarian ITs.

Materials and Methods: This study is a retrospective analysis. Twenty-seven women older than 18 years with ovarian IT stages IA to IIIC were identified and included in this study. Patients were treated at 1 institution, Health Sciences Center, Women's Hospital, Winnipeg, Manitoba, Canada, between 1983 and 2013.

Results: The median age at diagnosis was 27.0 years (range, 18Y36 years). Twenty-two (82%) presented with an International Federation of Gynecology and Obstetrics stage I disease, 3 (11%) had stage II, and 2 patients (7%) had stage III disease. The histologic grade distribution was grade I in 9 patients (33%), grade II in 3 patients (11%), and grade III in 15 patients (56%). Initial management was surgical for all patients: 3 (11%) hysterectomy and bilateral salpingo-oophorectomy, 1 (4%) cystectomy only, and 23 (85%) unilateral salpingooophorectomy. Twenty-one patients (78%) received adjuvant therapy. The median follow-up was 60 months (range, 36Y72 months). One patient recurred (histological grade III) 6 months after surgery and had a complete clinical response to 4 cycles of EP chemotherapy. Twelve patients reported an attempt to conceive resulting in 10 pregnancies (8 after chemotherapy).

Conclusions: Ovarian IT is a curable disease. Fertility-sparing surgery should be offered. Adjuvant treatment with cisplatinum-based chemotherapy, typically with bleomycin, etoposide, and cisplatin, is still considered the standard in stages greater than stage IA grade I. Etoposide/cisplatin as a primary chemotherapy regime for early- or advanced-stage disease is an effective treatment with minimal adverse effects and high tolerability. This is the first published study examining EP as a primary treatment modality for IT. Further studies are needed to strengthen these findings.



| Research Title: | Review of 244 cases of ovarian cysts |
|---------------------------|---|
| Source: | Saudi Medical Journal |
| | Saudi Med J |
| | Vol. 36, Issue 7, Page: 834-838 |
| ISSN: | 0379-5284 |
| Month and Year of | HH 2015 |
| Publication: | JUL 2013 |
| Impact Factor: | 0.554 |
| Affiliated Department(s): | Ob-gyne |
| Author(s): | Hassan S Abduljabbar, Yasir A Bukhari, Estabrq G Al |
| | Hachim, Ghazal S Ashour, Afnan A Amer, Mohammed |
| | M Shaikhoon, Mohammed I Khojah |
| Correspondent's Email: | profaj17@yahoo.com |

ABSTRACT

Objectives: To review cases of ovarian cysts managed at a University Hospital, and to identify the factors necessitating the use of laparotomy over laparoscopy.

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

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

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



| Research Title: | Risk factors for falls in a longitudinal cohort study of |
|-------------------------------|--|
| | Saudi postmenopausal women: the Center of Excellence |
| | for Osteoporosis Research Study |
| | Menopause: The Journal of The North American |
| Sources | Menopause Society |
| Source: | The North American Menopause Society |
| | Vol. 22, Issue 9, Page: 1012-1020 |
| ISSN: | 1072-3714 |
| Month and Year of | SEDT 2015 |
| Publication: | SEF 1 2015 |
| Impact Factor: | 3.361 |
| Affiliated Department(s): | Ob-gyne; Clinical Biochemistry; Hematology; Surgery |
| | Abdulrahim A Rouzi, Mohammed-Salleh M Ardawi, |
| Author(s): | Mohammed H Qari, Talal M Bahksh, Rajaa M Raddadi, |
| | Ahmed Y Ali, Mona M Jalal, Amal A Taha, Heba S Kary |
| Correspondent's Email: | n/a |

ABSTRACT

Objective: This study aims to identify possible risk factors for falls among Saudi postmenopausal women in a population-based study.

Methods: Seven hundred seven postmenopausal women aged 50 years or older were followed in a prospective cohort study. Participant demographic characteristics, medical history, lifestyle factors, past-year history of falls, and physical activity (PA) scores were assessed. We recorded single and multiple falls, anthropometric parameters, five special physical performance tests, hormone levels, and bone mineral density measurements. Data on knee osteoarthritis (OA), lumbar spondylosis, and osteopenia were collected. Knee and lower back pain were assessed by interview, and cognition was assessed with Mini-Mental State Examination.

Results: During the mean (SD) follow-up of 5.2 (1.3) years, 164 women (23.2%) reported at least one fall, of whom 73 women (10.3%) reported multiple falls. Six independent predictors of all falls were identified: PA score of 12.61 or lower (lowest quartile; odds ratio [OR], 4.10; 95% CI, 1.82-8.90); past-year history of falls (OR, 2.44; 95% CI, 2.30-2.90); age 65 years or older (OR, 2.16; 95% CI, 1.30-3.12); presence of knee OA (OR, 1.56; 95% CI, 1.03-2.34); handgrip strength of 13.88 kg or lower (lowest quartile; OR, 1.33; 95% CI, 1.09-1.64); and 8-ft walk test of 3.94 s or longer (highest quartile; OR, 1.18; 95% CI, 1.07-1.35).

Conclusions: Poor PA score, past-year history of falls, age 65 years or older, presence of knee OA, poor handgrip strength, and prolonged time on the 8-ft walk test are risk factors for all falls among Saudi postmenopausal women.



| Research Title: | Surgery for endometriosis-associated infertility: do we |
|----------------------------------|---|
| | exaggerate the magnitude of effect? |
| | Facts Views and Vision In Obgyn |
| Source: | Universa Press |
| | Vol. 7, Issue 2, Page: 109-118 |
| ISSN: | 2032-0418 |
| Month and Year of | ADD 2015 |
| Publication: | AFK 2015 |
| Impact Factor: | n/a |
| Affiliated Department(s): | Ob-gyne |
| Author(s): | B Rizk, R Turki, H Lotfy, S Ranganathan, H Zahed, AR |
| | Freeman, Z Shilbayeh, M Sassy, M Shalaby, R Malik |
| Correspondent's Email: | botros4@gmail.com |

ABSTRACT

Objective: Surgery remains the mainstay in the diagnosis and management of endometriosis. The number of surgeries performed for endometriosis worldwide is ever increasing, however do we have evidence for improvement of infertility after the surgery and do we exaggerate the magnitude of effect of surgery when we counsel our patients? The management of patients who failed the surgery could be by repeat surgery or assisted reproduction. What evidence do we have for patients who fail assisted reproduction and what is their best chance for achieving pregnancy?

Material and methods: In this study we reviewed the evidence-based practice pertaining to the outcome of surgery assisted infertility associated with endometriosis. Manuscripts published in PubMed and Science Direct as well as the bibliography cited in these articles were reviewed. Patients with peritoneal endometriosis with mild and severe disease were addressed separately. Patients who failed the primary surgery and managed by repeat or assisted reproduction technology were also evaluated. Patients who failed assisted reproduction and managed by surgery were also studied to determine of the best course of action.

Results: In patients with minimal and mild pelvic endometriosis, excision or ablation of the peritoneal endometriosis increases the pregnancy rate. In women with severe endometriosis, controlled trials suggested an improvement of pregnancy rate. In women with ovarian endometrioma 4 cm or larger ovarian cystectomy increases the pregnancy rate, decreases the recurrence rate, but is associated with decrease in ovarian reserve. In patients who have failed the primary surgery, assisted reproduction appears to be significantly more effective than repeat surgery. In patients who failed assisted reproduction, the management remains to be extremely controversial. Surgery in expert hands might result in significant improvement in pregnancy rate.

Conclusion: In women with minimal and mild endometriosis, surgical excision or ablation of endometriosis is recommended as first line with doubling the pregnancy rate. In patients with moderate and severe endometriosis, surgical excision also is recommended as first line. In patients who failed to conceive spontaneously after surgery, assisted reproduction is more effective than repeat surgery. Following surgery, the ovarian reserve may be reduced as determined by Anti Mullerian Hormone. The antral



follicle count is not significantly reduced. In women with large endometriomas > 4 cm the ovarian endometrioma should be removed. In women who have failed assisted reproduction, further management remains controversial in the present time.



| Research Title: | The prevalence of sexual dysfunction in the female health |
|----------------------------------|---|
| | care providers in Jeddah, Saudi Arabia |
| Source: | Scientific Reports |
| | Nature Publishing Group |
| | Vol. 5, Page: 7905 |
| ISSN: | 2045-2322 |
| Month and Year of | LAN 2015 |
| Publication: | JAN 2015 |
| Impact Factor: | 5.578 |
| Affiliated Department(s): | Ob-gyne; Medicine |
| Author(s): | Abdulrahim A Rouzi, Nora Sahly, Dana Sawan, Souzan |
| | Kafy, Faten Alzaban |
| Correspondent's Email: | n/a |

ABSTRACT

The objective of this study was to determine the prevalence of sexual dysfunction in Saudi and non-Saudi female health care providers in Jeddah, Saudi Arabia. One -hundred twenty (60 Saudi and 60 non-Saudi) sexually active female health care professionals in Jeddah, Saudi Arabia, were anonymously surveyed using the English version of the female sexual function index questionnaire. The individual domain scores for pain, arousal, lubrication, orgasm, satisfaction, pain, and overall score for the Saudi and non-Saudi women were calculated and compared. The two groups were comparable in demographic characteristics. No statistically significant differences were found between Saudi and non-Saudi women in desire (P=.22) and arousal scores (P=.47). However, non-Saudi women had significantly higher lubrication (P<.001), orgasm (P=.015), satisfaction (P=.004), and pain scores (P=.015). The overall scores in Saudi and non-Saudi women had a significantly higher overall score (P=.005). Taken together, sexual dysfunction is prevalent among Saudi and non-Saudi female health care providers, with Saudi women demonstrating lower scores in four sexual function domains and the overall score.



| Research Title: | The use of fresh frozen plasma for reproduction in severe |
|----------------------------------|---|
| | factor V deficiency |
| | Clinical and Experimental Obstetrics & Gynecology |
| Source: | IROG Canada |
| | Vol. 42, Issue 3, Page: 384-385 |
| ISSN: | 0390-6663 |
| Month and Year of | JAN 2015 |
| Publication: | |
| Impact Factor: | 0.424 |
| Affiliated Department(s): | Ob-gyne; Clinical Biochemistry; Hematology |
| Author(s): | AA Rouzi, MH Qari, MS Ardawi |
| Correspondent's Email: | aarouzi@gmail.com |

ABSTRACT

Objective: Severe factor V (FV) deficiency is rare. There are case reports describing pregnancy outcomes in women with FV deficiency and one case report of successful pregnancy following the use of fresh frozen plasma (FFP) in several cycles of ovulation induction and intrauterine insemination and at delivery. The authors report another case to support the use of FFP for reproduction.

Case: A 27-year-old woman with severe FV deficiency was given FFP at the time of ovulation induced with clomiphene citrate, human menopausal gonadotropin (hMG), and human chorionic gonadotropin. Intrauterine insemination (IUI) was done 35 hours later. She became pregnant with twins and delivered vaginally at 36 weeks of gestation with the prophylactic use of FFP.

Conclusion: Fresh frozen plasma can be offered for reproduction to women with severe FV deficiency.



| Research Title: | Training in reproductive endocrinology and infertility and assisted reproductive technologies: options and worldwide |
|----------------------------------|--|
| | needs |
| | Fertility and Sterility |
| Source: | Elsevier Science Inc |
| | Vol. 104, Issue 1, Page: 16-23 |
| ISSN: | 1556-5653 |
| Month and Year of | HH 2015 |
| Publication: | JOL 2013 |
| Impact Factor: | 4.590 |
| Affiliated Department(s): | Ob-gyne |
| Author(s): | Dominique de Ziegler, Nathalie de Ziegler, Sokteang |
| | Sean, Osama Bajouh, David R Meldrum |
| Correspondent's Email: | ddeziegler@orange.fr |

ABSTRACT

Standardized, high-quality training in reproductive endocrinology, infertility, and assisted reproductive technologies (REI-ART) faces challenges owing to the high-tech nature of ART and the important country-to-country differences in clinical practice and regulations overseeing training. Moreover, while the training capacity of the classical by-fellowship training platforms is shrinking, an increasing demand for REI-ART specialists is coming from emerging countries. To meet this expanding need for REI-ART specialists, we propose a novel by-network model linking a reference training center to satellite practical training sites. Simulation should be used more extensively to achieve competency before initiating live clinical experience, analogous to the highly effective training systems that have been used in aviation for decades. Large ART databases that exist because of obligations to report ART activity and results constitute unique yet so far untapped sources for developing by-scenario simulation training models. Online training materials incorporating these state-of-the-art information technology tools could be developed as a means of fulfilling training needs worldwide.



| Research Title: | Using the balance between proliferation and apoptosis to |
|---------------------------|--|
| | assess the cryopreservation and thawing protocol in |
| | mouse 4-cell embryos |
| | Journal of Anatomy and Embryology |
| Source: | Edorium |
| | Vol. 2015, Issue 2, Page: 6-13 |
| ISSN: | MAY 2015 |
| Month and Year of | |
| Publication: | II/a |
| Impact Factor: | n/a |
| Affiliated Department(s): | Ob-gyne; Anatomy |
| Author(s): | Mostafa M El-Naggar, Hassan Nasrat, Hassan Jamal, |
| | Samar Al-Saggaf, Mohamed H Badawod |
| Correspondent's Email: | n/a |

ABSTRACT

Aims: the criteria used to assess the optimal conditions for cryopreservation of the embryos in the in vitro fertilization (IVF) protocols are still a matter of discussion. this study aimed at evaluating the use of cell proliferation and apoptosis to assess the optimal conditions for cryopreservation/thawing of the 4-cell embryos.

Methods: Fertilized ova were collected from mated female MF1 mice 24 hours after hcG injection. they were cultured in KsOM medium and kept in cO2 incubator at 37°c and 5% cO2 up to the stage of the 4-cells. two methods of cryopreservation were used; the step-rate and the ultra-rapid vitrification. slow and fast thawing was done. slides were prepared from samples of the embryos, and stained immunohistochemically for proliferative and apoptotic cells. the proliferative capacity was measured by labeling with bromodeoxyuridine (brdU) and the apoptotic ability was measured with tUNEL technique.

Results: Vitrification with fast thawing of the 4-cell embryos gave better morphology, higher proliferative capacity, and lower apoptotic ability. Following step-rate cryopreservation with slow or fast thawing, cell labeling index for brdU was 0% and 17%, respectively and was 66% and 83%, respectively following vitrification. the incidence of apoptosis following step rate cryopreservation with slow or fast thawing was 96% and 89%, respectively and was 42% and 13%, respectively following vitrification.

Conclusion: It is concluded that cell proliferation and apoptosis could be used to assess the cryopreservation/thawing protocol for early embryos.



| Research Title: | Vitamin D Supplementation Increases Serum Levels of |
|----------------------------------|--|
| | Soluble Receptor for Advanced Glycation End Products |
| | Among Women With Polycystic Ovary Syndrome |
| | Obstetrics and Gynecology |
| Source: | Wolters Kluwer Health, Inc. |
| | Vol. 125, Issue 1, Page: 19 |
| ISSN: | 0029-7844 |
| Month and Year of | MAN 2015 |
| Publication: | WIA I 2015 |
| Impact Factor: | 5.175 |
| Affiliated Department(s): | Ob-gyne; Clinical Biochemistry |
| Author(s): | Rouzi, Abdulrahim; Ardawi, Mohammed Saleh |
| Correspondent's Email: | n/a |

ABSTRACT

Introduction: To examine the effect of vitamin D3 supplementation on the changes in serum receptor for advanced glycation end products (sRAGE) and serum anti-Mullerian hormone (AMH) among vitamin D-deficient women with polycystic ovary syndrome (PCOS).

Methods: A total of 136 women with (n=68) or without (age-matched control; n=68) PCOS who were diagnosed with vitamin D deficiency were studied. All participants received supplemental oral vitamin D3 (50,000 international units/wk) for 8 weeks, followed by 1,000 international units vitamin D3 supplementation for 16 weeks. All women provided blood samples for the measurements of sRAGE, AMH, and other analytes at baseline and at the end of supplementation (24 weeks).

Results: In all participants, there was a negative correlation between body mass index and serum sRAGE levels (r=-0.46, P=.003). In women with PCOS, but not in those in the control group, vitamin D3 supplementation increased serum sRAGE (P<.001) and decreased serum AMH levels (P<.001). The increases in serum sRAGE were positively correlated with the increases in serum 25-hydroxyvitamin D after vitamin D3 supplementation in women with PCOS (r=0.72, P<.001).

Conclusion: Vitamin D3 supplementation in women with PCOS showed a protective effect against the inflammatory action of advanced glycation end products by enhancing the circulating sRAGEs. The normalization in serum AMH induced by vitamin D3 therapy indicates a possible improvement in folliculogenesis.



Department of Ophthalmology

Department of Ophthalmology

Head of Department

د أحمد محمد سعيد باوزير <u>Members</u>

أحمد محمد سعيد باوزير أسامة محمد سعيد عبدالقادر باديب آمال عبد الكريم حجي خان بخاري عدنان محمد حامد محمد المرزوقي أحمد عبد الرحمن محمد باشيخ محمد توفيق عاكف حاجي نزار محمد علي الحبشي إسماعيل أحمد محمد مهدي نمري حاتم إسماعيل محمد نور بتاوى حنان غازى عبداللطيف جمجوم خديجة ياسين عبدالله العطاس رهف عبدالله سراج مندوره ريان عبدالعزيز محمد الشريف ريم خالد علي النابلسي صفوان اسامه صادق طيب عمرو صالح عبدالله الغامدي فراس محمد عبدالكريم مدنى لينه حسان محمد يحيى رفة محمود جميل محمد شويل معتز طارق احمد بامكريد مها محمد نيازي محمد الجندي نواف خالد محمد المرزوقي هاله بشار بشير الرومي هبه اسماعيل اسعد جوهرجي ولاء عبدالاحد صديق التركستاني



| | Endoscopic Dacryocystorhinostomy (DCR): a |
|----------------------------------|---|
| Research Title: | comparative study between powered and non-powered |
| | technique |
| | Journal of Otolaryngology-Head & Neck Surgery |
| Source: | Biomed Central Ltd |
| | Vol. 44, Page: 56 |
| ISSN: | 1916-0216 |
| Month and Year of | DEC 2015 |
| Publication: | DEC 2015 |
| Impact Factor: | 0.886 |
| Affiliated Department(s): | Ophthalmology; Otorhinolaryngology |
| | Islam Herzallah, Bassam Alzuraiqi, Naif Bawazeer, |
| Author(s): | Osama Marglani, Ameen Alherabi, Sherif K Mohamed, |
| | Khalid Al-Qahtani, Talal Al-Khatib, Abdullah Alghamdi |
| Correspondent's Email: | herabi@hotmail.com |

ABSTRACT

Background: Dacrocystorhinostomy (DCR) is an operation used to treat nasolacrimal duct obstruction. Essentially there are two approaches: external and endoscopic. Several modalities are used in endoscopic DCR; all aiming to improve success rate, reduce complications, and shorten operative time. Both kerrison punch and drill are widely used in endoscopic DCR with non-conclusive knowledge about differences in operative details as well as on the outcome. The aim of this study is to compare between powered (drill) and non-powered (kerrison punch) DCR to clarify the superiority of one over the other.

Methods: A retrospective chart review of 59 patients who underwent endoscopic DCR procedure at our institution from June 2013 until July 2014 (34 kerrison punch and 32 powered drill). Operative details, surgical outcome and complications were compared between both groups.

Results: A total of 66 endoscopic DCRs were performed on 59 patients. Procedure success rate among kerrison punch group was 87.88 % vs. 90.9 % in powered drill group (p = 0.827), while complications for both groups were statistical not significant (p = 0.91). The mean operating time among kerrison punch group was significantly lower than in powered drill group (75 min vs. 125 min, p = 0.0001).

Conclusion: Kerrison punch showed significant reduction in operating time when compared to powered drill for endoscopic DCR. No statistically significant difference was found between both groups regarding procedures' success rate and complication.



| Research Title: | Gene abnormalities in patients with primary congenital glaucoma from the western region of Saudi Arabia |
|--------------------------------|---|
| Source: | Investigative Ophthalmology & Visual Science Assoc Research Vision Ophthalmology Inc Vol. 56, Issue 7, Page: 2541 |
| ISSN: | 1552-5783 |
| Month and Year of Publication: | JUN 2015 |
| Impact Factor: | 3.404 |
| Affiliated Department(s): | Ophthalmology |
| Author(s): | Osama M Badeeb, Shazia Micheal, Robert K Koenekoop, Manal Hedrawi |
| Correspondent's Email: | n/a |

ABSTRACT

Purpose: CYP1B1 is the most commonly mutated gene in primary congenital glaucoma (PCG). This study was undertaken to identify mutations in CYP1B1 in the Western region of Saudi Arabia.

Methods: Blood of patients who had typical findings of PCG, were screened by direct sequencing of all coding exons and splice junctions of the CYP1B1 gene.

Results: 34 patients were studied; 18 patients belonged to 8 families, and 16 patients were non-familial, isolated PCG. Consanguinity was found in 27/34 (79.4%) of cases. All patients were diagnosed to have bilateral PCG at birth except one child, who had glaucoma in the right eye. More males (61.8%) were affected than females (38.2%). 79.4% (27/34) of patients were solved with pathogenic mutations and 20.6% (7/34) remained unsolved. Of the solved ones, 22.2% (6/27) of patients carry a pathogenic allele on one allele while the other allele remained yet to be determined. Direct sequencing of exon 2 revealed two pathogenic variants (p.Gly61Glu, p.Glu229Lys). P.Gly61Glu substitution was found both homozygously in 63% (17/27) of cases, and heterozygously in one patient. P.Glu229Lys variant was found heterozygous in 3.7% (1/27) of cases. One pathogenic variant (p.Arg469Trp) was found in exon 3, and is present homozygously in 14.8% (4/27) of cases while four patients have this variant heterozygously. All mutations were reported previously in the Saudi population, except p.Glu229Lys. Severe cases were associated with p.Gly61Glu, and p.Arg469Trp in 50% and 30% of ten patients respectively.

Conclusions: This study confirms that CYP1B1 mutations are the most frequent cause of PCG in the Saudi population, with p.Gly61Glu being the major disease-associated mutation. P.Glu229Lys is a newly discovered mutation in our PCG patients. Patient lacking mutation in CYP1B1 gene seems likely, to have another genetic loci involved in the pathogenesis of the disease, and need further study. Genetic studies of recessive diseases such as PCG is important in consanguineous populations, since it will increase awareness and allows genetic counseling to be offered to patients and their relatives. This will not only reduce the disease to be inherited to future generations, but will also reduce the disease burden in the community.



| Research Title: | Gestational Choriocarcinoma Presenting with Lacrimal |
|----------------------------------|--|
| | Gland Metastasis: A First Reported Case |
| | Case Reports in Obstetrics and Gynecology |
| Source: | Hindawi Publishing Corporation |
| | Vol. 2015, Page 1-7 |
| ISSN: | 2090-6692 |
| Month and Year of | MAX 2015 |
| Publication: | MAT 2015 |
| Impact Factor: | n/a |
| Affiliated Department(s): | Ophthalmology; Ob-gyne; Radiology; Surgery |
| Author(s): | Naushad AB Ahamed, Khalid Sait, Nisreen Anfnan, |
| | Khader Farwan, SHM Nizamuddin, Saleh S Baeesa |
| Correspondent's Email: | nashlib@gmail.com |

ABSTRACT

Background: Gestational choriocarcinoma (GC) is a recognized clinicopathological subtype of gestational trophoblastic neoplasia that usually metastasizes hematogenously to highly vascular organs like the lung, liver, and brain. However, orbital metastasis to the choroid and lacrimal gland is a rare occurrence.

Case Presentation: A 21-year-old female presented with headache and left orbital swelling one year after resection of a complete hydatidiform mole followed by adjuvant methotrexate chemotherapy. A metastatic imaging screening revealed multiple metastases in the lungs, brain, and adrenal gland, in addition to the choroid and lacrimal gland. Based on her modified WHO risk factors scoring she was started on chemotherapy and whole brain radiotherapy, which resulted in a complete response. At two-year follow-up, serum b-HCG level was with normal limits; imaging surveillance was uneventful.

Conclusion: We present the first case of lacrimal gland metastasis in a young girl from GC relapse.



| Research Title: | Ophthalmological findings in relation to auxological data |
|---------------------------|---|
| | in moderate-to-late preterm preschool children |
| Source: | Acta Ophthalmologica |
| | Wiley-Blackwell |
| | Vol. 93, Issue 7, Page: 635-641 |
| ISSN: | 1755-3768 |
| Month and Year of | NOV 2015 |
| Publication: | NOV 2013 |
| Impact Factor: | 2.844 |
| Affiliated Department(s): | Ophthalmology |
| Author(s): | Lina Raffa, Eva Aring, Jovanna Dahlgren, Ann-Katrine |
| | Karlsson, Marita Andersson Grönlund |
| Correspondent's Email: | lina.raffa@vgregion.se |

ABSTRACT

Purpose: To evaluate ophthalmological findings in preschool children born moderate-tolate preterm (MLP) and relate the findings to auxological data at birth and at 5.5 years of age.

Methods: Seventy-eight MLP children [gestational age (GA) 32-36weeks; 34 girls; mean age 5.7years] were investigated. Gestational age, weight, length and head circumference at birth and at the time of assessment were registered. Visual acuity (VA), refraction, orthoptic evaluation, slit-lamp examination and ophthalmoscopy were conducted, and a history of visuoperceptual problems was recorded. The data were compared with age-and sex-matched controls born full term (n=35).

Results: Ophthalmological abnormalities were noted in 82% of MLP children and 47% of controls (p=0.0004). There was a significant difference with regard to impaired motility (p=0.03), heterophoria at distance (p=0.006) and refraction expressed as spherical equivalent dioptre (p=0.01). Amongst auxological data at birth, birthweight (BW) was the strongest predictor to ophthalmological abnormalities (p=0.0003). In a stepwise logistic regression, GA was the strongest predictor of VA outcome at time of assessment (p=0.0036). Moderate-to-late preterm birth showed a 2.4-fold increased risk of refractive errors compared with full-term children (RR 2.39: 95% CI 1.10-5.20; p=0.02).

Conclusion: Based on our findings, MLP birth may be associated with increased ocular morbidity compared with their full-term counterparts. Auxological data at birth, especially BW, seems to be an important factor when conducting an ophthalmological diagnosis in preschool MLP children, and an increased VA was correlated to a higher GA.



| Research Title: | Transepithelial Versus Epithelium-Off Corneal Collagen |
|----------------------------------|--|
| | Cross-Linking for Progressive Keratoconus: A |
| | Prospective Randomized Controlled Trial |
| | Cornea |
| Source: | Wolters Kluwer Health, Inc. |
| | Vol. 34, Issue 10, Page: 53-56 |
| ISSN: | 0277-3740 |
| Month and Year of | OCT 2015 |
| Publication: | |
| Impact Factor: | 2.36 |
| Affiliated Department(s): | Ophthalmology |
| Author(s): | Mashhoor F Al Fayez, Salman Alfayez, Yasmin Alfayez |
| Correspondent's Email: | n/a |

ABSTRACT

Purpose: To compare the safety and efficacy of transepithelial with epithelium-off corneal cross-linking for progressive keratoconus.

Methods: In a prospective clinical trial, 70 patients with progressive keratoconus were randomized to undergo corneal cross-linking with intact epithelium (n = 34) or after deepithelialization (n = 36). The main outcome measure was a change in the maximum K reading (Kmax).

Results: With 3-year follow-up, Kmax decreased in the epithelium-off group with a mean of 2.4 D and no patient showed evidence of progression. In the transepithelial group, Kmax increased by a mean of 1.1 D, and 20 patients (55%) showed progression of keratoconus.

Conclusions: In this study, epithelium-off was significantly more effective than transepithelial corneal cross-linking in halting the progression of keratoconus (P < 0.0001).



Department of Otorhinolaryngology

Department of Otorhinolaryngology

Head of Department د. طلال أحمد عبدالستار الخطيب

<u>Members</u> خالد إبراهيم سليمان النوري

خالد بريك محسن الغامدي سعد محمد صلاح المحياوي هشام بكر عبدالرحمن عالم خليل صدقة خليل سندي طلال أحمد عبدالستار الخطيب عفاف حسن علي بامانع منال عبد الله أحرار خوجه هانى زهير محمد المرزوقي احمد محمد احمد الحربى المؤيد بالله عبدالعزيز محمود رمال ايمان اسامة محمود رواس روان طارق حكمت عارف زينب عادل عبدالشكور بخش ساره زهير احمد السباعي عبدالعزيز حمدان سالم الغامدي عبدالله محمد عبدالله باحكيم لمى موسى سالم الزهراني مازن عدنان عبد المعطي مرداد محمد خالد ابراهيم النوري معتز محمد شاكر محمد سميح الدهلوي هيثم رضا عبدالرحمن ابو زنادة



| Research Title: | Atypical Presentation of a Common Disease: Shingles of |
|----------------------------------|--|
| | the Larynx |
| | Journal of Voice |
| Source: | Mosby-Elsevier |
| | Vol. 29, Issue 5, Page: 600-602 |
| ISSN: | 0892-1997 |
| Month and Year of | SEDT 2015 |
| Publication: | SEI 1 2015 |
| Impact Factor: | 1.242 |
| Affiliated Department(s): | Otorhinolaryngology |
| Author(s): | Sarah Hosseini, Faisal Zawawi, Jonathan Young |
| Correspondent's Email: | sarah.f.hosseini@gmail.com |

ABSTRACT

Objective: Herpes zoster is a neurocutaneous disease resulting from the reactivation of endogenous varicella-zoster virus (VZV) in dorsal sensory or cranial nerve ganglia. Rarely, this infection manifests without the characteristic dermatomal rash, a condition termed zoster sine herpete. Viral spreading of herpes zoster in the head and neck may manifest as various signs and symptoms because of the multiple possible combinations of cranial neuropathies. With only six cases reported in the English literature up to now, isolated neuropathies of the vagus nerve in the absence of cutaneous lesions tend to be misdiagnosed as idiopathic laryngeal paralysis.

Methods: We report a case of herpes zoster of the larynx in an 80-year-old man presenting with sore throat, dysphagia, and hoarseness.

Results: Endoscopic examination revealed unilateral vocal fold paralysis, pooling of secretions, and mucosal vesicles of the hemilarynx. After the diagnosis of VZV infection with polymerase chain reaction (PCR) testing, the patient was treated with valacyclovir and corticosteroids, leading to complete recovery after 2 months.

Conclusions: Herpes zoster of the larynx is an uncommon condition that should be included in the differential diagnosis of laryngeal paralysis of idiopathic cause. We recommend performing a thorough examination of the pharyngolaryngeal structures and ordering PCR testing as the diagnostic method of choice.



| | Endoscopic Dacryocystorhinostomy (DCR): a |
|---------------------------|---|
| Research Title: | comparative study between powered and non-powered |
| | technique |
| | Journal of Otolaryngology-Head & Neck Surgery |
| Source: | Biomed Central Ltd |
| | Vol. 44, Page: 56 |
| ISSN: | 1916-0216 |
| Month and Year of | DEC 2015 |
| Publication: | DEC 2013 |
| Impact Factor: | 0.886 |
| Affiliated Department(s): | Otorhinolaryngology; Ophthalmology |
| | Islam Herzallah, Bassam Alzuraiqi, Naif Bawazeer, |
| Author(s): | Osama Marglani, Ameen Alherabi, Sherif K Mohamed, |
| | Khalid Al-Qahtani, Talal Al-Khatib, Abdullah Alghamdi |
| Correspondent's Email: | herabi@hotmail.com |

ABSTRACT

Background: Dacrocystorhinostomy (DCR) is an operation used to treat nasolacrimal duct obstruction. Essentially there are two approaches: external and endoscopic. Several modalities are used in endoscopic DCR; all aiming to improve success rate, reduce complications, and shorten operative time. Both kerrison punch and drill are widely used in endoscopic DCR with non-conclusive knowledge about differences in operative details as well as on the outcome. The aim of this study is to compare between powered (drill) and non-powered (kerrison punch) DCR to clarify the superiority of one over the other.

Methods: A retrospective chart review of 59 patients who underwent endoscopic DCR procedure at our institution from June 2013 until July 2014 (34 kerrison punch and 32 powered drill). Operative details, surgical outcome and complications were compared between both groups.

Results: A total of 66 endoscopic DCRs were performed on 59 patients. Procedure success rate among kerrison punch group was 87.88 % vs. 90.9 % in powered drill group (p = 0.827), while complications for both groups were statistical not significant (p = 0.91). The mean operating time among kerrison punch group was significantly lower than in powered drill group (75 min vs. 125 min, p = 0.0001).

Conclusion: Kerrison punch showed significant reduction in operating time when compared to powered drill for endoscopic DCR. No statistically significant difference was found between both groups regarding procedures' success rate and complication.



| | Evaluating the therapeutic efficacy, tolerability, and |
|-------------------------------|---|
| Research Title: | safety of an aqueous extract of Costus speciosus rhizome |
| | in acute pharyngitis and acute tonsillitis. A pilot study |
| | Saudi Medical Journal |
| Source: | Saudi Med J |
| | Vol. 36, Issue 8, Page: 997-1000 |
| ISSN: | 0379-5284 |
| Month and Year of | AUC 2015 |
| Publication: | AUG 2013 |
| Impact Factor: | 0.554 |
| Affiliated Department(s): | Otorhinolaryngology; Hematology; Yousef Abdullatif |
| | Jameel Research Chair for Prophetic Medicine |
| | Zainab A Bakhsh, Talal A Al-Khatib, Saad M Al- |
| Author(s): | Muhayawi, Sufian M ElAssouli, Iman A Elfiky, Samiha |
| | A Mourad |
| Correspondent's Email: | zabakhsh@kau.edu.sa |

ABSTRACT

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

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

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

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



| Research Title: | Helical computed tomography scanning of the larynx and |
|----------------------------------|---|
| | upper trachea in rabbits |
| | Acta Veterinaria Scandinavica |
| Source: | Biomed Central Ltd |
| | Vol. 57, Page: 67 |
| ISSN: | 0044-605X |
| Month and Year of | OCT 2015 |
| Publication: | 0C1 2013 |
| Impact Factor: | 1.377 |
| Affiliated Department(s): | Otorhinolaryngology; Radiology |
| | Amr M Ajlan, Talal Al-Khatib, Mariam Al-Sheikah, |
| Author(g). | Saddig Jastaniah, Alamin Salih, Abdulrahman Althubaiti, |
| Author(s): | Abdulrahman Aljohani, Hani Marzouki, Ameen Alherabi, |
| | Osama Marglani, Samar Rabah, Gamal Karrouf |
| | amrajlan@yahoo.com, talkhatib@gmail.com, |
| | mariamalsheikah@gmail.com, sjastaniah@kau.edu.sa, |
| Correspondent's Email: | dr_amt@live.com, abdulrah556@hotmail.com, |
| | hanimarzouki@gmail.com, herabi@hotmail.com, |
| | marglani1@yahoo.com, sarmara@yahoo.com, |
| | drgamalkarrouf@yahoo.com, |

ABSTRACT

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

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

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

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



| Research Title: | Partial glossectomy and floor of mouth (FOM) defect |
|----------------------------------|---|
| | repair with biological dural graft: A case report |
| | International Journal of Surgery Case Reports |
| Source: | Elsevier B.V. |
| | Vol. 2015, Issue 11, Page: 78-82 |
| ISSN: | 2210-2612 |
| Month and Year of | ADD 2015 |
| Publication: | AFK 2015 |
| Impact Factor: | n/a |
| Affiliated Department(s): | Otorhinolaryngology |
| Author(s): | Khalid B Al-Ghamdi, Zainab A Bakhsh |
| Correspondent's Email: | zabaksh@kau.edu.sa kbalghamdy@kau.edu.sa |

ABSTRACT

Introduction: Oral carcinoma can cause significant defects that would necessitate a challenging reconstructive surgery. These techniques include biological or synthetic dressings, grafts, regional flaps, and free-vascularized flaps. Among these, the dural graft has demonstrated promising results in repairing the skull-base defects. Our aim is to report a new, innovative technique for partial glossectomy and floor of mouth defect repair using a biological dural graft dressing when primary repair was not feasible and the patient did not consent to dermal graft or flap interventions.

Presentation of case: This article reports the outcomes from a novel intervention of partial glossectomy repair using a biological dural dressing derived from bovine type-I collagen in a 57-year-old female patient with recurrent T1N1M0 squamous cell carcinoma of the left-sided tongue during the 12 month period of follow-up.

Discussion: The best option for large tongue defects is a free flap, while for a moderate defect is a regional oral flap. The biological graft, as an acellular dermal graft has been well known to facilitate secondary healing in the tongue as an alternative to the split-thickness skin graft. In the current study, the dural dressing in tongue reconstruction was likewise shown to be an effective biological dressing; hence, the collagen membrane is biologically acceptable to the oral mucosa and an excellent wound graft material. However, it is absolutely contraindicated in bovine hypersensitive patients.

Conclusion: The biological dural graft dressing appears to be an effective method for tongue reconstruction, as it promotes adequate wound healing and it preserves function.



Department of Orthopedic Surgery

Department of Orthopedic Surgery

<u>Head of Department</u> د عمرو سامي أمين حمدي <u>Members</u>

محمد جلال مصطفى الصياد حسام حسين محمد درويش عمرو سامي أمين حمدي عمرو محمد علي الحبشي لطف أحمد عبدالله أبو منصر محمد بن محمد علي عمر عباس أحمد سمير إبراهيم الشاعر احمد ايمن عبدالله حابس انس حسين محمد نوح بشار رحاب محمود رضا دينا محمدماجد رشاد بخش ريان جميل محمد فيرق عاصم محمد انس محمد خان مخدوم عبدالرحمن احسان خيرالله الرفاعي عبدالله عابد عبدالله الطويرقى عماد عبدالله عبدالمجيد انعم فهد هيثم محمد عبدالجبار محمد عبدالرحمن محمد الحمدان



| Research Title: | Are Fassier-Duval Rods at Risk of Migration in Patients |
|----------------------------------|---|
| | Undergoing Spine Magnetic Resonance Imaging? |
| | Journal of Pediatric Orthopaedics |
| Source: | Wolters Kluwer Health, Inc. |
| | Vol. 35, Issue 3, Page: 323-327 |
| ISSN: | 0271-6798 |
| Month and Year of | ADD 2015 |
| Publication: | APK 2015 |
| Impact Factor: | 1.426 |
| Affiliated Department(s): | Orthopedics |
| Author(s): | Asim M Makhdom, Waleed Kishta, Neil Saran, Michel |
| | Azouz, François Fassier |
| Correspondent's Email: | n/a |

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.



| Research Title: | Does Balloon Kyphoplasty Deliver More Cement Safely |
|----------------------------------|--|
| | into Osteoporotic Vertebrae with Compression Fractures |
| | Compared with Vertebroplasty? A Study in Vertebral |
| | Analogues |
| | Global Spine Journal |
| Source: | Georg Thieme Verlag Kg |
| | Vol. 5, Issue 4, Page: 300-307 |
| ISSN: | 2192-5690 |
| Month and Year of | AUC 2015 |
| Publication: | AUG 2013 |
| Impact Factor: | n/a |
| Affiliated Department(s): | Orthopedics |
| Author(s): | Fahad H Abduljabbar, Abdulaziz Al-jurayyan, Saad |
| | Alqahtani, Zeeshan M Sardar, Rajeet Singh Saluja, Jean |
| | Ouellet, Michael Weber, Thomas Steffen, Lorne |
| | Beckman, Peter Jarzem |
| Correspondent's Email: | fahadaj@hotmail.com |

ABSTRACT

Study Design: A biomechanical and radiographic study using vertebral analogues.

Objectives: Kyphoplasty and vertebroplasty are widely used techniques to alleviate pain in fractures secondary to osteoporosis. However, cement leakage toward vital structures like the spinal cord can be a major source of morbidity and even mortality. We define safe cement injection as the volume of the cement injected into a vertebra before the cement leakage occurs. Our objective is to compare the amount of cement that can be safely injected into an osteoporotic vertebra with simulated compression fracture using either vertebroplasty or balloon kyphoplasty techniques.

Methods: Forty artificial vertebral analogues made of polyurethane with osteoporotic cancellous matrix representing the L3 vertebrae were used for this study and were divided into four groups of 10 vertebrae each. The four groups tested were: low-viscosity cement injected using vertebroplasty, high-viscosity cement injected using vertebroplasty, high-viscosity cement injected using balloon kyphoplasty, and high-viscosity cement injected using balloon kyphoplasty. The procedures were performed under fluoroscopic guidance. The injection was stopped when the cement started protruding from the created vascular channel in the osteoporotic vertebral fracture model. The main outcome measured was the volume of the cement injected safely into a vertebra before leakage through the posterior vascular channel.

Results: The highest volume of the cement injected was in the vertebroplasty group using high-viscosity cement, which was almost twice the injected volume in the other three groups. One-way analysis of variance comparing the four groups showed a statistically significant difference (p < 0.005).

Conclusions: High-viscosity cement injected using vertebroplasty delivers more cement volume before cement leakage and fills the vertebral body more uniformly when compared with balloon kyphoplasty in osteoporotic vertebrae with compression fractures.



| Research Title: | Bilateral vascularized rib grafts to promote spinopelvic |
|---------------------------|---|
| | fixation in patients with sacral agenesis and spinopelvic |
| | dissociation: a new surgical technique |
| | Spine Journal |
| Source: | Elsevier Science Inc |
| | Vol. 15, Issue 12, Page: 2583-2592 |
| ISSN: | 1878-1632 |
| Month and Year of | DEC 2015 |
| Publication: | DEC 2015 |
| Impact Factor: | 2.426 |
| Affiliated Department(s): | Orthopedics |
| Author(s): | Catherine E Ferland, Zeeshan M Sardar, Fahad |
| | Abduljabbar, Vincent Arlet, Jean A Ouellet |
| Correspondent's Email: | jean.ouellet@muhc.mcgill.ca |

ABSTRACT

Background Context: Sacral agenesis is a rare congenital disorder that may have spinopelvic instability due to sacroiliac joint malformation. Surgical indication in patients with sacral agenesis is to improve their sitting balance and protect the visceral organs. Achieving solid arthrodesis across this congenital malformation is challenging and prone to non-union.

Purpose: The purpose of this study was to describe a novel surgical technique with vascularized ribs for management of sacral agenesis and complex spinopelvic dissociation.

Study Design: Retrospective study.

Patient Sample: Six patients with sacral agenesis were reviewed and followed for a mean of 8.5 years after spinopelvic fusion augmented with vascularized rib graft spanning the lumbo-pelvic junction.

Outcome Measures: The primary outcome measure was the presence or absence of a stable spinopelvic junction and fusion across the spine-vascular rib grafts-pelvis interface. The secondary outcome measures were maintenance of pelvic obliquity, lumbosacral kyphosis, and overall sagittal balance.

Methods: The surgical procedure consisted of two-stage surgeries performed 6-12 weeks apart. The first stage consisted of spinal instrumentation and correction of the deformity via a posterior approach and impaction of one of the vascularized ribs from the spine to the iliac crest. The second stage consisted of an anterior thoraco-lumbar approach for spinal fusion and the second vascularized rib spanning the spine to the iliac crest.

Results: All six patients eventually achieved a solid spinal and spinopelvic fusion. All vascularized ribs increased in diameter over time. Ahigh complication rate consisted mainly of spinal infections and prominent hardware requiring revision surgeries (a total of seven procedures in four patients). Two patients had decreased mobility secondary to spinopelvic surgery at last follow-up.



Conclusions: Spinopelvic fusion can be successfully achieved with this novel surgical technique using vascularized rib grafts. This technique allows for biological long-term maintenance of the sagittal deformity correction. Fusion across the lumbosacral junction in patients with sacral agenesis may place them at risk of losing the ability to mobilize independently. Recent lower profile implants have prevented implant-related complications.


| Research Title: | Essential Thrombocythemia: Current Molecular and |
|-------------------------------|--|
| | Therapeutic Insights |
| | Saudi Journal of Internal Medicine |
| Source: | Saudi Society of Internal Medicine |
| | Vol. 5, Issue 1, Page: 5-10 |
| ISSN: | 1658-5763 |
| Month and Year of | JUN 2015 |
| Publication: | |
| Impact Factor: | n/a |
| Affiliated Department(s): | Orthopedics; Hematology |
| Author(s): | Kalamegam Gauthaman, Fatin M Al-Sayes |
| Correspondent's Email: | n/a |

ABSTRACT

Essential thrombocythemia is one of the Philadelphia chromosome negative, clonal myeloproliferative disorders involving the hematopoietic stem cells and is characterized by elevated platelet counts and attendant thromboembolic phenomenon. A point mutation in the Janus-Activated Kinase 2 gene (JAK2V617F) accounts for nearly 50% of Essential thrombocythemia patients while about 10% have mutations in the thrombopoetin receptor (MPL) gene (MPLW515L/K). Several other genes are implicated, clearly indicating the existence of drivers both common and uncommon in the causation of Essential thrombocythemia. Genotyping for mutations will therefore be a useful diagnostic tool for detection of Janus-Activated Kinase 2 negative, MPL negative, Essential thrombocythemia patients. An integrated approach of systematic analysis leading to accurate diagnosis will enable risk stratification and institution of therapy following the World Health Organization guidelines. In addition to Janus-Activated Kinase inhibitors, a combination of agents that has anti-inflammatory properties could help prevention and/ or reversal of fibrosis.



| Research Title: | Misdiagnosing absent pedicle of cervical spine in the |
|----------------------------------|---|
| | acute trauma setting |
| | Orthopedic Reviews |
| Source: | Pagepress Publ |
| | Vol. 7, Issue 3, Page: 60-62 |
| ISSN: | 2035-8164 |
| Month and Year of | LAN 2015 |
| Publication: | JAIN 2013 |
| Impact Factor: | n/a |
| Affiliated Department(s): | Orthopedics |
| Author(s): | Fahad H Abduljabbar, Felipe Rossel, Anas Nooh, Peter |
| | Jarzem |
| Correspondent's Email: | fahadj@hotmail.com |

ABSTRACT

Congenital absence of cervical spine pedicle can be easily misdiagnosed as facet dislocation on plain radiographs especially in the acute trauma setting. Additional imaging, including computed tomography (CT)-scan with careful interpretation is required in order to not misdiagnose cervical posterior arch malformation with subsequent inappropriate management. A 39-year-old patient presented to the emergency unit of our university hospital after being trampled by a cow over her back and head followed by loss of consciousness, retrograde amnesia and neck pain. Her initial cervical CT-scan showed possible C5-C6 dislocation, then, it became clear that her problem was a misdiagnosed congenital cervical abnormality. Patient was treated symptomatically without consequences. The congenital absence of a cervical pedicle is a very unusual condition that is easily misdiagnosed. Diagnosis can be accurately confirmed with a CT-scan of the cervical spine. Symptomatic conservative treatment will result in resolution of the symptoms.



| Research Title: | Osteotomy Healing in Children With Osteogenesis |
|----------------------------------|---|
| | Imperfecta Receiving Bisphosphonate Treatment |
| | Journal of Bone and Mineral Research |
| Source: | Wiley-Blackwell |
| | Vol. 30, Issue 8, Page: 1362-1368 |
| ISSN: | 1523-4681 |
| Month and Year of | AUC 2015 |
| Publication: | AUG 2013 |
| Impact Factor: | 6.832 |
| Affiliated Department(s): | Orthopedics |
| Author(s): | Emad A Anam, Frank Rauch, Francis H Glorieux, |
| | François Fassier, Reggie Hamdy |
| Correspondent's Email: | frauch@shriners.mcgill.ca |

ABSTRACT

A decade ago our group had reported that osteotomy healing was commonly delayed in children with moderate to severe osteogenesis imperfecta (OI) who were treated with intravenous pamidronate infusions. We subsequently maintained a bisphosphonate infusion-free interval of 4 months after osteotomy and changed the surgical approach (use of an osteotome instead of a power saw). In addition, zoledronic acid has become the standard intravenous bisphosphonate for treatment of OI at our institution. In the present study, we compared osteotomy healing before and after these changes were instituted. We evaluated bone healing post-osteotomy on standard radiographs after 261 intramedullary rodding procedures involving osteotomies (139 femur, 112 tibia) in 110 patients (age at surgery 1.2 to 20.4 years). Delayed healing was diagnosed when the osteotomy line was visible 12 months after the event. We observed delayed bone healing after 48 of the 114 osteotomies (42%) performed with the new approach, and in 106 of the 147 osteotomies (72%) using the previous approach (p=0.001). The odds for delayed osteotomy healing were significantly lower with the new approach even after adjustment for age, sex, height Z-score, weight Z-score, OI type, and bone involved (odds ratio=0.17; 95% confidence interval 0.16-0.47). Thus, delayed osteotomy healing occurred less frequently in the past 10 years than in the decade before that. It is likely that this improved result is attributable to the implemented changes in both medical and surgical management.



| Research Title: | The Outcome of Using Closed Suction Wound Drains in |
|----------------------------------|--|
| | Patients Undergoing Lumbar Spine Surgery: A |
| | Systematic Review |
| | Global Spine Journal |
| Source: | Georg Thieme Verlag KG |
| | Vol. 5, Issue 6, Page: 479-485 |
| ISSN: | 2192-5690 |
| Month and Year of | DEC 2015 |
| Publication: | DEC 2013 |
| Impact Factor: | n/a |
| Affiliated Department(s): | Orthopedics |
| Author(s): | Feras Waly, Mohammad M Alzahrani, Fahad H |
| | Abduljabbar, Tara Landry, Jean Ouellet, Kathryn Moran, |
| | Joseph R Dettori |
| Correspondent's Email: | Feras.waly@mail.mcgill.ca |

ABSTRACT

Objective: Determine whether closed suction wound drains decrease the incidence of postoperative complications compared with no drain use in patients undergoing spine surgery for lumbar degenerative conditions.

Methods: Electronic databases and reference lists of key articles were searched up through January 22, 2015, to identify studies comparing the use of closed suction wound drains with no drains in spine surgery for lumbar degenerative conditions. Outcomes assessed included the cumulative incidence of epidural hematoma, superficial and deep wound infection, and postoperative blood transfusion. The overall strength of evidence across studies was based on precepts outlined by the Grades of Recommendation Assessment, Development and Evaluation Working Group.

Results: Five heterogeneous studies, three randomized controlled trials, and two cohort studies form the evidence basis for this report. There was no difference in the incidence of hematoma, superficial wound infection, or deep infection in patients with compared with patients without closed suction wound drains after lumbar surgery. The upper bounds of the 95% confidence interval for hematoma ranged from 1.1 to 16.7%; for superficial infection, 1.0 to 7.3%; and for deep infection, 1.0 to 7.1%. One observational study reported a 3.5-fold increase in the risk of blood transfusion in patients with a drain. The overall strength of evidence for these findings is considered low or insufficient.

Conclusions: Conclusions from this systematic review are limited by the quality of included studies that assessed the use of closed suction wound drains in lumbar spine surgeries for degenerative conditions. We believe that spine surgeons should not routinely rely on closed suction wound drains in lumbar spine surgery until a higher level of evidence becomes available to support its use.



Department of Pathology

Department of Pathology Head of Department د علی صادق إبراهیم صوان **Members** إبراهيم حسن جمعان الكناني الزهراني حصه منصور محمد الجحدلي جودة أحمد جودة المغربي دعاء يحيى صالح القايدي علي صادق إبراهيم صوان رنا محمد علي محمد عجب نور عواطف علي سراج جمال ريم علي سعيد الزهراني فدوى جميل أحمد ألطف زكى زاهد احمد ملاكا ليلي صالح على عبد الله ساره سعيد عبدالواحد الغامدى أسامة إبراهيم محمد ناصف سماح نبيل محمد علي سحرتي أيمان محمد السيد أمام شادي أحمد مسلم الاحمدي خالد عبدالفتاح بيومى بدر صادق طارق عبدالسلام القطب رنا يعقوب إسحاق بخاري عبدالمجيد تميم سعد آل زعير سوسن محمد مرسى جلله فهد عبدالله أحمد رفاعى فواز مناور نور الشاطري المطيري غدير أحمد محمد مختار أحمد طاهر عبد الحفيظ عبدالرحمن غانم محمد عمر صالح بارشيد دعاء علي سعيد الغامدي يارا محمد عبدالرحمن داعوس شقفتا طاهر مفتى تركى محمد مستور القحطانى فهد على غرم الله الغامدي جيهان عبد الله محمد كامل بخاري مراد عبد الكريم محمد نياز التركستاني رانيا عبدالحميد سمسم وفائى محمد جمعه على سلطان سعد رداد الربيعي العتيبي أيمن محمد عبدالرحمن غانم صالح على مقنع المالكي شبنم سلطانه سيف الله خالد فتحية محمد إسماعيل امين احمد محمد احمد باخشوين مشاعل احمد سعد الشمرانى حسام عبدالحميد عمر بخاري هانى يحيى جابر الفيفي



| Research Title: | A Clinicopathological Study of C1q Nephropathy at King |
|----------------------------------|--|
| | Abdulaziz University |
| Sources | Iranian Journal of Kidney Diseases |
| Source: | Vol. 9, Issue 4, Page: 279-285 |
| ISSN: | 1735-8604 |
| Month and Year of | UU 2015 |
| Publication: | JOL 2013 |
| Impact Factor: | 0.979 |
| Affiliated Department(s): | Pathology |
| Author(s): | Ghadeer A Mokhtar, Sawsan M Jalalah |
| Correspondent's Email: | Ghadeer200@hotmail.com |

ABSTRACT

Introduction: C1q nephropathy is a relatively rare idiopathic glomerulopathy characterized by mesangial immunoglobulin and complement deposits with dominance or co-dominance of C1q, with no evidence of systemic lupus erythematosus. We describe the incidence, clinical manifestation, histopathological features, and follow-up of patients with C1q nephropathy at our institute.

Materials and Methods: Of 750 kidney biopsy specimens obtained in the period of January 2000 to December 2011, all the cases that meet the criteria for the diagnosis of C1q nephropathy were retrieved. The histological slides were examined and the clinical charts were reviewed by 2renal pathologists.

Results: We had 11 patients, all children, that met the criteria for the diagnosis of C1q nephropathy accounting for an incidence of 1.5%. The mean age at the time of presentation was 3.7 years and all the patients were presented with nephrotic syndrome. Two patients had microhematuria and 2 had hypertension. Histological examination of these cases showed variable degrees of mesangial cells hypercellularity and matrix expansion with focal segmental glomerulosclerosis observed in 2 cases. Nine patients were steroid resistant (82%) and 2 were steroid dependent. Six patients required immunosuppressive therapy and 1 patient developed end-stage renal disease.

Conclusions: In our series, C1q nephropathy affected predominantly young children. Mesangioproliferative pattern was the most frequent histopathological finding in these patients. Clinically, despite steroid resistance, the patients had a relatively good outcome; the worst prognostic outcome was associated with collapsing glomerulopathy.



| Research Title: | Association between GSTP1 Genotypes and Hormone |
|----------------------------------|---|
| | Receptor Phenotype in Invasive Ductal Carcinomas of |
| | Breast |
| | Asian Pacific Journal of Cancer Prevention |
| Source: | National Cancer Center, Korea |
| | Vol. 16, Issue 5, Page: 1707-1713 |
| ISSN: | 1513-7368 |
| Month and Year of | MAD 2015 |
| Publication: | MAR 2015 |
| Impact Factor: | 2.514 |
| Affiliated Department(s): | Pathology |
| _ | Mohamad Nidal Khabaz, Mamdooh Abdullah Gari, |
| Author(s): | Jaudah Ahmed Al-Maghrabi, Taoufik Nedjadi, Marwan |
| | Bakarman |
| Correspondent's Email: | mnkhabaz@kau.edu.sa; nkhabaz@yahoo.co.uk |

ABSTRACT

Eighty six cases of invasive ductal breast carcinomas were utilized to investigate GSTP1 polymorphisms in certain immunohistochemistry (IHC) subtypes of breast cancer with respect to ER, PR and HER2 expression. The frequency of wild allele homozygote, heterozygote and variant allele homozygote genotypes were 46.5%, 52.3% and 1.16% respectively; Whereas 54.3% of the control subjects were GSTP1 wild type allele homozygous, 40.0% were heterozygous and 5.71% mutant allele homozygous. There was dramatic inverted relation between positive IHC ER staining and increasing grade of tumors in general (100%, 88.6%, 40.4%) and especially among tumors with heterozygote genotype of GSTP1 (70%, 35.4%, 22.7). There was increase in positive IHC HER2 staining consistent with higher grades in general (20%, 29.6%, 50.0%), especially among tumors with GSTP1 wild allele homozygote genotype (5.0%, 9.1%, 31.8%). A remarkable reverse relation was also observed between the fraction of IHC hormone receptor phenotype ER+/PR+/ HER2- and increased grade of tumors (60.0%, 45.5%, and 27.3%) especially among tumors with GSTP1 heterozygote genotype, and a similar link was noted regarding ER+/PR-/ HER2- and tumor grade. There was increase in frequency of ER-/PR-/ HER2- (0.0%, 6.8%, and 18.2%) and ER-/PR-/ HER2+ (0.0%, 4.54%, and 40.9%) consistent with the higher grades of tumors in general and especially GSTP1 heterozygote genotype tumors. As a conclusion, there is no correlation between GSTP1 polymorphism and increased risk of breast cancer i.e. the mutant allele is randomly distributed in cancer and control cases. However, there is a link between GSTP1 genotypes and hormone receptor expression status and certain phenotypes of breast cancer, which may have clinical importance.



| Research Title: | Characterization of familial breast cancer in Saudi Arabia |
|----------------------------------|--|
| Source: | BMC Genomics |
| | Biomed Central Ltd. |
| | Vol. 16, Supplement 1, Page: 3 |
| ISSN: | 1471-2164 |
| Month and Year of | IAN 2015 |
| Publication: | JAN 2013 |
| Impact Factor: | 4.041 |
| Affiliated Department(s): | Pathology; Medicine; Surgery |
| Author(s): | Adnan Merdad, Mamdooh A Gari, Shireen Hussein, |
| | Shadi Al-Khayat, Hana Tashkandi, Jaudah Al-Maghrabi, |
| | Fatma Al-Thubaiti, Ibtessam R Hussein, Taha |
| | Koumosani, Nehad Shaer, Adeel G Chaudhary, Adel M |
| | Abuzenadah, Mohammed H Al-Qahtani, Ashraf Dallol |
| Correspondent's Email: | n/a |

ABSTRACT

Background: The contribution of genetic factors to the development of breast cancer in the admixed and consanguineous population of the western region of Saudi Arabia is thought to be significant as the disease is early onset. 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. The advent of whole-exome sequencing is offering a unique opportunity to identify the breast cancer susceptibility genes in each family of sufferers. The polymorphisms mutations identified will then allow for personalizing the genetic screening tests accordingly. To this end, we have performed wholeexome sequencing of seven breast cancer patients with positive family history of the disease using the Agilent SureSelect T Whole-Exome Enrichment kit and sequencing on the SOLiD T platform.

Results: We have identified several coding single nucleotide variations that were either novel or rare affecting genes controlling DNA repair in the BRCA1.2 pathway.

Conclusion: The disruption of DNA repair pathways is very likely to contribute to breast cancer susceptibility in the Saudi population."



| Research Title: | c-MET immunostaining in colorectal carcinoma is |
|----------------------------------|--|
| | associated with local disease recurrence |
| | BMC Cancer |
| Source: | Biomed Central Ltd |
| | Vol. 15, Page: 676 |
| ISSN: | 1471-2407 |
| Month and Year of | OCT 2015 |
| Publication: | 0C1 2015 |
| Impact Factor: | 3.362 |
| Affiliated Department(s): | Pathology; Medicine; Colon Cancer Chair |
| | jalmaghrabi@hotmail.com, iman.emam20@gmail.com, |
| Author(g). | wafgom@yahoo.com, mo3athe@hotmail.com, |
| Author(s): | buhmeida7@yahoo.com, mhalqahtani@kau.edu.sa, |
| | mahwal@kau.edu.sa |
| Correspondent's Email: | Jaudah Al-Maghrabi, Eman Emam, Wafaey Gomaa, |
| | Moaath Saggaf, Abdelbaset Buhmeida, Mohammad Al- |
| | Qahtani, Mahmoud Al-Ahwal |

ABSTRACT

Background: Increased mesenchymal-epithelial transition factor gene (c-MET) expression in several human malignancies is related to increased tumour progression. The aim of the present study is to explore the relationship between immunohistochemical expression of c-MET in colorectal carcinoma (CRC) and the clinicopathological characteristics and follow up data, to compare the expression of c-MET in primary CRC and its metastasis in lymph nodes and to test its validity as independent prognostic factor.

Methods: Hundred and thirty-five archival CRC and nodal metastases samples were collected from King Abdulaziz University Hospital, Saudi Arabia. Tissue microarrays were constructed and immunohistochemistry was done to detected c-MET protein expression. Appropriate statistical analysis was performed.

Results: High c-MET immunostaining was significantly associated with tumour size larger than 5 cm (p < 0.003) and in left colon subsite (p < 0.05). There was no significant correlation between c-MET protein expression and age, sex, degree of differentiation, tumour invasion, presence of nodal metastasis, lymphovascular invasion, status of surgical resection margin, or presence of distant metastasis. Furthermore, no association between c-MET protein expression and disease free survival. High protein expression of c-MET is associated with the incidence of local disease recurrence (p < 0.012).

Conclusion: c-MET is a new promising target that may help in understanding the pathogenesis of CRC, and to be used as independent prognostic biomarker to predict local disease recurrence in CRC. Further molecular in vitro and in vivo studies are required to pursue c-MET as potential molecular marker of metastases and test the possibility of its incorporation as a new targeted therapeutic target.



| | DNA Methylation in Human Genes for Schistosoma- |
|----------------------------------|--|
| Research Title: | Associated and Non-Schistosoma-Associated Bladder |
| | Cancer |
| | International Research Journal of Medical Sciences |
| Source: | International Science Congress Association |
| | Vol. 3, Issue 1, Page: 9-14 |
| ISSN: | 2320 - 7353 |
| Month and Year of | LANI 2015 |
| Publication: | JAN 2015 |
| Impact Factor: | n/a |
| Affiliated Department(s): | Pathology |
| Author(s): | MH Wakid, AM Abuzenadah, A Dallol, JA Al-Maghrabi |
| Correspondent's Email: | n/a |

ABSTRACT

This study is to analyze the usefulness of DNA methylation in eight candidate genes as tumor markers in bladder cancer of Schistosoma-associated and non-Schistosoma-associated bladder cancer. Methy Light assay was utilized to investigate the DNA methylation status of eight cancer related genes using DNA extracted from paraffin-embedded (FFPE) tissues of Saudi patients with bladder cancer of both Schistosoma-associated and non-Schistosoma-associated. These genes include TIMP3, RASSF1A, SLIT2, SOCS1, RUNX3, NEUROG1, IGF2 and CACNA1G. 85% of the investigated samples displayed detectable methylation level in one up to six genes. None of the 45 samples reacted positively to all genes. On other hand, only seven cases did not display any methylation. The correlations between methylation and the investigated genes were illustrated. SLIT2 was the most frequently methylated gene and none of the investigated cases showed methylation to all eight genes. Methylation in Saudi patients with non-Schistosoma-associated bladder cancer was higher than the Schistosoma-associated bladder cancer. There is a need for further work covering panel of genes to correlate them with further factors related to the clinical and pathological aspects.



| Research Title: | Effect of BRAF mutational status on expression profiles in conventional papillary thyroid carcinomas |
|-----------------------------------|--|
| Source: | BMC Genomics Biomed Central Ltd Vol. 16, Supplement 1, Page: 6 |
| ISSN: | 1471-2164 |
| Month and Year of Publication: | JAN 2015 |
| Impact Factor: | 4.041 |
| Affiliated Department(s): | Pathology; Surgery |
| Author(s): | Hans-Juergen Schulten, Reem Alotibi, Alaa Al-Ahmadi, Manar Ata, Sajjad Karim, Etimad Huwait, Mamdooh Gari, Khalid Al-Ghamdi, Faisal Al-Mashat, Osman A Al-Hamour, Mohammad H Al-Qahtani, Jaudah Al-Maghrabi |
| Correspondent's Email: | n/a |

ABSTRACT

Background: Whereas 40 % to 70 % of papillary thyroid carcinomas (PTCs) are characterized by a BRAF mutation (BRAF(mut)), unified biomarkers for the genetically heterogeneous group of BRAF wild type (BRAF(wt)) PTCs are not established yet. Using state-of-the-art technology we compared RNA expression profiles between conventional BRAF(wt) and BRAF(mut) PTCs.

Methods: Microarrays covering 36,079 reference sequences were used to generate whole transcript expression profiles in 11 BRAF(wt) PTCs including five micro PTCs, 14 BRAF(mut) PTCs, and 7 normal thyroid specimens. A p-value with a false discovery rate (FDR) < 0.05 and a fold change > 2 were used as a threshold of significance for differential expression. Network and pathway utilities were employed to interpret significance of expression data. BRAF mutational status was established by direct sequencing the hotspot region of exon 15.

Results: We identified 237 annotated genes that were significantly differentially expressed between BRAF(wt) and BRAF(mut) PTCs. Of these, 110 genes were down-and 127 were upregulated in BRAF(wt) compared to BRAF(mut) PTCs. A number of molecules involved in thyroid hormone metabolism including thyroid peroxidase (TPO) were differentially expressed between both groups. Among cancer-associated molecules were ERBB3 that was downregulated and ERBB4 that was upregulated in BRAF(wt) PTCs. Two microRNAs were significantly differentially expressed of which miR492 bears predicted functions relevant to thyroid-specific molecules. The protein kinase A (PKA) and the G protein-coupled receptor pathways were identified as significantly related signaling cascades to the gene set of 237 genes. Furthermore, a network of interacting molecules was predicted on basis of the differentially expressed gene set.

Conclusions: The expression study focusing on affected genes that are differentially expressed between BRAF(wt) and BRAF(mut) conventional PTCs identified a number of molecules which are connected in a network and affect important canonical pathways. The identified gene set adds to our understanding of the tumor biology of BRAF(wt) and BRAF(mut) PTCs and contains genes/biomarkers of interest.



| Research Title: | Comparison of microarray expression profiles between follicular variant of papillary thyroid carcinomas and follicular adenomas of the thyroid |
|-----------------------------------|---|
| Source: | BMC Genomics BioMed Central Ltd Vol. 16, Issue 1, Page: 7 |
| ISSN: | 1471-2164 |
| Month and Year of Publication: | JAN 2015 |
| Impact Factor: | 4.041 |
| Affiliated Department(s): | Pathology; Surgery |
| Author(s): | Hans-Juergen Schulten, Zuhoor Al-Mansouri, Ibtisam Baghallab, Nadia Bagatian, Ohoud Subhi, Sajjad Karim, Hosam Al-Aradati, Abdulmonem Al-Mutawa, Adel Johary, Abdulrahman A Meccawy, Khalid Al-Ghamdi, Osman Abdel Al-Hamour, Mohammad Hussain Al- Qahtani, Jaudah Al-Maghrabi |
| Correspondent's Email: | n/a |

ABSTRACT

Background: Follicular variant of papillary thyroid carcinoma (FVPTC) and follicular adenoma (FA) are histologically closely related tumors and differential diagnosis remains challenging. RNA expression profiling is an established method to unravel molecular mechanisms underlying the histopathology of diseases.

Methods: BRAF mutational status was established by direct sequencing the hotspot region of exon 15 in six FVPTCs and seven FAs. Whole-transcript arrays were employed to generate expression profiles in six FVPTCs, seven FAs and seven normal thyroid tissue samples. The threshold of significance for differential expression on the gene and exon level was a p-value with a false discovery rate (FDR) < 0.05 and a fold change cutoff > 2. Two dimensional average linkage hierarchical clustering was generated using differentially expressed genes. Network, pathway, and alternative splicing utilities were employed to interpret significance of expression data on the gene and exon level.

Results: Expression profiling in FVPTCs and FAs, all of which were negative for a BRAF mutation, revealed 55 transcripts that were significantly differentially expressed, 40 of which were upregulated and 15 downregulated in FVPTCs vs. FAs. Amongst the most significantly upregulated genes in FVPTCs were GABA B receptor, 2 (GABBR2), neuronal cell adhesion molecule (NRCAM), extracellular matrix protein 1 (ECM1), heparan sulfate 6-O-sulfotransferase 2 (HS6ST2), and retinoid X receptor, gamma (RXRG). The most significantly downregulated genes in FVPTCs included interaction protein for cytohesin exchange factors 1 (IPCEF1), G protein-coupled receptor 155 (GPR155), Purkinje cell protein 4 (PCP4), chondroitin sulfate Nacetylgalactosaminyltransferase 1 (CSGALNACT1), and glutamate receptor interacting protein 1 (GRIP1). Alternative splicing analysis detected 87 genes, 52 of which were also included in the list of 55 differentially expressed genes. Network analysis demonstrated multiple interactions for a number of differentially expressed molecules including vitamin D (1,25- dihydroxyvitamin D3) receptor (VDR), SMAD family member 9



(SMAD9), v-kit Hardy-Zuckerman 4 feline sarcoma viral oncogene homolog (KIT), and RXRG.

Conclusions: This is one of the first studies using whole-transcript expression arrays to compare expression profiles between FVPTCs and FAs. A set of differentially expressed genes has been identified that contains valuable candidate genes to differentiate both histopathologically related tumor types on the molecular level.



| Research Title: | Expression of the cell cycle regulator p27 kip1 in Saudi |
|----------------------------------|--|
| | bladder cancer patients |
| Source: | European Journal of Cancer |
| | Elsevier Sci Ltd |
| | Vol. 51, Page: 506 |
| ISSN: | SEPT 2015 |
| Month and Year of | 1970 0952 |
| Publication: | 1879-0852 |
| Impact Factor: | 5.417 |
| Affiliated Department(s): | Pathology; Urology |
| Author(s): | T Nedjadi, A Asayyad, D Khayyat, N Salem, A |
| | Alammari, J Al-Maghrabi |
| Correspondent's Email: | n/a |

ABSTRACT

Background: In men, bladder cancer (BC) is the fourth most common type of cancer and a leading cause of cancer-related death globally. p27Kip1 is a member of the Cip/Kip family of the cyclin kinase inhibitors superfamily (CKIs), which regulate cell cycle progression at the G1-S checkpoint. The expression of p27Kip1 has been shown to be associated with various human malignancies. The aim of the current study is to analyze the expression pattern of p27 in urothelial carcinoma of the bladder in Saudi cancer patients and correlate it with clinical outcome.

Methods: Analysis of p27 expression was performed by immunohistochemistry using tissue microarray of bladder cancer specimens obtained 114 patients who underwent surgical resection for BC at King Abdulaziz University Hospital, KSA. The degree of immuno-reactivity was correlated with the patients' clinical parameters including tumour type, grade, stage, and survival. Statistical analysis was performed using SPSS statistical software.

Results: A total of 50% of patients (57 out of 114) showed positive expression of p27 protein. Immunohistochemical staining of p27 antibody exhibited nuclear localization. Interestingly, loss of p27 expression correlated significantly with increased tumour grade (p = 0.0002) and muscle invasion (p = 0.014). No association was observed between p27 levels and other pathological parameters (age, gender, stage, recurrence). More importantly patients with reduced p27 expression had trend toward poorer survival (p = 0.069, log-rank test).

Conclusion: This is the first study to describe the expression of p27 in bladder cancer patients of Arab origin. This data indicates that p27 plays an important role in bladder carcinogenesis and high p27 levels could help in the stratification and the management of high risk BC population.



| | Frequent methylation of the KLOTHO gene and |
|---------------------------|---|
| Research Title: | overexpression of the FGFR4 receptor in invasive ductal |
| | carcinoma of the breast |
| | Tumor Biology |
| Source: | Springer International Publishing AG |
| | Vol. 2015, Page: 1-7 |
| ISSN: | 1423-0380 |
| Month and Year of | HH 2015 |
| Publication: | JOL 2013 |
| Impact Factor: | 2.84 |
| Affiliated Department(s): | Pathology; Medicine; Surgery |
| | Ashraf Dallol, Abdelbaset Buhmeida, Adnan Merdad, |
| | Jaudah Al-Maghrabi, Mamdooh A Gari, Muhammad M |
| Author(s): | Abu-Elmagd, Aisha Elaimi, Mourad Assidi, Adeel G |
| | Chaudhary, Adel M Abuzenadah, Taoufik Nedjadi, |
| | Eramah Ermiah, Shadi S Alkhayyat, Mohammed H Al- |
| | Qahtani |
| | |

ABSTRACT

Invasive ductal carcinoma of the breast is the most common cancer affecting women worldwide. The marked heterogeneity of breast cancer is matched only with the heterogeneity in its associated or causative factors. Breast cancer in Saudi Arabia is apparently an early onset with many of the affected females diagnosed before they reach the age of 50 years. One possible rationale underlying this observation is that consanguinity, which is widely spread in the Saudi community, is causing the accumulation of yet undetermined cancer susceptibility mutations. Another factor could be the accumulation of epigenetic aberrations caused by the shift toward a Western-like lifestyle in the past two decades. In order to shed some light into the molecular mechanisms underlying breast cancer in the Saudi community, we identified KLOTHO (KL) as a tumor-specific methylated gene using genome-wide methylation analysis of primary breast tumors utilizing the MBD-seq approach. KL methylation was frequent as it was detected in 55.3 % of breast cancer cases from Saudi Arabia (n = 179) using MethyLight assay. Furthermore, KL is downregulated in breast tumors with its expression induced following treatment with 5-azacytidine. The involvement of KL in breast cancer led us to investigate its relationship in the context of breast cancer, with one of the protagonists of its function, fibroblast growth factor receptor 4 (FGFR4). Overexpression of FGFR4 in breast cancer is frequent in our cohort and this overexpression is associated with poor overall survival. Interestingly, FGFR4 expression is higher in the absence of KL methylation and lower when KL is methylated and presumably silenced, which is suggestive of an intricate relationship between the two factors. In conclusion, our findings further implicate "metabolic" genes or pathways in breast cancer that are disrupted by epigenetic mechanisms and could provide new avenues for understanding this disease in a new context.



| Research Title: | How does the new developed curriculum affect the |
|----------------------------------|---|
| | perception of medical graduates at King Abdulaziz |
| | University about professionalism? |
| | International Journal of Research in Medical Sciences |
| Source: | ScopeMed |
| | Vol. 3, Issue 7, Page: 1677-1682 |
| ISSN: | 2320-6012 |
| Month and Year of | UU 2015 |
| Publication: | JUL 2013 |
| Impact Factor: | n/a |
| Affiliated Department(s): | Pathology; Medical Education; Medicine |
| | Basem S Eldeek, Naif A Alghamdi, Sarah S Alghamdi, |
| Author(s): | Logain G Alghanemi, Wael H Almaghthawi, Lana Al |
| | Shawwa, Nasra Ayuob |
| Correspondent's Email: | n/a |

ABSTRACT

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

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

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

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



| Research Title: | Immunoexpression of cyclin D1 in colorectal carcinomas |
|----------------------------------|--|
| | is not correlated with survival outcome |
| | Journal of Microscopy and Ultrastructure |
| Source: | Elsevier B.V. |
| | Vol. 3, Issue 2, Page 62-67 |
| ISSN: | 2213-879X |
| Month and Year of | HIN 2015 |
| Publication: | JUN 2015 |
| Impact Factor: | n/a |
| Affiliated Department(s): | Pathology; Medicine; Colon Cancer Chair |
| Author(s): | Jaudah Al-Maghrabi, Shagufta Mufti, Wafaey Gomaa, |
| | Abdelbaset Buhmeida, Mohammed Al-Qahtani, |
| | Mahmoud Al-Ahwal |
| Correspondent's Email: | n/a |

ABSTRACT

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

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

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

Results: There were more cases with low nuclear immunoexpression of CCND1in both primary tumours and nodal metastasis (p < 0.001). Cyclin D1 did not show association with clinicopathological features except with lymphovascular invasion. Low nuclear immunoexpression of CCND1 was associated with negative lymphovascular invasion (p = 0.046). There was no statistically significant correlation between CCND1 immunoexpression and survival probability (Log Rank = 2.474, p = 0.116).

Conclusion: Our study indicates that CCND1 immunoexpression cannot be used as a predictor of survival in CRC. It also shows no significant correlation with clinicopathological features except with lymphovascular invasion.



| Research Title: | Immunoexpression of PAX-8 as a Useful Marker in |
|----------------------------------|--|
| | Distinguishing Gynecological Malignancy fromColorectal |
| | Carcinomas: a Tissue Microarray-Based Approach |
| | Journal of American Science |
| Source: | Marsland Press |
| | Vol. 11, Issue 2, Page: 76-81 |
| ISSN: | 1545-1003 |
| Month and Year of | ADD 2015 |
| Publication: | AFK 2015 |
| Impact Factor: | n/a |
| Affiliated Department(s): | Pathology; Medicine; Colon Cancer Chair |
| Author(s): | Jaudah Al-Maghrabi, Abdelbaset Buhmeida, Mohammad |
| | Al-Qahtani, Mahmoud Al-Ahwal |
| Correspondent's Email: | n/a |

ABSTRACT

Introduction: PAX 8 is a transcription factor that belongs to PAX gene family. The data on the diagnostic applications of PAX-8 is limited. In this study, the expression of PAX-8 in colorectal, endometrial and ovarian carcinomas is evaluated.

Material and methods: Tissue microarrays were prepared from archival of colorectal carcinomas (n: 133), endometrial carcinomas (n: 79) and ovarian carcinomas (75) obtained from the Department of Pathology at King Abdulaziz University Jeddah, Saudi Arabia. Tissue sections were immunostained using monoclonal antibodies to PAX-8. The immunohistochemical stains were scored semiquantitatively from 0 to 4+.

Results: PAX-8 immunoexpression was detected in 132/154 (83%) of the Mullerian carcinomas (93 and 43% for non-mucinous and mucinous carcinomas, respectively). PAX-8 expression was found in all serous carcinomas from ovarian and endometrial origin. PAX-8 was not detected in any of the colorectal carcinoma.

Conclusion: PAX-8 is a sensitive marker for non-mucinous carcinomas of Mullerian origin and it is a useful marker in differentiating endometrial and ovarian carcinomas from colorectal carcinomas.



| | Management of Destangentive Costraintesting Leskage |
|---------------------------|---|
| Research Title: | Management of Postoperative Gastronnestinal Leakage |
| | With Autologous Stromal Vascular Fraction |
| Source: | International Surgery |
| | Int College of Surgeons |
| | Vol. 100, Issue 4, Page: 748-754 |
| ISSN: | 0020-8868 |
| Month and Year of | ADD 2015 |
| Publication: | APK 2015 |
| Impact Factor: | 0.248 |
| Affiliated Department(s): | Pathology; Surgery |
| Author(s): | Saleh M Aldaqal, Meiaad F Khayat, Rana Y Bokhary, |
| | Mazen M Wakka, Adnan A Merdad, Leena A Merdad |
| Correspondent's Email: | mfkhayyat@kau.edu.sa |

ABSTRACT

To assess the efficacy of using autologous stromal vascular fraction (SVF) to promote healing of controlled fistula tracts in the management of postoperative upper gastrointestinal leakage. This is an experimental study conducted on 10 experimental rabbits. Animal models were divided into the SVF group which received an autologous SVF and the control group which did not receive the implantation. Surgery was performed on both groups to induce a gastric leak and create a controlled fistula tract between the leakage site in the stomach and the skin. After 2 weeks, surgery was performed on the SVF group to harvest, process and then implant the autologous SVF in the fistula tract. Animal models were followed up and their fistula tracts were evaluated for healing by gross and microscopic examination of the fistula tracts before the SVF implantation and at 24 hours, 1 week, 2 weeks and 3 weeks after implantation. The control group revealed no closure of fistula tracts by the 3rd week after implantation and there were no signs of inflammation or drainage. On the other hand, the SVF group showed signs of healing process with progressive closure of the fistula tract to about 95% by the 3rd week after implantation. The use of autologous SVF implantation to promote the healing of controlled fistula tracts seems to be a novel, safe and effective method in the management of postoperative upper gastrointestinal leakage. It could prevent reoperation and reduce hospital stay, morbidity and mortality. These results are promising and provide support for further clinical studies.



| Research Title: | Molecular Interaction of a Kinase Inhibitor Midostaurin |
|----------------------------------|---|
| | with Anticancer Drug Targets, S100A8 and EGFR: |
| | Transcriptional Profiling and Molecular Docking Study |
| | for Kidney Cancer Therapeutics |
| Source: | PLOS One |
| | Public Library Science |
| | Vol. 10, Issue 3, Article no.: e0119765 |
| ISSN: | 1932-6203 |
| Month and Year of | MAD 2015 |
| Publication: | MAR 2013 |
| Impact Factor: | 3.534 |
| 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 |
| Correspondent's Email: | skarim1@kau.edu.sa, mhalgahtani@kau.edu.sa |

ABSTRACT

The S100A8 and epidermal growth factor receptor (EGFR) proteins are proto-oncogenes that are strongly expressed in a number of cancer types. EGFR promotes cellular proliferation, differentiation, migration and survival by activating molecular pathways. Involvement of proinflammatory S100A8 in tumor cell differentiation and progression is largely unclear and not studied in kidney cancer (KC). S100A8 and EGFR are potential therapeutic biomarkers and anticancer drug targets for KC. In this study, we explored molecular mechanisms of interaction profiles of both molecules with potential anticancer drugs. We undertook transcriptional profiling in Saudi KCs using Affymetrix HuGene 1.0 ST arrays. We identified 1478 significantly expressed genes, including S100A8 and EGFR overexpression, using cut-off p=value <0.05 and fold change >= 2. Additionally, we compared and confirmed our findings with expression data available at NCBI's GEO database. A significant number of genes associated with cancer showed involvement in cell cycle progression, DNA repair, tumor morphology, tissue development, and cell survival. Atherosclerosis signaling, leukocyte extravasation signaling, notch signaling, and IL-12 signaling were the most significantly disrupted signaling pathways. The present study provides an initial transcriptional profiling of Saudi KC patients. Our analysis suggests distinct transcriptomic signatures and pathways underlying molecular mechanisms of KC progression. Molecular docking analysis revealed that the kinase inhibitor "midostaurin" has amongst the selected drug targets, the best ligand properties to S100A8 and EGFR, with the implication that its binding inhibits downstream signaling in KC. This is the first structure-based docking study for the selected protein targets and anticancer drug, and the results indicate S100A8 and EGFR as attractive anticancer targets and midostaurin with effective drug properties for therapeutic intervention in KC.



| Research Title: | Mycetoma at a tertiary care hospital in Saudi Arabia: |
|---------------------------|--|
| | correlation of histopathological and clinical findings |
| | Asian Pacific Journal of Tropical Biomedicine |
| Source: | Elsevier |
| | Vol. 5, Issue 4, Page: 331-336 |
| ISSN: | 2221-1691 |
| Month and Year of | ADD 2015 |
| Publication: | AFK 2015 |
| Impact Factor: | n/a |
| Affiliated Department(s): | Pathology |
| Author(s): | Shagufta Tahir Mufti, Hessa Aljhdali |
| Correspondent's Email: | n/a |

ABSTRACT

Objective: To present the histopathological and clinical correlation of mycetoma among patients attending King Abdulaziz University Hospital between 1998-2013.

Methods: The data of all histopathologically diagnosed mycetomas in the period between January 1998 and January 2013 were collected through a computerized database search of the anatomic pathology archives at King Abdulaziz University Hospital. The collected data were analysed. Identification of species were performed for five patients using 16S ribosomal DNA and internal transcribed spacer 2.

Results: There were 19 patients with mycetoma with an average age of 44.26 years and male: female ratio of 4:1. Actinomycetoma were 63.15% and eumycetoma were 36.84%. All patients presented with the classic lesions; presenting as painless subcutaneous mass, sinuses and discharge containing grains. The swellings were of slow evolution, with preferential foot localization. Species specification performed for samples from five patients with active lesions revealed species of Actinomyces israelii and Madurella mycetomatis in respective cases.

Conclusions: Actinomycetoma is more common than eumycetoma in this region. The fact that one of the patients with eumycetoma was a Saudi national raises the possibility of an indigenous species similar to Maduraella mycetomatis to be further explored for characteristics and pathogenesis. The disease has to be prioritized again and more robust and quick molecular diagnostic tools should be made available in order to save patients form disfiguring amputations.



| Research Title: | Pathologic Staging of White Matter Lesions in Adult- |
|----------------------------------|---|
| | Onset Leukoencephalopathy/Leukodystrophy With |
| | Axonal Spheroids |
| Source: | Journal Of Neuropathology and Experimental Neurology |
| | Lippincott Williams & Wilkins |
| | Vol. 74, Issue 3, Page: 233-240 |
| ISSN: | 0022-3069 |
| Month and Year of | MAD 2015 |
| Publication: | MAK 2015 |
| Impact Factor: | 4.372 |
| Affiliated Department(s): | Pathology |
| Author(s): | Murad Alturkustani, Julia Keith, Lili-Naz Hazrati, Rosa |
| | Rademakers, Lee-Cyn Ang |
| Correspondent's Email: | n/a |

ABSTRACT

The pathologic features of adult-onset leukoencephalopathy/leukodystrophy with axonal spheroids (ALAS) are variable, and this has led to different hypotheses as to whether primarily demyelination or axonopathy may underlie this disorder. Typical ALAS pathology is rarely accompanied by focal multiple sclerosis (MS)-like plaques. In ALAS pathology accompanied by focal multiple sclerosis (MS)-like plaques cases, the pathologic features cannot be distinguished from those of progressive MS with diffusely abnormal white matter. To clarify these issues, we examined neuropathologic features in 159 representative samples from 5 ALAS cases (3 men and 2 women aged 39-61 years) and in 95 representative samples from 3 chronic MS cases (1 man and 2 women aged 50-73 years). The white matter abnormalities in ALAS cases were characterized by 3 evolving stages: 1) white matter with numerous spheroids in a background of wellmyelinated fibers; 2) moderate loss of myelinated fibers with sparse to moderate number of spheroids; and 3) leukodystrophy-like pattern of confluent axonal and myelin loss. The application of this staging system suggests that myelin loss in ALAS is preceded by axonopathy. In progressive MS cases, the diffusely abnormal white matter pathology could be attributed to both primary demyelination and axonopathy. Some cases with predominant axonopathy are difficult to distinguish from cases with ALAS.



| | Pseudomyxoma peritonei with endometrial mucinous |
|----------------------------------|--|
| Research Title: | carcinoma and appendicular mucinous tumour: An |
| | unusual association. |
| | Journal of Microscopy and Ultrastructure |
| Source: | Elsevier B.V. |
| | Vol. 2015, Page: 1-14 |
| ISSN: | 2213-879X |
| Month and Year of | SEDT 2015 |
| Publication: | SEF 1 2015 |
| Impact Factor: | n/a |
| Affiliated Department(s): | Pathology |
| Author(s): | Eman Emam, Ahmad Ghanim, Ayman Ghanim |
| Correspondent's Email: | n/a |

ABSTRACT

The association between pseudomyxoma peritonei [A2](PMP[A3])and appendicular or ovarian mucinous tumors is usually reported in the literature while the association with endometrial carcinoma is exceptional. Although there has been always a continuous debate regarding its primary origin, tumors of appendix and ovary remain the most common primary sites for this disease. The association of PMP with two primaries from endometrial mucinous adenocarcinoma and appendicular mucinous tumor is very rare. So we report this case to raise the awareness among clinicians about this rare tumor association.



| Research Title: | The significance of sonic hedgehog immunohistochemical |
|----------------------------------|--|
| | expression in colorectal carcinoma |
| Source: | Journal of Microscopy and Ultrastructure |
| | Elsevier B.V. |
| | Vol. 2015, Page: 1-6 |
| ISSN: | 2213-879X |
| Month and Year of | JUN 2015 |
| Publication: | |
| Impact Factor: | n/a |
| Affiliated Department(s): | Pathology; Medicine; Colon Cancer Chair |
| Author(s): | Doaa Al Ghamdi, Wafaey Gomaa, Abdulrhman |
| | Abulaban, Mahmoud Al-Ahwal, Abdelbaset Buhmeida, |
| | Mohammed Al-Qahtani, Jaudah Al-Maghrabi |
| Correspondent's Email: | n/a |

ABSTRACT

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





Department of Pediatrics

Department of Pediatrics

<u>Head of Department</u> *ا.د. محمد حسن محمد بادواد* <u>Members</u>

جميلة عبد العزيز عبد الرحيم قارى حامد سعيد على حبيب ريما سامي راغب بدر طاهر سالم طاهر تونسى عبدالمعين عيد سعيد الآغا عمر إبراهيم محمد سعادة محمد محمد سعيد جان نادية محمد عبد الصمد فدا احمد سعيد احمد ازهر جميل عبد العزيز عطا العطا حسن محمد عيدروس الجفرى حسين محسن علوى السقاف حياة زكريا عبد الحميد كمفر سعاد محمد حسن جابر سعد عبد الله عواض الصاعدى محمد أحمد محمد مظفر محمد عبدالفتاح السيد على ابراهيم سعيد محمد الزهرانى أسامة يوسف محمد صفدر تاره حسان حسين فطاني جميل عبد العزيز عطا العطا حسين عبدالله حسين بامشموس خلود عبدالرحمن عبدالله السفياني رؤى صلاح حسين جمجوم زاهر فيصل إبراهيم زاهر

سعود عبدالعزيز على باحيدره شفيقة محمد جابر الشريف ضحى شكيب محمد الأموي فاطمة صالح حسن الزهراني فايزة إبراهيم إسماعيل الصينى محمد فضل الله فاروق أحمد منال احمد محمد حلوانى مها يسلم احمد بامحرز نورة بنت عبدالله عبدالرحمن خثلان نواف محمد حمود الدعجانى هايدي كمال حسن الوسية وفاء عبد الله محمد على أبو العينين ولاء عبدالرؤوف طسن قاروت ابرار نائل عبدالله الشريف احمد خميس على بامقا أحلام عبدالباري عبدالحميد مازي أسامة يوسف حسين مظفر اسراء محمد عمر عبدالكريم بخاري اسيل كمال جلال داغستاني اشواق احمد معتق الصيدلاتي البراء سمير سعيد ابو الحمايل آلا محمد الصادق عبدالله الجفري الهام خالد صالح خميس ایناس حسان محمد یحیی رفه ايمان احمد محمد الصافى بسمة عوض داخل الجابرى

| | 1 |
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| باسم سعد مصطفى كردي | |
| تركي سعد نصار الأجمدي | |
| خديجة عبدالحميد عبدالله مغربي | |
| دانيه عبدالله محمد باسودان | |
| ريدان محمد محمد اليزيدي | |
| ريم عبدالله حميد اليوبي | |
| رنيا أحمد سعيد العريانى الشمرانى | |
| سلطان سمير سلطان زمزمي | |
| سليمان داود سليمان مشاط | |
| سمر زهير حمدان حمدان | |
| صديق بدر احمد حبيب الله | |
| عبدالله حسين محسن السقاف | |
| عبدالسلام عويمر سالم السلمي | |
| عبدالعزيز محمد عمر باحسن | |
| عديلة محمد فوزي ابو الحمايل | |
| عصام أحمد باعامر | |
| فارس على محمد الثبيتي | |
| فهد فيصل حسين منصور آي | |
| فيصل فهد حسين العباس | |
| لأنه عمر ناصر مخارش | |
| محمد احمد فوزى نشاوى | |
| محمد ضياء الدين عبّدالحليم آيوب | |
| مشارى عبدالله محمد العيفان | |
| مشاعل فهد خالد القحطاني | |
| نايف عويض معيض الخشي | |
| نسيم يحيى أحمد اليحياوي | |
| نهال جعفر صالح شطا | |
| نور محمد بهاء الدين كامل قزاز | |
| نورا صالح محمد حسناء الغامدي | |
| هايدي كمال حسن الوسية | |
| وجدان محمد سالم بصفر | |
| | |



| Research Title: | 6-Gingerol alleviates exaggerated vasoconstriction in |
|----------------------------------|---|
| | diabetic rat aorta through direct vasodilation and nitric |
| | oxide generation |
| | Drug Design Development and Therapy |
| Source: | Dove Medical Press Ltd |
| | Vol. 9, Page 6019-6026 |
| ISSN: | 1177-8881 |
| Month and Year of | OCT 2015 |
| Publication: | 001 2013 |
| Impact Factor: | 3.028 |
| Affiliated Department(s): | Pediatrics; Clinical Biochemistry |
| Author(s): | Salah A Ghareib, Hany M El-Bassossy, Ahmed A |
| | Elberry, Ahmad Azhar, Malcolm L Watson, Zainy |
| | Mohammed Banjar |
| Correspondent's Email: | berry_ahmed@yahoo.com |

ABSTRACT

The aim of the present study is to investigate the effect and potential mechanism of action of 6-gingerol on alterations of vascular reactivity in the isolated aorta from diabetic rats. Male Wistar rats were divided into two experimental groups, control and diabetics. Diabetes was induced by a single intraperitoneal injection of streptozotocin (50 mg kg(-1)), and the rats were left for 10 weeks to develop vascular complications. The effect of in vitro incubation with 6-gingerol (0.3-3 mu M) on the vasoconstrictor response of the isolated diabetic aortae to phenylephrine and the vasodilator response to acetylcholine was examined. Effect of 6-gingerol was also examined on aortae incubated with methylglyoxal as an advanced glycation end product (AGE). To investigate the mechanism of action of 6-gingerol, the nitric oxide synthase inhibitor N omega-nitrolarginine methyl ester hydrochloride (100 mu M), guanylate cyclase inhibitor methylene blue (5 mu M), calcium-activated potassium channel blocker tetraethylammonium chloride (10 mM), and cyclooxygenase inhibitor indomethacin (5 mu M) were added 30 minutes before assessing the direct vasorelaxant effect of 6-gingerol. Moreover, in vitro effects of 6-gingerol on NO release and the effect of 6-gingerol on AGE production were examined. Results showed that incubation of aortae with 6-gingerol (0.3-10 mu M) alleviated the exaggerated vasoconstriction of diabetic aortae to phenylephrine in a concentration-dependent manner with no significant effect on the impaired relaxatory response to acetylcholine. Similar results were seen in the aortae exposed to methylglyoxal. In addition, 6-gingerol induced a direct vasodilation effect that was significantly inhibited by N omega-nitro-l-arginine methyl ester hydrochloride and methylene blue. Furthermore, 6-gingerol stimulated aortic NO generation but had no effect on AGE formation. In conclusion, 6-gingerol ameliorates enhanced vascular contraction in diabetic aortae, which may be partially attributed to its ability to increase the production of NO and stimulation of cyclic guanosine monophosphate.



| Research Title: | A new focus of autochthonous transmission of Cordylobia |
|----------------------------------|---|
| | anthropophaga in Saudi Arabia |
| Source: | Journal of Microscopy and Ultrastructure |
| | Elsevier |
| | Page: 1-4 |
| ISSN: | 2213-879X |
| Month and Year of | JAN 2015 |
| Publication: | |
| Impact Factor: | n/a |
| Affiliated Department(s): | Pediatrics; Microbiology and Medical Parasitology |
| Author(s): | Mohammed A Afifi, Asif A Jiman-Fatani, Fayza I Alsiny, |
| | Wasim S Anshasi |
| Correspondent's Email: | n/a |

ABSTRACT

Background: Cordylobia anthropophaga, is responsible for nodular cutaneous myiasis in sub-Saharan Africa. The fly has long been limited to tropical Africa except for Asir Province, Saudi Arabia. Al Baha Province; north of Asir has an ecological pattern close to that dominant in subtropical Africa. The Southern parts of Saudi Arabia, including Al Baha, are considered part of the Afro-tropical zoogeographical belt where C. anthropophaga is dominant. A case, with cutaneous nodular lesions, was presented to us, where comprehensive investigations were done to establish the diagnosis and to relate it to the known epidemiological background.

Materials and methods: A thorough history taking, comprehensive clinical examination and an intensive parasitological examination on a viable larva recovered from the cutaneous lesions, were performed. Taxonomic identification of the larva was done based on various criteria including shape, size, cuticle spine pattern and the posterior spiracles of the recovered larva.

Results: We report a case of cutaneous myiasis, caused by Cordylobia anthropophaga, indigenously acquired in Al-Baha. The recovered larva was identified as the third instar of C. anthropophaga. With no history of travel to Africa or to Asir, along with a comprehensive epidemiological assessment, an autochthonous pattern of transmission was confirmed.

Conclusion: We present a new focus of autochthonous transmission of C. anthropophaga in Saudi Arabia suggesting a need for an epidemiological reassessment. We also propose considering Cordylobia myiasis as a differential diagnosis in furuncular skin lesions, even in individuals with no history of traveling to Africa.



| Research Title: | A Single-Gene Cause in 29.5% of Cases of Steroid- |
|---------------------------|---|
| | Resistant Nephrotic Syndrome |
| Source: | Journal of the American Society of Nephrology |
| | Amer Soc Nephrology |
| | Vol. 26, Issue 6, Page: 1279-1289 |
| ISSN: | 1533-3450 |
| Month and Year of | IUN 2015 |
| Publication: | JUN 2015 |
| Impact Factor: | 9.466 |
| Affiliated Department(s): | Pediatrics |
| | Carolin E Sadowski, Svjetlana Lovric, Shazia Ashraf, |
| | Werner L Pabst, Heon Yung Gee, Stefan Kohl, Susanne |
| Author(s): | Engelmann, Virginia Vega-Warner, Humphrey Fang, Jan |
| | Halbritter, Michael J Somers, Weizhen Tan, Shirlee Shril, |
| | Inès Fessi, Richard P Lifton, Detlef Bockenhauer, Sherif |
| | El-Desoky, Jameela A Kari, Martin Zenker, Markus J |
| | Kemper, Dominik Mueller, Hanan M Fathy, Neveen A |
| | Soliman, Friedhelm Hildebrandt, SRNS Study Group |
| Correspondent's Email: | n/a |

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 Q(10) 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: | Angioplasty for renovascular hypertension in 78 children |
|---------------------------|--|
| Source: | Archives of Disease in Childhood |
| | Bmj Publishing Group |
| | Vol. 100, Issue: 5, Page: 474-478 |
| ISSN: | 0003-9888 |
| Month and Year of | MAY 2015 |
| Publication: | |
| Impact Factor: | 2.905 |
| Affiliated Department(s): | Pediatrics |
| Author(s): | Jameela A Kari, Derek J Roebuck, Clare A McLaren, |
| | Meryl Davis, Michael J Dillon, George Hamilton, |
| | Rukshana Shroff, Stephen D Marks, Kjell Tullus |
| Correspondent's Email: | n/a |

ABSTRACT

Objectives: To evaluate the outcome of percutaneous transluminal angioplasty (PTA) in children with renovascular hypertension (RVH) treated at a single centre over 29 years.

Methods: A retrospective study of the medical charts of all children with RVH who underwent PTA between 1984 and 2012. The primary outcome measurement was blood pressure (BP) achieved after the procedure. The BP before the procedure was compared with that at last available follow-up, 6 (range 0.6-16) years after the initial procedure.

Results: Seventy-eight children with median (range) age of 6.5 (0.5-17) years were studied. Twenty-three (29.5%) had an underlying syndrome, 35 (44.9%) children had bilateral renal artery stenosis (RAS), 18 (23%) intrarenal disease and 11(14%) showed bilateral RAS and intrarenal disease. Twenty (25.6%) children had mid-aortic syndrome and 14 (17.9%) cerebrovascular disease. One hundred and fourteen PTA procedures were carried out including 31 stent insertions. Following PTA, BP was improved in 49 (62.8%) children and of those 18 (23.1%) were cured. Children with involvement of only the main renal arteries showed improved BP control in 79.9% of the children with cure in 39.5%. BP was intentionally maintained above the 95th centile for age and height in four children with coexistent cerebrovascular disease. No change in BP was seen in 18 children despite observed technical success of the PTA, and in seven children due to technical failure of the procedure.

Conclusions: PTA provided a clinical benefit in 62.8% of children with RVH.



| Research Title: | Bronchial asthma and hypovitaminosis D in Saudi |
|---------------------------|--|
| | children |
| Source: | Asia Pacific Allergy |
| | Asia Pacific Association of Allergy, Asthma and Clinical |
| | Immunology |
| | Vol. 5, Issue 2, Page: 103-113 |
| ISSN: | 2233-8276 |
| Month and Year of | APR 2015 |
| Publication: | |
| Impact Factor: | n/a |
| Affiliated Department(s): | Pediatrics; Clinical Biochemistry |
| Author(s): | Huria M Aldubi, Eman M Alissa, Hayat Z Kamfar, |
| | Osama Gaber, Zuhair M Marzouki |
| Correspondent's Email: | em_alissa@yahoo.com |

ABSTRACT

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

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

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

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

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



| Research Title: | Burnout Syndrome during Pediatric Residency Training |
|-------------------------------|--|
| Source: | Open Journal of Pediatrics |
| | Scientific Research Publishing Inc. |
| | Vol. 2015, Issue 5, Page: 218-222 |
| ISSN: | 2160-8776 |
| Month and Year of | SEPT 2015 |
| Publication: | |
| Impact Factor: | n/a |
| Affiliated Department(s): | Pediatrics |
| Author(s): | Fadi M Jan, Mohammed M Jan |
| Correspondent's Email: | n/a |

ABSTRACT

Background: Burnout syndrome is a common professional problem causing mental fatigue, depersonalization, and diminished self-value. Burnout during pediatric residency can significantly influence the resident's performance and the quality of their training.

Objectives: To evaluate the burnout status of pediatric residents across Jeddah, KSA.

Methods: A cross-sectional, descriptive study involving pediatric residents across Jeddah, Saudi Arabia was conducted from the 1st of August to 1st of December, 2012. The Maslach Burnout Inventory was utilized in addition to questions about their work environment and lifestyle.

Results: Sixty pediatric residents (67% females) were included with ages ranging between 25 - 30 years (mean 26.5). They practiced in various institutions, mostly (41%) in ministry of health hospitals. Burnout scores were abnormal in 49 (82%) and in 19 (32%) the syndrome was severe. Males were more likely to reach a severe burnout category when compared to females (32% vs 19%, p = 0.01). Residents working in the university hospital (23%), were more likely to have severe burnout when compared to those working in other hospitals (p = 0.002). Junior residents (R1 and R2) were also more likely to have severe burnout when compared to senior residents (34% vs 21%, p = 0.013).

Conclusions: Many pediatric residents are suffering from burnout syndrome. It is more common among males, junior residents, and those working in a university hospital setting. Specific strategies should be developed to prevent resident burnout.


| Research Title: | Can pre-implantation biopsies predict renal allograft |
|----------------------------------|---|
| | function in pediatric renal transplant recipients? |
| Source: | Saudi Medical Journal |
| | Saudi Medical Journal |
| | Vol. 36, Issue 11, Page: 1299-1304 |
| ISSN: | 1658-3175 |
| Month and Year of | NOV 2015 |
| Publication: | NOV 2013 |
| Impact Factor: | 0.588 |
| Affiliated Department(s): | Pediatrics |
| Author(s): | Jameela A Kari, Alison L Ma, Stephanie Dufek, Ismail |
| | Mohamed, Nizam Mamode, Neil J Sebire, Stephen D |
| | Marks |
| Correspondent's Email: | jkari@doctors.org.uk |

ABSTRACT

Objectives: To determine the utility of pre-implantation renal biopsy (PIB) to predict renal allograft outcomes.

Methods: This is a retrospective review of all patients that underwent PIB from January 2003 to December 2011 at the Great Ormond Street Hospital for Children in London, United Kingdom. Thirty-two male patients (56%) aged 1.5-16 years (median: 10.2) at the time of transplantation were included in the study and followed-up for 33 (6-78) months. The results were compared with 33 controls.

Results: The PIB showed normal histopathological findings in 13 patients (41%), mild chronic vascular changes in 8 (25%), focal tubular atrophy in one, moderate to severe chronic vascular change in 3, mild to moderate acute tubular damage in 6, and tissue was inadequate in one subject. Delayed graft function (DGF) was observed in 3 patients; 2 with vascular changes in PIB, and one with normal histopathological findings. Two subjects with PIB changes lost their grafts. The estimated glomerular filtration rate at 3-, and 6-months post-transplantation was lower in children with abnormal PIB changes compared with those with normal PIB. There was one case of DGF in the control group, and 4 children lost their grafts including the one with DGF.

Conclusion: Pre-implantation renal biopsy can provide important baseline information of the graft with implications on subsequent medical treatment for pediatric renal transplant recipients.



| Research Title: | Central Diabetes Insipidus, Central Hypothyroidism, |
|----------------------------------|---|
| | Renal Tubular Acidosis and Dandy-Walker Syndrome: |
| | New Associations |
| Source: | Annals of Medical and Health Sciences Research |
| | African Journals Online |
| | Vol. 5, Issue 2, Page: 145-147 |
| ISSN: | 2277-9205 |
| Month and Year of | MAR 2015 |
| Publication: | |
| Impact Factor: | n/a |
| Affiliated Department(s): | Pediatrics |
| Author(s): | MM Alafif, SS Aljaid, AE Al-Agha |
| Correspondent's Email: | aagha@kau.edu.sa |

ABSTRACT

Dandy-Walker syndrome (DWS) is a rare brain malformation involving the cerebellum, and the fluid filled spaces around it, usually detected during the antenatal period or the early infancy. Clinically, it is characterized by mental retardation, developmental delay as well as cerebellar ataxia. It has been frequently associated with other conditions such as congenital heartdiseases, primary hypothyroidism and other disorders of the central nervous, gastrointestinal, genitourinary, and orthopedic systems. In this report, we describe a 3-month-old Saudi boy with the rare association of DWS with central diabetes insipidus, congenital central hypothyroidism, and type-2 renal tubular acidosis.



| Research Title: | Characteristics of pediatric ulcerative colitis in Saudi Arabia: a multicenter national study |
|-------------------------------|--|
| | Annals of Saudi Medicine |
| Source: | K Faisal Spec Hosp Res Centre |
| | VOI. 35, Issue 1, Page: 19-22 |
| ISSN: | 0256-4947 |
| Month and Year of | LAN 2015 |
| Publication: | JAN 2015 |
| Impact Factor: | 0.705 |
| Affiliated Department(s): | Pediatrics |
| Author(s): | Khalid AlSaleem, Mohammad Issa El Mouzan, Omar I |
| | Saadah, Bader AlSaleem, Abdulrahman Al-Hussaini, |
| | Mohammed Hassosa, Al-Mehaidib Ali, Mohammed |
| | Othman Banemai, Hana Halaby, Mohammed El Edreesif |
| Correspondent's Email: | n/a |

ABSTRACT

Background: Despite the extensive reporting of pediatric ulcerative colitis (UC) from industrialized developed countries, reports from developing countries are limited to small-case series from single centers. The objective of our large multicenter study was to determine the clinical, laboratory, endoscopic characteristics of UC in children from a developing country, Saudi Arabia.

Design And Settings: A retrospective study of children diagnosed with UC under the age of 18 years during the period from 2003 to 2012.

Methods: Patients enrolled from 15 medical centers from different regions in Saudi Arabia. A unified database collection form specifically designed for this study was completed by all participating centers.

Results: A total of 188 children were diagnosed with UC during the study period (97 males [51.6%] and 91 females [48.4%]). The mean age at diagnosis was 9.1 years, and the mean duration of symptoms before diagnosis was 8.7 months. Consanguinity was present in 57 cases (32.6%), and the family history of inflammatory bowel disease (IBD) was noted in 16 cases (9%). The most common clinical presentation was blood in stool (90%), followed by diarrhea (86%) and abdominal pain (62%). Laboratory investigations revealed elevated erythrocyte sedimentation rate (82%), anemia (75%), thrombocytosis (72%), and hypoalbuminemia (33%). The extent of the disease was pan colonic in 46.1%, and confined to left side of colon and rectum in 23% and 9.6% of the cases, respectively.

Conclusion: This demographically pediatric IBD retrospective study revealed age-related variation in the distribution of IBD. Clinical presentation, with a high prevalence of positive consanguinity and positive family history, was noted in young patients with UC. The data from this study indicate that UC is increasingly recognized in Saudi Arabia and show many similarities to data from North America and Europe.



| Research Title: | Clinical and genetic features of permanent neonatal |
|---------------------------|---|
| | diabetes mellitus |
| | International Journal of Diabetes in Developing Countries |
| Source: | Springer International Publishing AG |
| | Page: 1-5 |
| ISSN: | 1998-3832 |
| Month and Year of | MAV 2015 |
| Publication: | |
| Impact Factor: | 0.373 |
| Affiliated Department(s): | Pediatrics |
| Author(s): | Abdulmoein E Al-Agha, Ihab A Ahmad |
| Correspondent's Email: | n/a |

ABSTRACT

Neonatal diabetes mellitus (NDM) is one of the most unusual and exceptional type of diabetes that occurs in infants before the age of 6 months. Transient neonatal diabetes mellitus (TNDM) and permanent neonatal diabetes mellitus (PNDM) are identified clinically. The study conducted was a retrospective cohort study by selecting eight children with neonatal diabetes mellitus between March 2009 and February 2012. The study was presented to King Abdul Aziz University Hospital, in Jeddah, Saudi Arabia. Mutational analysis was performed retrospectively to identify phenotype and genotype characteristics. All patients had NDM and the first symptoms were observed during 1 to 17 weeks of birth, with five males and three females. None of them showed dysmorphic features, seizures, or developmental delay. The timespan of symptoms reported by parents before diagnosis ranged from 3 to 10 days with mean duration of 5.6 days. In two patients (25 %), genetic studies revealed positive mutations, with one patient depicting KCNJ11 mutation and the other had an INS mutation additional screening for ABCC8 and FOXP3 mutations were negative. All patients showed permanent NDM and no transient NDM or the remission at any stage of the disease was observed. Neonatal diabetes is a rare medical condition which needs to be differentiated from transient neonatal hyperglycemia. The medical practitioners should look for molecular basis of neonatal diabetes in order to treat it as it will lead to proper treatment with an appropriate therapy.



| Research Title: | Correlation between Nutrition and Early Puberty in Girls |
|----------------------------------|--|
| | Living in Jeddah, Saudi Arabia |
| Source: | Journal of Womens Health Care |
| | OMICS International |
| | Vol. 4, Issue 3, Page: 1-3 |
| ISSN: | 2167-0420 |
| Month and Year of | ADD 2015 |
| Publication: | APK 2015 |
| Impact Factor: | 0.79 |
| Affiliated Department(s): | Pediatrics |
| Author(s): | Rothaina J Saeedi, O Tatwany Bara'ah, Abdulmoein E |
| | Al-Agha |
| Correspondent's Email: | n/a |

ABSTRACT

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

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

Study Design: This cross-sectional study was conducted in Jeddah. The sample included 568 young women from different areas; pubertal staging was conducted using the Tanner staging, and relevant data were collected through a questionnaire. Data was analyzed using the Pearson's correlation coefficient; we assumed that the data followed a normal distribution based on the large sample size of 568 girls.

Results: Early breast and pubic hair development was significantly correlated with meat, fast food, French fries, and soft drink consumption. It was also observed that the age at menarche was significantly correlated with chicken consumption.

Conclusion: A significant relationship between early pubertal development and excessive consumption of chicken and beef was observed along with varying relationships between fat, soft drink, caffeine, calcium, and fruit and vegetable intake and pubertal development. Reduced organic chicken and beef intake was highly recommended.



| Research Title: | Depression And Quality Of Life In Children With Sickle |
|-------------------------------|--|
| | Cell Disease: The Effect Of Social Support |
| Source: | BMC Psychiatry |
| | BioMed Central Ltd |
| | Vol. 29, Issue 1, Page: 177 |
| ISSN: | 1471-244X |
| Month and Year of | A DD 2015 |
| Publication: | AI K 2015 |
| Impact Factor: | 2.24 |
| Affiliated Department(s): | Pediatrics; Medicine |
| Author(s): | Mohammad G Sehlo, Hayat Z Kamfar |
| Correspondent's Email: | sehlo68@gmail.com |

ABSTRACT

Background: The majority of available studies have shown that children with sickle cell disease (SCD) have a higher risk of depressive symptoms than those without. The present study aimed to: assess the prevalence of depression in a sample of children with SCD; evaluate the association between disease severity, social support and depression, and the combined and/or singular effect on health-related quality of life (HRQL) in children with SCD; and show the predictive value of social support and disease severity on depression.

Methods: A total of 120 children were included in the study, 60 (group I) with SCD and 60 matched, healthy control children (group II). Depression was assessed in both groups using the Children's Depression Inventory (CDI) and the Children's Depression Inventory-Parent (CDI-P). Children with CDI and CDI-P scores of more than 12 were interviewed for further assessment of depression using the Diagnostic Interview Schedule for Children Version IV (DISC-IV). The Pediatric Quality of Life Inventory Version 4.0 Generic Core Scales (PedsQL 4.0) was used to assess HRQL in both groups, and social support was measured with the Child and Adolescent Social Support Scale (CASSS).

Results: Eight (13%) of the 60 children with SCD had CDI and CDI-P scores of more than 12 (CDI mean score 14.50 \pm 1.19, CDI-P mean score 14.13 \pm 1.12), and were diagnosed as having clinical depression using the diagnostic interview DISC-IV. For group I, HRQL was poor across all PedsQL 4.0 domains in both self- and parent-reports (P < 0.001) compared with group II. A higher level of parent support was a significantly associated with decreased depressive symptoms, demonstrated by lower CDI scores. Better quality of life was shown by the associated higher total PedsQL 4.0 self-scores of children with SCD (B = -1.79, P = 0.01 and B = 1.89, P = 0.02 respectively).

Conclusions: The present study demonstrates that higher levels of parent support were significantly associated with decreased depressive symptoms and better quality of life in children with SCD. Interventions focused on increasing parent support may be an important part of treatment for depression in children with SCD.



| Research Title: | Early Puberty and its Effect on Height in Young Saudi |
|-------------------------------|---|
| | Females: A Cross-Sectional Study |
| Source: | Pediatrics & Therapeutics |
| | OMICS Publishing Group |
| | Vol. 5, Issue 1, Page: 1-4 |
| ISSN: | 2161-0665 |
| Month and Year of | EED 2015 |
| Publication: | 1EB 2013 |
| Impact Factor: | 1.32 |
| Affiliated Department(s): | Pediatrics |
| Author(s): | AE Al-Agha, AA Hadadi, BO Tatwany |
| Correspondent's Email: | n/a |

ABSTRACT

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

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

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

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

Conclusion: The menarcheal age and height are significantly related; the early onset of the signs of puberty or menarche is associated with a shorter height than the target height.



| Research Title: | Effect of Regular Physical Activity on Metabolic Control |
|----------------------------------|--|
| | in Pediatric Age Group with Type 1 Diabetes Mellitus" |
| Source: | Endocrinology & Metabolic Syndrome |
| | OMICS Publishing Group |
| | Vol. 4, Issue 2, Page: 1-5 |
| ISSN: | 2161-1017 |
| Month and Year of | ADD 2015 |
| Publication: | APK 2015 |
| Impact Factor: | n/a |
| Affiliated Department(s): | Pediatrics; Medicine |
| Author(s): | Abdulmoein AlAE, OI Alrefaie, IA Elhameed, MD |
| | Ahmad, DA El-Derwi |
| Correspondent's Email: | n/a |

ABSTRACT

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

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

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

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



| Research Title: | Efficacy and Safety of Umbilical Cord Milking at Birth A |
|----------------------------------|--|
| | Systematic Review and Meta-analysis |
| Source: | Jama Pediatrics |
| | Amer Medical Assoc |
| | Vol. 169, Issue 1, Page: 18-25 |
| ISSN: | 2168-6211 |
| Month and Year of | JAN 2015 |
| Publication: | |
| Impact Factor: | 7.148 |
| Affiliated Department(s): | Pediatrics |
| Author(s): | Heidi Al-Wassia, Prakesh S Shah |
| Correspondent's Email: | halwassia@kau.edu.sa |

ABSTRACT

Importance: Umbilical cord milking (UCM) is suggested to improve neonatal outcomes.

Objectives: To perform a systematic review and meta-analysis of the efficacy and safety of UCM in full-term and preterm neonates.

Data Sources: A systematic search of MEDLINE, EMBASE, CINAHL, the Cochrane Database of Clinical Trials, the clinicaltrails. gov database, and the reference list of retrieved articles from 1940 to 2014.

Study Selection: Randomized clinical trials comparing UCM with other strategies of handling the umbilical cord at birth in full-term and preterm infants. Seven of the 18 initially identified studies were selected.

Data Extraction And Synthesis: Two reviewers independently extracted data and assessed the risk for bias in included trials using the criteria outlined in the Cochrane Handbook for Systematic Reviews of Interventions.

Main Outcomes And Measures: Neonatal mortality before discharge from the hospital.

Results: We included 7 randomized clinical trials involving 501 infants. Infants with a gestational age of less than 33 weeks allocated to UCM compared with control conditions showed no difference in the risk for mortality (risk ratio [RR], 0.75 [95% CI, 0.35 to 1.64]; risk difference [RD], -0.02 [95% CI, -0.09 to 0.04]), hypotension requiring volume expanders (RR, 0.71 [95% CI, 0.41 to 1.25]; RD, -0.09 [95% CI, -0.22 to 0.05]), or inotrope support (RR, 0.77 [95% CI, 0.51 to 1.17]; RD, -0.10 [95% CI, -0.25 to 0.05]). Higher initial levels of hemoglobin (mean difference, 2.0 [95% CI, 1.3-2.7] g/dL) and hematocrit (mean difference, 4.5%[95% CI, 1.5%-7.4%]) were identified in the UCM groups. We found a reduced risk for oxygen requirement at 36 weeks (RR, 0.42 [95% CI, 0.21 to 0.83]; RD, -0.14 [95% CI, -0.25 to -0.04]) and for intraventricular hemorrhage of all grades (RR, 0.62 [95% CI, 0.41 to 0.93]; RD, -0.12 [95% CI, -0.22 to -0.02]) in infants assigned to UCM. Among infants with a gestational age of at least 33 weeks, UCM was associated with higher hemoglobin levels in the first 48 hours in 224 infants (mean difference, 1.1 [95% CI, 0.8-1.5] g/dL) and at 6 weeks of life in 170 infants (mean difference, 1.1 [95% CI, 0.7-1.5] g/dL).



Conclusions And Relevance: Umbilical cord milking was associated with some benefits and no adverse effects in the immediate postnatal period in preterm infants (gestational age, <33 weeks); however, further studies are warranted to assess the effect of UCM on neonatal and long-term outcomes.



| Research Title: | Emergency Point-of-Care Ultrasound Detection of Cancer |
|---------------------------|--|
| | in the Pediatric Emergency Department |
| Source: | Pediatric Emergency Care |
| | Lippincott Williams & Wilkins |
| | Vol. 31, Issue 8, Page: 602-604 |
| ISSN: | 1535-1815 |
| Month and Year of | AUC 2015 |
| Publication: | AUG 2013 |
| Impact Factor: | 0.923 |
| Affiliated Department(s): | Pediatrics |
| Author(s): | Roaa S Jamjoom, Yousef Etoom, Tanya Solano, Marie- |
| | Pier Desjardins, Jason W Fischer |
| Correspondent's Email: | jason.fischer@sickkids.ca |

ABSTRACT

The use of point-of-care ultrasound in the pediatric emergency department is evolving beyond conventional applications as users become more expert with the technology. In this case series, we describe the potential utility of recognizing abnormal anatomy to impact care in the context of possible cancer in pediatric patients. We describe 4 patients with Langerhans histiocytosis, neuroblastoma, Wilms tumor, and rhabdomyosarcoma, in which point-of-care ultrasound was used to facilitate the diagnoses.



| Research Title: | Exome analysis identified a novel missense mutation in |
|---------------------------|--|
| | the CLPP gene in a consanguineous Saudi family |
| | expanding the clinical spectrum of Perrault Syndrome |
| | type-3 |
| | Journal of The Neurological Sciences |
| Source: | Elsevier Science BV |
| | Vol. 353, Issue 2, Page: 149-154 |
| ISSN: | 1878-5883 |
| Month and Year of | HIN 2015 |
| Publication: | JUN 2015 |
| Impact Factor: | 2.262 |
| | Pediatrics; Medical Genetics; RTadiology; Princess Al- |
| Affiliated Department(s): | Jawhara Albrahim Center of Excellence in Hereditary |
| _ | Disorders Research |
| Author(s): | Saleem Ahmed, Musharraf Jelani, Nuha Alrayes, Hussein |
| | Sheikh Ali Mohamoud, Mona Mohammad Almramhi, |
| | Wasim Anshasi, Naushad Ali Basheer Ahmed, Jun Wang, |
| | Jamal Nasir, Jumana Yousuf Al-Aama |
| Correspondent's Email: | mjelani@kau.edu.sa |

ABSTRACT

Perrault syndrome (PRLTS) is a clinically and genetically heterogeneous disorder. Both male and female patients suffer from sensory neuronal hearing loss in early childhood, and female patients are characterized by premature ovarian failure and infertility after puberty. Clinical diagnosis may not be possible in early life, because key features of PRLTS, for example infertility and premature ovarian failure, do not appear before puberty. Limb spasticity, muscle weakness, and intellectual disability have also been observed in PRLTS patients. Mutations in five genes, HSD17B4, HARS2, CLPP, LARS2, and C10orf2, have been reported in five subtypes of PRLTS. We discovered a consanguineous Saudi family with the PRLTS3 phenotype showing an autosomal recessive mode of inheritance. The patients had developed profound hearing loss, brain atrophy, and lower limb spasticity in early childhood. For molecular diagnosis, we complimented genome-wide homozygosity mapping with whole exome sequencing analyses and identified a novel homozygous mutation in exon 6 of CLPP at chromosome 19p13.3. To our knowledge, early onset with regression is a unique feature of these PRLTS patients that has not been reported so far. This study broadens the clinical spectrum of PRLTS3.



| Research Title: | Familial aggregation of Crohn's disease and necrotizing sarcoid-like granulomatous disease |
|-----------------------------------|--|
| Source: | European Journal of Rheumatology AVES Vol. 2, Issue 3, Page: 1 |
| ISSN: | 2148-4279 |
| Month and Year of Publication: | SEPT 2015 |
| Impact Factor: | n/a |
| Affiliated Department(s): | Pediatrics |
| Author(s): | Sulaiman M Al-Mayouf, Intisar Albuhairan, Mohammed Muzaffer, Ali AlMehaidib |
| Correspondent's Email: | mayouf@kfshrc.edu.sa |

ABSTRACT

Granulomatous inflammatory diseases are disorders of an undetermined etiology, affecting different organs and having a diverse clinical course. Familial aggregation of these disorders is being reported increasingly, most commonly familial Crohn's disease. We described the coexistence of Crohn's disease and necrotizing sarcoid-like granulomatous disease in two siblings from a first-degree consanguineous Saudi family. The first child presented with recurrent abdominal pain associated with bloody stool and arthritis, whereas the second child presented with fever of unknown origin and lymphadenopathy as well as hepatomegaly without gastrointestinal tract disease. They are phenotypically different; however, they share a novel risk locus and allele. This report supports the heritability and familial aggregation of granulomatous inflammatory diseases and suggests that one causal mutation underlies both Crohn's disease and necrotizing sarcoid-like granulomatous disease.



| Research Title: | Femoral-facial syndrome in an infant of a diabetic mother |
|---------------------------|---|
| Source: | BMJ Case Reports |
| | BMJ Publishing Group Ltd |
| ISSN: | 1757-790X |
| Month and Year of | HH 2015 |
| Publication: | JUL 2015 |
| Impact Factor: | n/a |
| Affiliated Department(s): | Pediatrics; Medical Genetics; Princess Al-Jawhara |
| | Albrahim Center of Excellence in Hereditary Disorders |
| | Research |
| Author(s): | Saleem Ahmed, Saad Abdullah Alsaedi, Heidi Al-Wassia, |
| | Jumana Yousef Al-Aama |
| Correspondent's Email: | n/a |

ABSTRACT

Femoral–facial syndrome (FFS) is a very rare multiple congenital anomaly syndrome. The authors describe a case of FFS in a 2-day-old infant of a diabetic mother. The phenotypic features include bilateral symmetrical femoral involvement with completely aplastic right-sided femur, severely hypoplastic left femur and unusual facial dysmorphic features without other skeleton/spinal and genitourinary anomalies. Cases of FFS need to be carefully evaluated because of the similarity between FFS and caudal dysgenesis, a condition frequently related to maternal diabetes and with other syndromes characterised by femoral hypoplasia and associated anomalies, which can pose a diagnostic challenge.



| Research Title: | Genome wide analysis of novel copy number variations |
|----------------------------------|---|
| | duplications/deletions of different epileptic patients in |
| | Saudi Arabia |
| | BMC Genomics |
| Source: | Biomed Central Ltd |
| | Vol. 16, Supplement 1, Page: 10 |
| ISSN: | 1471-2164 |
| Month and Year of | LAN 2015 |
| Publication: | JAIN 2013 |
| Impact Factor: | 4.041 |
| Affiliated Department(s): | Pediatrics; Ob-gyne |
| Author(s): | Muhammad Imran Naseer, Muhammad Faheem, Adeel G |
| | Chaudhary, Taha A Kumosani, Maha Mohsin Al-Quaiti, |
| | Mohammed M Jan, Hasan Saleh Jamal, Mohammad H |
| | Al-Qahtani |
| Correspondent's Email: | n/a |

ABSTRACT

Background: Epilepsy is genetically complex neurological disorder affecting millions of people of different age groups varying in its type and severity. Copy number variants (CNVs) are key players in the genetic etiology of numerous neurodevelopmental disorders and prior findings also revealed that chromosomal aberrations are more susceptible against the pathogenesis of epilepsy. Novel technologies, such as array comparative genomic hybridization (array-CGH), may help to uncover the pathogeneic CNVs in patients with epilepsy.

Results: This study was carried out by high density whole genome array-CGH analysis with blood DNA samples from a cohort of 22 epilepsy patients to search for CNVs associated with epilepsy. Pathogenic rearrangements which include 6p12.1 microduplications in 5 patients covering a total region of 99.9kb and 7q32.3 microdeletions in 3 patients covering a total region of 63.9kb were detected. Two genes BMP5 and PODXL were located in the predicted duplicated and deleted regions respectively. Furthermore, these CNV findings were confirmed by qPCR.

Conclusion: We have described, for the first time, several novel CNVs/genes implicated in epilepsy in the Saudi population. These findings enable us to better describe the genetic variations in epilepsy, and could provide a foundation for understanding the critical regions of the genome which might be involved in the development of epilepsy.



| Research Title: | Glycemic control, complications, and associated |
|----------------------------------|--|
| | autoimmune diseases in children and adolescents with |
| | type 1 diabetes in Jeddah, Saudi Arabia |
| | Saudi Medical Journal |
| Source: | Saudi Med J |
| | Vol. 36, Issue 1, Page: 26-31 |
| ISSN: | 0379-5284 |
| Month and Year of | LAN 2015 |
| Publication: | JAN 2013 |
| Impact Factor: | 0.554 |
| Affiliated Department(s): | Pediatrics; Medicine |
| Author(s): | Abdulmoein E Al-Agha, Maram Alafif, Ihab A Abd- |
| | Elhameed |
| Correspondent's Email: | n/a |

ABSTRACT

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

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

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

Conclusion: The level of HbA1c was found to be higher among the pubertal age group. A relationship between autoimmune diseases and gender was determined.



| Research Title: | Lennox-Gastaut syndrome Management update |
|-------------------------------|--|
| | Neurosciences |
| Source: | Riyadh Armed Forces Hospital |
| | Vol. 20, Issue 3, Page: 207-212 |
| ISSN: | 1319-6138 |
| Month and Year of | JUL 2015 |
| Publication: | |
| Impact Factor: | 0.708 |
| Affiliated Department(s): | Pediatrics |
| Author(s): | Muradi H Al-Banji, Doaa K Zahr, Mohammed M Jan |
| Correspondent's Email: | n/a |

ABSTRACT

Lennox-Gastaut syndrome (LGS) is a severe pediatric epilepsy syndrome characterized by mixed seizures, cognitive decline, and generalized slow (<3Hz) spike wave discharges on electroencephalography. Atonic seizures result in dangerous drop attacks with risks of injury and impairment of the quality of life. The seizures are frequently resistant to multiple antiepileptic (AED) drugs. Newer ARDs, such as rufinamide, are now available. When multiple AED trials fail, non-pharmacological treatments such as the ketogenic diet, vagus nerve stimulation, and epilepsy surgery, should be considered. The aim of this review is to present an updated outline of LGS and the available treatments. Although the prognosis for complete seizure control remains poor, the addition of newer therapies provides an improved hope for some of these patients and their families. Further long term randomized controlled trials are required to compare different therapeutic interventions in terms of efficacy and tolerability.



| Research Title: | Maternal knowledge of acute seizures |
|-------------------------------|--|
| | Neurosciences |
| Source: | PubMed Central |
| | Vol. 20, Issue 4, Page: 346-349 |
| ISSN: | 1319-6138 |
| Month and Year of | OCT 2015 |
| Publication: | |
| Impact Factor: | 0.708 |
| Affiliated Department(s): | Pediatrics |
| Author(s): | NA Asiri, Joubah MA Bin, SM Khan, MM Jan |
| Correspondent's Email: | mmjan@kau.edu.sa |

ABSTRACT

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

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

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

Conclusion: Maternal level of knowledge and behavior during acute seizures needs improvement. Many mothers have significant misinformation, negative behavior, and poor management practices. Increased awareness and educational programs are needed.



| Research Title: | Metabolic syndrome in the survivors of childhood acute |
|-------------------------------|--|
| | lymphoblastic leukaemia |
| | Obesity Research & Clinical Practice |
| Source: | Elsevier Sci LTD |
| | Vol. 9, Issue 2, Page: 114-124 |
| ISSN: | 1878-0318 |
| Month and Year of | MAD 2015 |
| Publication: | WAR 2013 |
| Impact Factor: | 0.697 |
| Affiliated Department(s): | Pediatrics |
| Author(s): | Noran M Abu-Ouf, Mohammed M Jan |
| Correspondent's Email: | n/a |

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: | Novel nonsense mutation in the PTRF gene underlies |
|---------------------------|--|
| | congenital generalized lipodystrophy in a consanguineous |
| | Saudi family |
| | European Journal of Medical Genetics |
| Source: | Elsevier Science BV |
| | Vol. 58, Issue 4, Page: 216-221 |
| ISSN: | 1878-0849 |
| Month and Year of | A DD 2015 |
| Publication: | APK 2015 |
| Impact Factor: | 1.486 |
| Affiliated Department(s): | Pediatrics; Medical Genetics; Princess Al-Jawhara |
| | Albrahim Center of Excellence in Hereditary Disorders |
| | Research |
| Author(s): | Musharraf Jelani, Saleem Ahmed, Mona Mohammad |
| | Almramhi, Hussein Sheikh Ali Mohamoud, Khadijah |
| | Bakur, Waseem Anshasi, Jun Wang, Jumana Yousuf Al- |
| | Aama |
| Correspondent's Email: | n/a |

ABSTRACT

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



| Research Title: | Osteoporosis treatment with zoledronic acid in pediatric population at a university hospital in Western Saudi Arabia. A 13-year experience |
|-----------------------------------|--|
| Source: | Saudi Medical Journal Saudi Medical Journal Vol. 36, Issue 11, Page: 1312-1318 |
| ISSN: | 1658-3175 |
| Month and Year of Publication: | NOV 2015 |
| Impact Factor: | 0.588 |
| Affiliated Department(s): | Pediatrics |
| Author(s): | Abdulmoein E Al-Agha, Rahaf S Hayatalhazmi |
| Correspondent's Email: | aagha@kau.edu.sa |

ABSTRACT

Objectives: To highlight the clinical benefit, efficacy, and safety of zoledronic acid (ZA) therapy in children and adolescents with primary and secondary osteoporosis.

Methods: This is a retrospective observational study of 131 children and adolescents visiting the Pediatric Endocrine Clinic at King Abdulaziz University Hospital, Jeddah, Kingdom of Saudi Arabia, between January 2002 and January 2015. Clinical and laboratory data were collected for each patient and adverse events were evaluated.

Results: The mean patient age was 11.43 years. There was a significant decrease in the number of fractures after ZA treatment for primary osteoporosis (p=0.000) and in secondary osteoporosis (p=0.005). There was a significant decrease in both osteocalcin (p=0.001) and C-terminal telopeptide (p=0.003) in patients with primary osteoporosis, as well as osteocalcin (p=0.003) and C-terminal telopeptide (p=0.008) in patients with secondary osteoporosis after treatment.

Conclusion: The use of ZA in children and adolescent appears to have favorable effects on fracture rate and quality of life, including pain and mobility in symptomatic individuals. Intravenous ZA is comparable to other bisphosphonate agents in its efficacy and safety and features a more convenient infusion protocol with no documented long-term complications, thus, we advise its use in pediatric population.



| Research Title: | Outcome Of Multicystic Dysplastic Kidneys In Children |
|----------------------------------|---|
| | Iranian Journal of Pediatrics |
| Source: | Kowsar |
| | Vol. 25, Issue 5, Page: 1-4 |
| ISSN: | 2008-2150 |
| Month and Year of | OCT 2015 |
| Publication: | |
| Impact Factor: | 0.344 |
| Affiliated Department(s): | Pediatrics |
| Author(s): | Suleiman D Mashat, Sherif M El-Desoky, Jameela A Kari |
| Correspondent's Email: | jkari@doctors.org.uk |

ABSTRACT

Background: Renal cystic diseases are important causes of chronic kidney disease (CKD).

Objectives: We report the pattern of renal cystic disease in children and evaluate the outcome of children with multicystic dysplastic kidney (MCDK).

Patients and Methods: Retrospective study of all children with cystic kidney diseases at King Abdulaziz University hospital from 2006 to 2014.

Results: Total of 55 children (30 males); 25 MCDK, 22 polycystic kidney diseases (PKD), 4 nephronophthises and 4 renal cysts. Consanguinity was positive in 96.2%. MCDK and simple renal cyst patients had good renal function while PKD and nephronophthisis developed renal impairment. Most MCKD were diagnosed ante-natally, 16 of them were followed up for 3.4 (1.97) year. Their last creatinine was 33.9 (13.5) umol/L. MCDK was spontaneously involuted at mean age of 2.6 (1.3) years in 56%.

Conclusions: MCDK is the commonest cystic renal disease and diagnosed ante-natally in the majority of cases. It has a good prognosis.



| Research Title: | Paradoxical increase in blood pressure following bilateral |
|----------------------------------|--|
| | native nephrectomy |
| | Clinical Case Reports |
| Source: | John Wiley & Sons, Inc. |
| | Vol. 3, Issue 7, Page: 553-557 |
| ISSN: | 2050-0904 |
| Month and Year of | HH 2015 |
| Publication: | JUL 2013 |
| Impact Factor: | n/a |
| Affiliated Department(s): | Pediatrics |
| Author(s): | Balgees A Ajlan, Osama Y Safdar, Mohammed Shalabi, |
| | Jameela A Kari |
| Correspondent's Email: | n/a |

ABSTRACT

Hypertension is commonly observed in the pediatric population Moreover, it is a wellknown cause of morbidity and mortality in children Pediatric hypertension is most commonly renal in origin and is caused by either parenchymal disease or by renal artery stenosis. Although medical treatment is the first-line therapy for this condition, it may occasionally fail to control blood pressure (BP). Some patients with renal hypertension due to chronic kidney disease (CKD) are resistant to antihypertensive medications and even to aggressive dialysis aimed at achieving ideal body volume control In such patients, unilateral 5 or bilateral native nephrectomy may be successful in controlling BP. Previous studies have reported that patients may have a partial or a poor response to surgery whereas others have reported a delay in response of up to 6 months after surgery. Postoperative volume-mediated hypertension has been reported in patients with autosomal recessive polycystic kidney disease (ARPKD) and in those with focal segmental glomerulosclerosis (FSGS), although these patients were managed successfully with intensified dialysis. However, no studies have reported a failure of treatment accompanied by a paradoxical increase in BP after nephrectomy, that is, BP levels that are higher than preoperative baseline levels.

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

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



| | Pentoxifylline alleviates hypertension in metabolic |
|----------------------------------|---|
| Research Title: | syndrome: effect on low-grade inflammation and |
| | angiotensin system |
| | Journal of Endocrinological Investigation |
| Source: | Springer |
| | Vol. 38, Issue 4, Page: 437-445 |
| ISSN: | 1720-8386 |
| Month and Year of | A DD 2015 |
| Publication: | APK 2015 |
| Impact Factor: | 1.448 |
| Affiliated Department(s): | Pediatrics |
| Author(s): | A Azhar, HM El-Bassossy |
| Correspondent's Email: | aazhar@kau.edu.sa |

ABSTRACT

Introduction and objective: Pentoxifylline is a well-tolerated drug used in treatment of vascular insufficiency. We previously showed that pentoxifylline protects from impairment in vascular reactivity in cases of metabolic syndrome. The aim of this study was to investigate the protective effect of pentoxifylline against hypertension in metabolic syndrome rats.

Methods: Metabolic syndrome was induced by feeding rats a high-fructose, high-fat and high-salt diet for 12 weeks. Pentoxifylline was administered daily (30 mg kg(-1)) during the last 4 weeks of the study, before blood pressure parameters were assessed at the end of study. In addition, serum levels of glucose, fructosamine, insulin, tumor necrosis factor alpha, adiponectin, and lipid profile parameters were determined. Aortic protein levels of angiotensin II and angiotensin receptor 1 were assessed by immunofluorescence.

Results: Pentoxifylline administration prevented excessive weight gain but did not affect hyperinsulinemia or hypertriglyceridemia seen in metabolic syndrome animals. In addition, pentoxifylline prevented the elevations in mean blood pressure associated with metabolic syndrome. Particularly, pentoxifylline prevented elevations in systolic, diastolic, and notch blood pressure; however, elevation in pulse blood pressure was not affected. Further, pentoxifylline alleviated the low-grade inflammation associated with metabolic syndrome, as reflected by the significantly lower serum tumor necrosis factor alpha and higher serum adiponectin levels metabolic syndrome animals treated with pentoxifylline. Also, pentoxifylline inhibited elevated expression of angiotensin receptor 1 in aortic tissue of metabolic syndrome animals.

Conclusion: Pentoxifylline directly alleviated hypertension in metabolic syndrome rats, at least in part, via amelioration of low-grade inflammation and inhibition of angiotensin system.



| Research Title: | Perceptions and knowledge regarding antimicrobial stewardship among clinicians in Jeddah, Saudi Arabia |
|-----------------------------------|---|
| Source: | Saudi Medical Journal Saudi Med J VOL 36 Issue 7 Page: 813-820 |
| ISSN: | 0379-5284 |
| Month and Year of Publication: | JUL 2015 |
| Impact Factor: | 0.588 |
| Affiliated Department(s): | Pediatrics; Pharmacology |
| Author(s): | Sameer E Al-Harthi, Lateef M Khan, Abdel-Moneim M Osman, Mai A Alim, Omar I Saadah, Abdulrehman A Almohammadi, Faheem M Khan, Fatemah O Kamel |
| Correspondent's Email: | lateef.khan56@gmail.com |

ABSTRACT

Objectives: To understand the perceptions, attitude, and prescribing practices of clinicians regarding antimicrobial resistance (AMR).

Methods: A multidisciplinary cross-sectional study comprising 447 clinicians of university, public, and private hospitals of Jeddah, Saudi Arabia was carried out from August to October 2014 using a self-administered questionnaire.

Results: Interestingly, 33% of the general physicians yielded to patient/parent's demand for the choice of antimicrobials (AMs) as compared with only 13.2% of the residents, and 4.3% of the specialists. In addition, expensive AMs are more often prescribed by the general physician (70.4%) in comparison with 26.4% residents and 30.4% of the specialists. However, no significant differences were observed between the knowledge and perceptions regarding the current scope of AM agents, as well as their use and misuse. Furthermore, dependability of specialist and residents seems to be significantly higher than general physicians on pocketbooks and smartphone for AM education sources.

Conclusion: This study revealed that despite a clear concept of AMR, general physicians lacks consistency in prescribing aptitude and use of effective educational resources, while all respondents lacks dedication to follow the guidelines of AM use. This highlights the requirement of AM stewardship with decisive objective of reduction in AMR.



| Research Title: | Potentially lethal ACE-inhibitor-induced angioedema in a |
|----------------------------------|--|
| | child |
| | Clinical Case Reports |
| Source: | John Wiley & Sons, Inc. |
| | Vol. 3, Issue 6, Page: 427-430 |
| ISSN: | JUN 2015 |
| Month and Year of | 2050-0904 |
| Publication: | |
| Impact Factor: | n/a |
| Affiliated Department(s): | Pediatrics |
| Author(s): | Esraa Bukhari, Osama Y Safdar, Mohammed Shalaby, |
| | Shafiqa MJ AlSharif, Khoulod Alsufiany, Jameela A Kari |
| Correspondent's Email: | n/a |

ABSTRACT

We report a case of a 9-year-old female with known end-stage kidney disease who presented with sudden onset tongue swelling. A diagnosis of angiotensin-converting enzyme inhibitor-induced angioedema related to bradykinin accumulation was made. Her symptoms resolved shortly after discontinuation of captopril. Early diagnosis can save patients from severe upper airway obstruction.



| Research Title: | Predictors of renal replacement therapy and mortality in |
|----------------------------------|--|
| | children with chronic kidney disease |
| Source: | Saudi Medical Journal |
| | Saudi Med J |
| | Vol. 36, Issue 1, Page: 32-39 |
| ISSN: | JAN 2015 |
| Month and Year of | 0270 5094 |
| Publication: | 0379-3284 |
| Impact Factor: | 0.554 |
| Affiliated Department(s): | Pediatrics |
| Author(s): | Jameela A Kari, Sherif M El Desoky, Youssef M Farag, |
| | Ajay K Singh |
| Correspondent's Email: | n/a |

ABSTRACT

Objectives: To study the epidemiology of chronic kidney disease (CKD) in children, and to look for risk factors to predict renal replacement therapy (RRT) and mortality.

Methods: This is a retrospective cohort study conducted at King Abdulaziz University Hospital, Jeddah, Saudi Arabia between 2006 and 2014, where the files of 1,000 children with CKD were reviewed. We determined the effect of consanguinity and hypertension, and being a Saudi indigene on mortality and RRT. We compared children with congenital versus non-congenital causes of CKD.

Results: The mean +/- standard deviation age at presentation was 4.9 +/- 4.3 years. The median duration of follow up was 1.5 (interquartile range [IQR]: 0.4-4.0) years. Only 9.7% of children received RRT, and 8.3% died. The underlying etiology for CKD was congenital in 537 children. The congenital CKD group presented at a younger age group (3.5 +/- 4.0 versus 6.6 +/- 3.9 years, p<0.0001), had more advanced stages of CKD (p<0.0001), higher rates of consanguinity (75.4% versus 47.1%, p<0.0001), and RRT (p<0.004) than children with non-congenital CKD. Risk factors for RRT among children with CKD include being a Saudi indigene (relative risk [RR]=1.49, 95% confidence interval (CI): 1.01-2.21), and hypertensive (RR=5.29, 95% CI: 3.54-7.91). The risk factor for mortality was hypertension (RR=2.46, 95% CI: 1.66-3.65).

Conclusion: Congenital causes of CKD represent the main etiology of CKD in children living in the western province of Saudi Arabia. Significant risk factors for RRT include congenital CKD, Saudi nationality, and hypertension. Hypertension is also a predictor of mortality in children with CKD.



| Research Title: | Pubertal Developmental Age among Saudi and Non-Saudi |
|---------------------------|--|
| | Young Females Living in Jeddah, Saudi-Arabia |
| Source: | Pediatrics & Therapeutics |
| | OMICS International |
| | Vol. 5, Issue 2, Page: 1-3 |
| ISSN: | APR 2015 |
| Month and Year of | 2161 0665 |
| Publication: | 2101-0003 |
| Impact Factor: | 1.32 |
| Affiliated Department(s): | Pediatrics; Medicine |
| Author(s): | AE Al-Agha, RI Jamal Aldeen, BO Tatwany |
| Correspondent's Email: | n/a |

ABSTRACT

Puberty has different factors affecting its onset e.g. race, nutrition, hormonal stimulation. The aim of this research is to investigate the racial differences in onset of puberty among Saudi and non-Saudi young females living in the same environment. This cross-sectional study includes 568 healthy young females aged between 6-14 years living in Jeddah. In the present study, 60.7% of females were Saudis and 38.2% were non-Saudis. There were no significant differences found between each of the age of breasts development (p=0.187), age of first appearance of pubic hair (p=0.308), and the age of menarche (p=0.651) among Saudi and non-Saudi young females living in Jeddah. There were no significant differences between pubertal developmental age among Saudi and non-Saudi young females living in Jeddah.



| Research Title: | Respiratory syncytial virus infection of primary human mast cells induces the selective production of type I interferons, CXCL10, and CCL4 |
|-----------------------------------|--|
| Source: | Journal of Allergy and Clinical Immunology Elsevier Inc Page: 1-10 |
| ISSN: | 0091-6749 |
| Month and Year of Publication: | MAR 2015 |
| Impact Factor: | 11.248 |
| Affiliated Department(s): | Pediatrics |
| Author(s): | Ayham Al-Afif, Raidan Alyazidi, Sharon A Oldford, Yan Y Huang, Christine A King, Ian D Haidl, Robert Anderson, Jean S Marshall |
| Correspondent's Email: | robert.anderson@dal.ca, jean.marshall@dal.ca |

ABSTRACT

Background: Respiratory syncytial virus (RSV) causes severe respiratory tract infections, which might have a role in the development of airway hyperreactivity. Mast cells are important effector cells in allergy, with sentinel cell roles in host defense. However, the role of mast cells in response to RSV infection is unknown.

Objective: Human mast cell responses to RSV were investigated with a view to better understanding the role of mast cells in RSV-induced disease.

Methods: Human cord blood–derived mast cells and the HMC-1 mast cell line were exposed to RSV or UV-inactivated RSV. Viral gene and protein expression were evaluated by using PCR and flow cytometry. The expression of interferon-stimulated genes and selected mediators were evaluated by using quantitative PCR and ELISA.

Results: Human mast cells expressed multiple RSV genes after exposure to RSV, and a small percentage of mast cells supported RSV antigen protein expression. RSV induced mast cells to upregulate production of chemokines, including CCL4, CCL5, and CXCL10, as well as type I interferons, and interferonstimulated gene expression. However, production of the granulocyte chemoattractants CXCL8 and CCL11 was not induced. Antibody blockade of the type I interferon receptor on human cord blood–derived mast cells reduced the RSVmediated induction of CXCL10 and CCL4 but not CCL5. Leukotriene C4 production by mast cells was not enhanced by exposure to RSV.

Conclusion: Despite low levels of infection, human mast cells produce multiple chemokines in response to RSV through mechanisms that include responses to type I interferons. Such mast cell responses might enhance effector cell recruitment during RSV-induced disease.



| Research Title: | The impact of maternal iron deficiency and iron |
|----------------------------------|---|
| | deficiency anemia on child's health |
| Source: | Saudi Medical Journal |
| | Saudi Med J |
| | Vol. 36, Issue 2, Page: 146-149 |
| ISSN: | 0379-5284 |
| Month and Year of | EED 2015 |
| Publication: | TEB 2013 |
| Impact Factor: | 0.588 |
| Affiliated Department(s): | Pediatrics |
| Author(s): | Noran M Abu-Ouf, Mohammed M Jan |
| Correspondent's Email: | mmjan@kau.edu.sa |

ABSTRACT

Iron deficiency anemia is extremely common, particularly in the developing world, reaching a state of global epidemic. Iron deficiency during pregnancy is one of the leading causes of anemia in infants and young children. Many women go through the entire pregnancy without attaining the minimum required intake of iron. This review aims to determine the impact of maternal iron deficiency and iron deficiency anemia on infants and young children. Extensive literature review revealed that iron deficiency is a global nutritional problem affecting up to 52% of pregnant women. Many of these women are symptomatic. Lack of proper weight gain during pregnancy is an important predictor of iron deficiency.



| Research Title: | Transcatheter Closure of Saccular Coronary Artery |
|----------------------------------|---|
| | Fistula |
| Source: | Saudi Journal of Internal Medicine |
| | Saudi Society of Internal Medicine |
| | Vol. 5, Issue 1, Page: 41-45 |
| ISSN: | 1658-5763 |
| Month and Year of | IUN 2015 |
| Publication: | JUN 2013 |
| Impact Factor: | n/a |
| Affiliated Department(s): | Pediatrics |
| Author(s): | Saud A Bahaidarah, Jameel Al-Ata |
| Correspondent's Email: | n/a |

ABSTRACT

Coronary artery fistula is a rare entity of congenital heart disease but is the most common anomaly of coronary arteries. This is a case report of a 22-years-old female diagnosed with coronary artery fistula that underwent transcatheter closure of saccular coronary artery fistula.



| Research Title: | Urinary tract infection in children younger than 5 years. |
|---------------------------|---|
| | Etiology and associated urological anomalies |
| Source: | Saudi Medical Journal |
| | Saudi Med J |
| | Vol. 36, Issue 4, Page: 497-501 |
| ISSN: | 0379-5284 |
| Month and Year of | ADD 2015 |
| Publication: | APK 2015 |
| Impact Factor: | 0.554 |
| Affiliated Department(s): | Pediatrics |
| Author(s): | Wallaa A Garout, Hassan S Kurdi, Abdulrahman H Shilli, |
| | Jameela A Kari |
| Correspondent's Email: | n/a |

ABSTRACT

Objectives: To investigate the most common underlying organisms, and associated urological anomalies in children presenting with urinary tract infection (UTI).

Methods: Retrospectively, all children with confirmed UTI between October 2013 and February 2014 were evaluated at King Abdulaziz University Hospital, Riyadh, Kingdom of Saudi Arabia. The electronic files of 279 children presenting with UTI, aged less than 5 years were reviewed.

Results: A total of 153 patients (85 males) with a mean (SD) age of 15 (19.86) months were included in the study. Recurrent UTI was present in 45.1%. Urine collection in children less than 2 years of age was through trans-urethral catheterization in 69.4%, while midstream urine was the main method in those above 2 years (78.6%). Escherichia coli (E. coli) was the causative organism in 41.2% of first UTI. The second most common organism was Klebsiella Pneumoniae, seen in 19.6%. Urological anomalies were found in 28.1% of the overall study population. Ninety percent of those with single UTI did not have anomalies. However, urological anomalies were reported in 50.7% of those with recurrent episodes of UTI (p<0.005). Non-E. coli cases were associated with a higher percentage of abnormal renal ultrasonography results (p=0.006).

Conclusion: Escherichia coli was the most common causative organism for UTI, and a single episode of UTI signified normal urological anatomy.



| Research Title: | Using patients' charts to assess medical trainees in the |
|----------------------------------|--|
| | workplace: A systematic review |
| Source: | Medical Teacher |
| | Taylor & Francis Ltd |
| | Vol. 37, Supplement 1, Page: 82-87 |
| ISSN: | 1466-187X |
| Month and Year of | APR 2015 |
| Publication: | |
| Impact Factor: | 1.679 |
| Affiliated Department(s): | Pediatrics; Radiology |
| Author(s): | Heidi Al-Wassia, Rolina Al-Wassia, Shadi Shihata, Yoon |
| | Soo Park, Ara Tekian |
| Correspondent's Email: | halwassia@kau.edu.sa |

ABSTRACT

Objectives: The objective of this review is to summarize and critically appraise existing evidence on the use of chart stimulated recall (CSR) and case-based discussion (CBD) as an assessment tool for medical trainees.

Methods: Medline, Embase, CINAHL, PsycINFO, Educational Resources Information Centre (ERIC), Web of Science, and the Cochrane Central Register of Controlled Trials were searched for original articles on the use of CSR or CBD as an assessment method for trainees in all medical specialties.

Results: Four qualitative and three observational non-comparative studies were eligible for this review. The number of patient-chart encounters needed to achieve sufficient reliability varied across studies. None of the included studies evaluated the content validity of the tool. Both trainees and assessors expressed high level of satisfaction with the tool; however, inadequate training, different interpretation of the scoring scales and skills needed to give feedback were addressed as limitations for conducting the assessment.

Conclusion: There is still no compelling evidence for the use of patient's chart to evaluate medical trainees in the workplace. A body of evidence that is valid, reliable, and documents the educational effect in support of the use of patients' charts to assess medical trainees is needed.



| Research Title: | UTI In Young Children; Causing Organisms And |
|----------------------------------|---|
| | Associated Renal Anomalies |
| Source: | Pediatric Nephrology |
| | Springer |
| | Vol. 30, Issue 9, Page: 1593 |
| ISSN: | 1432-198X |
| Month and Year of | CEDT 2015 |
| Publication: | SEP 1 2015 |
| Impact Factor: | 2.856 |
| Affiliated Department(s): | Pediatrics |
| Author(s): | Wallaa A Garout, Hassan S Kurdim, Abdulrahman H |
| | Shilli, Jameela A Kari |
| Correspondent's Email: | n/a |

ABSTRACT

Introduction: To investigate the commonest underlying organisms and associated urological anomalies in children presenting with urinary tract infection (UTI).

Material and methods: Retrospectively all children who had confirmed UTI between October 2013 and February 2014 were evaluated. Electronic files of 279 children presented with UTI, aged less than 5 years of age were reviewed.

Results: A total of 153 patients (85 males) with the mean (SD) age of 15 (19.86) months were included in the study. Recurrent UTI was present in 45.1%... Urine collection in children less than 2 years of age was through trans-urethral catheterization in 69.37%, while midstream urine was the main method in those above 2 years (78.57 %). Escherichia coli (E.coli) was the causative organism in 41.2% of first UTI. The second most common organism was Klebsiella Pneumoniae seen in 19.6%. Urological anomalies were found in 28.1% of the overall study population. Ninety percent of those with single UTI did not have anomalies. However urological anomalies were reported in 50.72% of those with recurrent episodes of UTI (p-value <0.005). Non-E coli cases were associated with higher percentage of abnormal renal ultrasonography (p value0.006).

Conclusions: E- coli was the commonest causative organism for UTI and single episode of UTI signified normal urological anatomy.



Department of Pharmacology

Department of Pharmacology

<u>Head of Department</u> د. زهير عبدالله حسين دمنهوري

<u>Members</u>

زهير عبد الله حسين دمنهوري منصور إبراهيم سليمان أحمد مى عبد العليم عبد الستار أحمد آحمد شاكر علي عبدالهادي سمير عيضة معيوض الحارثى هدى محمد ناهر الكريثي عبدالمنعم محمود على عثمان فاطمة عمر عبدالله كامل لطيف محى الدين خان إبراهيم محمد أيوب إبراهيم أحمد عبدالعزيز اسعد شربينى بسمة طارق محمد الحارثى حسن عبدالله حسن بقلين دعاء عبدالله عمر بافيل دعاء محمد أحمد باخشوين رانية محمود محمد مقادمى روابي أحمد داود الأشعري سلطان عبدالله محمد الفواز عبدالهادى سالم حمزه برزنجي فاطمه سعد علي زومه الغامدي محمد عبدالباسط ابراهيم الصينى محمد عبدالغفار سعيد بازهير معاذ محمد عواد الصائغ الجهنى مها حسن صالح جمال ثامر صبر عواد البلوي سعد محمد محروس رماح عبد الرحمن بابكر عثمان محمد مها هيجان أحمد أحمد یحیی عبداللہ حمد ال بشر


| Research Title: | A new gender-specific model for skin autofluorescence |
|----------------------------------|---|
| | risk stratification |
| Source: | Scientific Reports |
| | Nature Publishing Group |
| | Vol. 5, Page: 10198 |
| ISSN: | 2045-2322 |
| Month and Year of | MAX 2015 |
| Publication: | MAT 2015 |
| Impact Factor: | 5.578 |
| Affiliated Department(s): | Pharmacology; Medicine |
| Author(s): | Muhammad S Ahmad, Zoheir A Damanhouri, Torben |
| | Kimhofer, Hala H Mosli, Elaine Holmes |
| Correspondent's Email: | maahmad2@kau.edu.sa |

ABSTRACT

Advanced glycation endproducts (AGEs) are believed to play a significant role in the pathophysiology of a variety of diseases including diabetes and cardiovascular diseases. Non-invasive skin autofluorescence (SAF) measurement serves as a proxy for tissue accumulation of AGEs. We assessed reference SAF and skin reflectance (SR) values in a Saudi population (n = 1,999) and evaluated the existing risk stratification scale. The mean SAF of the study cohort was 2.06 (SD = 0.57) arbitrary units (AU), which is considerably higher than the values reported for other populations. We show a previously unreported and significant difference in SAF values between men and women, with median (range) values of 1.77 AU (0.79-4.84 AU) and 2.20 AU (0.75-4.59 AU) respectively (p-value << 0.01). Age, presence of diabetes and BMI were the most influential variables in determining SAF values in men, whilst in female participants, SR was also highly correlated with SAF. Diabetes, hypertension and obesity all showed strong association with SAF, particularly when gender differences were taken into account. We propose an adjusted, gender-specific disease risk stratification scheme for Middle Eastern populations. SAF is a potentially valuable clinical screening tool for cardiovascular risk assessment but risk scores should take gender and ethnicity into consideration for accurate diagnosis.



| Research Title: | Antihyperglycemic Potential of Grewia asiatica Fruit |
|---------------------------|---|
| | Extract against Streptozotocin-Induced Hyperglycemia in |
| | Rats: Anti-Inflammatory and Antioxidant Mechanisms |
| Source: | Oxidative Medicine and Cellular Longevity |
| | Hindawi Publishing Corporation |
| ISSN: | 1942-0994 |
| Month and Year of | JUL 2015 |
| Publication: | |
| Impact Factor: | 3.516 |
| Affiliated Department(s): | Pharmacology |
| Author(s): | Hala AH Khattab, Nagla A El-Shitany, Inas ZA Abdallah, |
| | Fatimah M Yousef, Huda M Alkreathy |
| Correspondent's Email: | haya_khattab@hotmail.com |

ABSTRACT

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



| Research Title: | Bioactive alkaloids from the Red Sea marine Verongid |
|----------------------------------|--|
| | sponge Pseudoceratina arabica |
| | Tetrahedron |
| Source: | Pergamon-Elsevier Science LTD |
| | Vol. 71, Issue 41, Page: 7837-7841 |
| ISSN: | 0040-4020 |
| Month and Year of | OCT 2015 |
| Publication: | 001 2015 |
| Impact Factor: | Lamiaa A Shaala, Diaa TA Youssef, Jihan M Badr, |
| | Mansour Sulaiman, Alaa Khedr, Khalid A El Sayed |
| Affiliated Department(s): | Pharmacology |
| Author(s): | 2.641 |
| Correspondent's Email: | dyoussef@kau.edu.sa |

ABSTRACT

Three new dibrominated alkaloids, ceratinines F-H (2-4), together with the known compounds molokialamine (1), psammaplysin A (5), ceratinamide A (6), 19-hydroxyceratinamide A (7), psammaplysin E (8) and ceratinophenol A (9) were isolated from a new collection of the Red Sea marine sponge Pseudoceratina arabica. The structures of the isolated compounds were assigned by different spectral data including 1D and 2D NMR and HRMS. The compounds were evaluated for their antimigratory activity against the highly metastatic human breast cancer cell line MDA-MB-231 as well as for their antiproliferative activity against HeLa cells. Compound 8 showed potent antimigratory activity with IC50 value of 0.31 mu M, while 9 displayed moderate activity with IC50 of 10.4 mu M. In addition, compounds 4 and 8 showed potent antiproliferative activities against HeLa cells with IC50 values of 2.56 and 2.19 mu M, respectively.



| Research Title: | Bioactive Secondary Metabolites from the Red Sea |
|---------------------------|--|
| | Marine Verongid Sponge Suberea Species |
| | Marine Drugs |
| Source: | MDPI AG |
| | Vol. 13, Issue 4, Page: 1621-1631 |
| ISSN: | 1660-3397 |
| Month and Year of | MAD 2015 |
| Publication: | MAR 2015 |
| Impact Factor: | 3.512 |
| Affiliated Department(s): | Pharmacology |
| Author(s): | Lamiaa A Shaala, Diaa TA Youssef, Jihan M Badr, |
| | Mansour Sulaiman, Alaa Khedr |
| Correspondent's Email: | lshalla@kau.edu.sa, jibrahim@kau.edu.sa, |
| | misulaiman@kau.edu.sa, khedr1961@gmail.com |

ABSTRACT

In a continuation of our efforts to identify bioactive compounds from Red Sea Verongid sponges, the organic extract of the sponge Suberea species afforded seven compounds including two new dibrominated alkaloids, subereamollines C and D (1 and 2), together with the known compounds aerothionin (3), homoaerothionin (4), aeroplysinin-1 (5), aeroplysinin-2 (6) and a revised subereaphenol C (7) as ethyl 2-(2,4-dibromo-3,6dihydroxyphenyl)acetate. The structures of the isolated compounds were assigned by different spectral data including optical rotations, 1D (1H and 13C) and 2D (COSY, multiplicity-edited HSQC, and HMBC) NMR and high-resolution mass spectroscopy. Aerothionin (3) and subereaphenol C (7) displayed potent cytotoxic activity against HeLa cell line with IC50 values of 29 and 13.3 µM, respectively. In addition, aeroplysinin-2 (6) showed potent antimigratory activity against the human breast cancer cell line MDA-MB-231 with IC50 of 18 µM. Subereamollines C and D are new congeners of the previously reported compounds subereamollines A and B with methyl ester functionalities on the side chain. These findings provide further insight into the biosynthetic capabilities of members of the genus Suberea and the chemical diversity as well as the biological activity of these compounds.



| Research Title: | Chemosensitizing and nephroprotective effect of |
|----------------------------------|---|
| | resveratrol in cisplatin -treated animals |
| | Cancer Cell International |
| Source: | Biomed Central LTD |
| | Vol. 15, Issue 6, Page: 1-8 |
| ISSN: | 1475-2867 |
| Month and Year of | EED 2015 |
| Publication: | FEB 2013 |
| Impact Factor: | 1.989 |
| Affiliated Department(s): | Pharmacology; Anatomy |
| Author(s): | Osman AM, Telity SA, Damanhouri ZA, Al-Harthy SE, |
| | Al-Kreathy HM, Ramadan WS, Elshal MF, Khan LM, |
| | Kamel F |
| Correspondent's Email: | n/a |

ABSTRACT

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

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

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

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



| Research Title: | Comparative study of analgesic and anti-inflammatory |
|----------------------------------|--|
| | in rodents |
| | African Journal of Pharmacy and Pharmacology |
| Source: | Academic Journals |
| | Vol. 9, Issue 32, Page: 806-817 |
| ISSN: | 1996-0816 |
| Month and Year of | AUG 2015 |
| Publication: | AUG 2013 |
| Impact Factor: | n/a |
| Affiliated Department(s): | Pharmacology |
| Author(s): | Akram A Al-Salmi, Mai AAA Sattar, Lateef M Khan, |
| | Sameer E Al-Harthi |
| Correspondent's Email: | n/a |

ABSTRACT

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

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King Abdulaziz University, Faculty of Medicine Publications 2015

| 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 Science BV |
| | Vol. 23, Issue 5, Page: 515-522 |
| ISSN: | 2213-7475 |
| Month and Year of | OCT 2015 |
| Publication: | 001 2015 |
| Impact Factor: | 1.283 |
| Affiliated Department(s): | Pharmacology |
| Author(s): | Lateef M Khan, Sameer E Al-Harthi, Huda M Alkreathy, |
| | Abdel-Moneim M Osman, Ahmed S Ali |
| Correspondent's Email: | 1mkhan00@hotmail.com |

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 a high detection rate with a minimum cost; Their integration with hospital EMR database and routine patient safety surveillance enhances transparency, time-saving and facilitates ADR detection.



| Research Title: | Development Of Response Surface Methodology For |
|---------------------------|--|
| | Optimization Of Extraction Parameters And Quantitative |
| | Estimation Of Embelin From Embelia Ribes Burm By |
| | High Performance Liquid Chromatography |
| Source: | Pharmacognosy Magazine |
| | Medknow Publications & Media Pvt Ltd |
| | Vol. 11, Issue 42, Page: 166-182 |
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| Month and Year of | MAX 2015 |
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| Impact Factor: | 1.112 |
| Affiliated Department(s): | Pharmacology |
| Author(s): | MS Alam, ZA Damanhouri, A Ahmad, L Abidin, M |
| | Amir, M Aqil, SA Khan, M Mujeeb |
| Correspondent's Email: | aftab786sa@hotmail.com |

ABSTRACT

Background: Embelia ribes Burm is widely used medicinal plant for the treatment of different types of disorders in the Indian traditional systems of medicine.

Objective: The present work was aimed to optimize the extraction parameters of embelin from E. ribes fruits and also to quantify embelin content in different extracts of the plant.

Materials and Methods: Optimization of extraction parameters such as solvent: drug ratio, temperature and time were carried out by response surface methodology (RSM). Quantitative estimation of embelin in different extracts of E. ribes fruits was done through high performance liquid chromatography.

Results: The optimal conditions determined for extraction of embelin through RSM were; extraction time (27.50 min), extraction temperature 45 degrees C and solvent: drug ratio (8: 1). Under the optimized conditions, the embelin yield (32.71%) was equitable to the expected yield (31.07%, P > 0.05). These results showed that the developed model is satisfactory and suitable for the extraction process of embelin. The analysis of variance showed a high goodness of model fit and the accomplishment of the RSM method for improving embelin extraction from the fruits of E. ribes.

Conclusion: It is concluded that this may be a useful method for the extraction and quantitative estimation of embelin from the fruits of E. ribes.



| Research Title: | Dimethylsulfoxide excerbates cisplatin-induced cytotoxicity in Ehrlich ascites carcinoma cells |
|-----------------------------------|--|
| Source: | Cancer Cell International |
| | Vol. 15, Page: 104 |
| ISSN: | 1475-2867 |
| Month and Year of Publication: | OCT 2015 |
| Impact Factor: | 2.766 |
| Affiliated Department(s): | Pharmacology; Anatomy |
| Author(s): | Abdel-Moneim M Osman, Ali A Alqahtani, Zoheir A Damanhouri, Sameer E Al-Harthy, Mohamed F ElShal, Wafaa S Ramadan, Fatemah Kamel, Mohamed AM Osman, Lateef M Khan |
| Correspondent's Email: | moneimosman@hotmail.com |

ABSTRACT

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

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

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

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



| Research Title: | Effect of metformin and pioglitazone on beta-catenin and |
|----------------------------------|--|
| | biochemical markers in sitagliptin-induced pancreatitis in |
| | diabetic rats |
| Source: | International Journal of Diabetes in Developing Countries |
| | Springer India |
| | Vol. 35, issue 3, Page: 332-339 |
| ISSN: | 1998-3832 |
| Month and Year of | SEDT 2015 |
| Publication: | SEF 1 2015 |
| Impact Factor: | 0.343 |
| Affiliated Department(s): | Pharmacology; Anatomy |
| Author(s): | Hussam AS Murad, Hamid A Saleh, Gamal S Abdulaziz, |
| | May A Abdulsattar, Soad S Ali |
| Correspondent's Email: | muradha2000@yahoo.com |

ABSTRACT

This study was designed to investigate effect of metformin or pioglitazone on betacatenin and biochemical indicators in sitagliptin-induced pancreatitis. Type 2 diabetes mellitus was induced by high-fat diet/low-dose streptozotocin. Six groups (n = 8) were used: diabetic control group and five treated groups given, for 6 weeks by oral gavage, metformin (100 mg/kg/day), pioglitazone (20 mg/kg/day), sitagliptin (30 mg/kg/day), metformin + sitagliptin (MS), and pioglitazone + sitagliptin (PS). Body weight (BW) and biochemical parameters (fasting blood sugar (FBS), glycated hemoglobin (HbA1c), insulin, total cholesterol (TC), triglycerides (TG), malondialdehyde (MDA), and amylase) were measured. Pancreatic sections were examined using hematoxylin and eosin staining and immunohistochemical staining for beta-catenin protein. Only pioglitazone significantly increased BW. All treatments significantly decreased FBS, HbA1c, TC, TG, MDA, and amylase minimally with sitagliptin and maximally with combination therapies. Moreover, all treatments significantly increased insulin except pioglitazone which showed a nonsignificant decrease. Both metformin and pioglitazone ameliorated the diabetic-induced changes while sitagliptin-treated rats showed signs suggestive of pancreatitis. Sitagliptin failed to inhibit the inappropriately increased betacatenin expression predisposing for pancreatitis but helping regenerate streptozotocindamaged islets. Metformin and pioglitazone alone or combined with sitagliptin decreased the inappropriate beta-catenin expression. In conclusion, the decrease in beta-catenin seems to be involved in reversal of sitagliptin-associated pancreatitis by metformin or pioglitazone. The better regeneration of islets with metformin and pioglitazone, than sitagliptin, may be due to better effectiveness in controlling diabetes. Sitagliptin should be used in combination with metformin or pioglitazone. Further studies are needed to determine mechanisms underlying role of Wnt/beta-catenin in regeneration of islets and exocrine pancreas.



| Research Title: | Effects of different routes of nicotine administration on |
|----------------------------------|---|
| | gastric morphology and hormonal secretion in rats |
| | Experimental Physiology |
| Source: | Wiley-Blackwell |
| | Vol. 100, Issue 8, Page: 881-895 |
| ISSN: | 1469-445X |
| Month and Year of | AUC 2015 |
| Publication: | AUG 2015 |
| Impact Factor: | 2.871 |
| Affiliated Department(s): | Pharmacology; Anatomy |
| Author(s): | Ali SS, Hamed EA, Ayuob NN, Shaker Ali A, Suliman |
| | MI |
| Correspondent's Email: | nasraayuob@gmail.com |

ABSTRACT

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

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



| Research Title: | Modulatory role of resveratrol on cytotoxic activity of |
|----------------------------------|---|
| | |
| | cisplatin, sensitization and modification of cisplatin |
| | resistance in colorectal cancer cells |
| | Molecular Medicine Reports |
| Source: | Spandidos Publications |
| | Vol. 12, Issue 1, Page: 1368-1374 |
| ISSN: | 1791-3004 |
| Month and Year of | MAD 2015 |
| Publication: | MAR 2015 |
| Impact Factor: | 1.819 |
| Affiliated Department(s): | Pharmacology |
| Author(s): | Abdel-Moneim M Osman, Hamdan S Al-Malki, Sameer |
| | E Al-Harthi, Amr A El-Hanafy, Hassan M Elashmaoui, |
| | Mohamed F Elshal |
| Correspondent's Email: | moneimosman@hotmail.com |

ABSTRACT

Colorectal cancer (CRC) is a leading cause of cancer-associated mortality worldwide. Cisplatin (CIS) is one of the most active cytotoxic agents in current use and it has proven efficacy against various human malignancies. However, its clinical usefulness has been restricted by detrimental side effects, including nephrotoxicity and myelosuppression. The aim of the present study was to attempt to decrease the required dose of CIS, in order to minimize its side effects, and increase its capability to arrest, delay or reverse carcinogenesis. In addition, the present study aimed to ameliorate CIS-resistance in CRC cells. using the natural compound resveratrol (RSVL). RSVL (3.4'. 5-trihydroxy-trans-stilbene) is a naturally occurring polyphenol present in the roots of white hellebore (Veratrum grandiflorum O. Loes) and extracted from >70 other plant species. RSVL can exert antioxidant and anti-inflammatory activities, and it has been shown to be active in the regulation of numerous cellular events associated with carcinogenesis. The present study evaluated the effects of RSVL on sensitization of both parent and CIS-resistant HCT-116 CRC cells to the action of cisplatin. The CIS was administered at a dose of 5 and 20 µg/ml, and CIS cytotoxicity, apoptosis, cell cycle and cisplatin cellular uptake were examined in the presence and absence of RSVL (15 µg/ml). RSVL treatment showed anti-proliferative effects and enhanced the cytotoxic effects of cis against the growth of both parent and CIS-resistant HCT-116 CRC cells, with a half maximal inhibitory concentration of 4.20 µg/ml and 4.72 µg/ml respectively. RSVL also induced a significant increase in the early apoptosis fraction and enhanced the subsequent apoptotic effects of CIS. The cellular uptake of CIS was significantly increased in the presence of RSVL, as compared with CIS treatment alone, and RSVL treatment sensitized the CIS-resistant HCT-116 cells. In conclusion, RSVL treatment increased the cytotoxic activity of CIS against the growth of both parent and CIS-resistant HCT-116 CRC cells.



| Research Title: | Perceptions and knowledge regarding antimicrobial |
|---------------------------|--|
| | stewardship among clinicians in Jeddah, Saudi Arabia |
| | Saudi Medical Journal |
| Source: | Saudi Med J |
| | Vol. 36, Issue 7, Page: 813-820 |
| ISSN: | 0379-5284 |
| Month and Year of | HH 2015 |
| Publication: | JUL 2013 |
| Impact Factor: | 0.588 |
| Affiliated Department(s): | Pharmacology; Pediatrics |
| Author(s): | Sameer E Al-Harthi, Lateef M Khan, Abdel-Moneim M |
| | Osman, Mai A Alim, Omar I Saadah, Abdulrehman A |
| | Almohammadi, Faheem M Khan, Fatemah O Kamel |
| Correspondent's Email: | lateef.khan56@gmail.com |

ABSTRACT

Objectives: To understand the perceptions, attitude, and prescribing practices of clinicians regarding antimicrobial resistance (AMR).

Methods: A multidisciplinary cross-sectional study comprising 447 clinicians of university, public, and private hospitals of Jeddah, Saudi Arabia was carried out from August to October 2014 using a self-administered questionnaire.

Results: Interestingly, 33% of the general physicians yielded to patient/parent's demand for the choice of antimicrobials (AMs) as compared with only 13.2% of the residents, and 4.3% of the specialists. In addition, expensive AMs are more often prescribed by the general physician (70.4%) in comparison with 26.4% residents and 30.4% of the specialists. However, no significant differences were observed between the knowledge and perceptions regarding the current scope of AM agents, as well as their use and misuse. Furthermore, dependability of specialist and residents seems to be significantly higher than general physicians on pocketbooks and smartphone for AM education sources.

Conclusion: This study revealed that despite a clear concept of AMR, general physicians lacks consistency in prescribing aptitude and use of effective educational resources, while all respondents lacks dedication to follow the guidelines of AM use. This highlights the requirement of AM stewardship with decisive objective of reduction in AMR.



| Research Title: | Protective effects of Carissa opaca fruits against CCl4- induced evidence kidney linid perovidence and traume in |
|----------------------------------|---|
| | |
| | rat |
| | Food & Nutrition Research |
| Source: | Co-Action Publishing |
| | Vol. 59, Page: 1-11 |
| ISSN: | 1654-661X |
| Month and Year of | SEDT 2015 |
| Publication: | SEF 1 2015 |
| Impact Factor: | 2.162 |
| Affiliated Department(s): | Pharmacology |
| Author(s): | Sumaira Sahreen, Muhammad Rashid Khan, Rahmat Ali |
| | Khan, Huda Mohammad Alkreathy |
| Correspondent's Email: | moc.oohay@18_lugtamhaR |

ABSTRACT

Background: Carbon tetrachloride (CCl4) is a potent nephrotoxin, as it causes acute as well as chronic toxicity in kidneys. Therefore, this study was carried out to assess the pharmacological potential of different fractions of Carissa opaca fruits on CCl4-induced oxidative trauma in the kidney.

Methods: The parameters studied in this respect were the kidney function tests viz, serum profile, urine profile, genotoxicity, characteristic morphological findings, and antioxidant enzymatic level of kidneys.

Result: The protective effects of various fractions of C. opaca fruits against CCl4 administration were reviewed by rat renal function alterations. Chronic toxicity caused by 8-week treatment of CCl4 to the rats significantly decreased the pH level, activities of antioxidant enzymes, and glutathione contents, whereas a significant increase was found in the case of specific gravity, red blood cells, white blood cells, level of urea, and lipid peroxidation in comparison to control group. Administration of various fractions of C. opaca fruit with CCl4 showed protective ability against CCl4 intoxication by restoring the urine profile, activities of antioxidant enzymes, and lipid peroxidation in rat. CCl4 induction in rats also caused DNA fragmentation and glomerular atrophy by means of dilation, disappearance of Bowmen's space, congestion in the capillary loops, dilation in renal tubules, and foamy look of epithelial cells of tubular region, which were restored by co-admiration of various fractions of C. opaca.

Conclusion: Results revealed that the methanolic fractions of C. opaca are the most potent and helpful in kidney trauma.



| Research Title: | The possible antianginal effect of allopurinol in |
|-------------------------------|--|
| | vasopressin-induced ischemic model in rats |
| Source: | Saudi Pharmaceutical Journal |
| | Elsevier Science BV |
| | Vol. 23, Issue 5, Page: 487-498 |
| ISSN: | 2213-7475 |
| Month and Year of | OCT 2015 |
| Publication: | 0C1 2013 |
| Impact Factor: | 1.283 |
| Affiliated Department(s): | Pharmacology; Princess Al-Jawhara Albrahim Center of |
| | Excellence in Hereditary Disorders Research |
| Author(s): | Yahya A Al-Zahrani, Sameer E Al-Harthi, Lateef M |
| | Khan, Hani M El-Bassossy, Sherif M Edris, Mai A Alim |
| | A Sattar |
| Correspondent's Email: | salharthe@kau.edu.sa |

ABSTRACT

The anti-anginal effects of allopurinol were assessed in experimental model rats of angina and their effects were evaluated with amlodipine. In the vasopressin-induced angina model, oral administration of allopurinol in dose of 10 mg/kg revealed remarkably analogous effects in comparison with amlodipine such as dose-dependent suppression of vasopressin-triggered time, duration and severity of ST depression. In addition, allopurinol produced dose dependent suppression of plasma Malondialdehyde (MDA) level, systolic blood pressure, cardiac contractility and cardiac oxygen consumption; while in contrast, amlodipine minimally suppressed the elevation of plasma MDA level. Endothelial NO synthase (eNOS) expression, serum nitrate were strikingly increased, however lipid profile was significantly reduced. Seemingly, allopurinol was found to be more potent than amlodipine - a calcium channel antagonist. To conclude, it was explicitly observed and verified that on the ischemic electrocardiography (ECG) changes in angina pectoris model in rats, allopurinol exerts a significant protective effects, reminiscent of enhancement of vascular oxidative stress, function of endothelial cells, improved coronary blood flow in addition to the potential enhancement in myocardial stress. Moreover, our findings were in conformity with several human studies. (C) 2015 The Authors. Production and hosting by Elsevier B.V. on behalf of King Saud University.



| Research Title: | Thrombin Generating Capacity and Phenotypic |
|-------------------------------|--|
| | Association in ABO Blood Groups |
| | PLOS One |
| Source: | Public Library Science |
| | Vol. 10, Issue 10, Article no.: e0141491 |
| ISSN: | 1932-6203 |
| Month and Year of | OCT 2015 |
| Publication: | 0C1 2013 |
| Impact Factor: | 3.234 |
| Affiliated Department(s): | Pharmacology; Hematology |
| Author(s): | Romy MW Kremers, Abdulrahman BO Mohamed, |
| | Leonie Pelkmans, Salwa Hindawi, H Coenraad Hemker, |
| | H Bas de Laat, Dana Huskens, Raed Al Dieri |
| Correspondent's Email: | r.kremers@thrombin.com |

ABSTRACT

Individuals with blood group O have a higher bleeding risk than non-O blood groups. This could be explained by the lower levels of FVIII and von Willebrand Factor (VWF) levels in O individuals. We investigated the relationship between blood groups, thrombin generation (TG), prothrombin activation and thrombin inactivation. Plasma levels of VWF, FVIII, antithrombin, fibrinogen, prothrombin and alpha(2)Macroglobulin (alpha M-2) levels were determined. TG was measured in platelet rich (PRP) and platelet poor plasma (PPP) of 217 healthy donors and prothrombin conversion and thrombin inactivation were calculated. VWF and FVIII levels were lower (75% and 78%) and alpha M-2 levels were higher (125%) in the O group. TG is 10% lower in the O group in PPP and PRP. Less prothrombin was converted in the O group (86%) and the thrombin decay capacity was lower as well. In the O group, alpha M-2 plays a significantly larger role in the inhibition of thrombin (126%). In conclusion, TG is lower in the O group due to lower prothrombin conversion, and a larger contribution of alpha M-2 to thrombin inactivation. The former is unrelated to platelet function because it is similar in PRP and PPP, but can be explained by the lower levels of FVIII.



| | Tumor-suppressive p53 Signaling Empowers Metastatic |
|----------------------------------|---|
| Research Title: | Inhibitor KLF17-dependent Transcription to Overcome |
| | Tumorigenesis in Non-small Cell Lung Cancer |
| | Journal of Biological Chemistry |
| Source: | Amer Soc Biochemistry Molecular Biology Inc |
| | Vol. 290, Issue 35, Page: 21336 - 21351 |
| ISSN: | 1083-351X |
| Month and Year of | AUC 2015 |
| Publication: | AUG 2013 |
| Impact Factor: | 4.573 |
| Affiliated Department(s): | Pharmacology |
| | Amjad Ali, Muhammad Zeeshan Bhatti, Abdus Saboor |
| Author(s): | Shah, Hong-Quan Duong, Huda Mohammad Alkreathy, |
| | Shah Faisal Mohammad, Rahmat Ali, Ayaz Ahmad |
| Correspondent's Email: | amjad_486@yahoo.com, ahdayazb5@awkum.edu.pk |

ABSTRACT

Background: How Kruppel-like factor 17 (KLF17) controls metastasis and epithelialmesenchymal transition (EMT) during cancer progression remains unknown.

Results: Tumor-suppressive p53 signaling is critical for KLF17 to inhibit cancer metastasis in NSCLC. Conclusion: These results indicate novel insights into the anti-EMT effect of KLF17 via p53-dependent pathway. Significance: Targeting KLF17 for cancer therapy may be applicable to NSCLC tumors with TP53 status, which may improve the prognosis of NSCLC patients. Metastasis, which is controlled by concerted action of multiple genes, is a complex process and is an important cause of cancer death. Kruppel-like factor 17 (KLF17) is a negative regulator of metastasis and epithelial-mesenchymal transition (EMT) during cancer progression. However, the underlying molecular mechanism and biological relevance of KLF17 in cancer cells are poorly understood. Here, we show that tumor suppressor protein p53 plays an integral role to induce KLF17 expression in non-small cell lung cancer (NSCLC). p53 is recruited to the KLF17 promoter and results in the formation of p53-DNA complex. p53 enhances binding of p300 and favors histone acetylation on the KLF17 promoter. Mechanistically, p53 physically interacts with KLF17 and thereby enhances the anti-metastatic function of KLF17. p53 empowers KLF17-mediated EMT genes transcription via enhancing physical association of KLF17 with target gene promoters. Nutlin-3 recruits KLF17 to EMT target gene promoters and results in the formation of KLF17-DNA complex via a p53-dependent pathway. p53 depletion abrogates DNA binding affinity of KLF17 to EMT target gene promoters. KLF17 is critical for p53 cellular activities in NSCLC. Importantly, KLF17 enhances p53 transcription to generate a novel positive feedback loop. KLF17 depletion accelerates lung cancer cell growth in response to chemotherapy. Mechanistically, we found that KLF17 increases the expression of tumor suppressor genes p53, p21, and pRB. Functionally, KLF17 required p53 to suppress cancer cell invasion and migration in NSCLC. In conclusion, our study highlights a novel insight into the anti-EMT effect of KLF17 via a p53-dependent pathway in NSCLC, and KLF17 may be a new therapeutic target in NSCLC with p53 status.



| Research Title: | Weaving together peer assessment, audios and medical |
|----------------------------------|--|
| | vignettes in teaching medical terms |
| Source: | IJME |
| | Europe PubMed Central |
| | Vol. 2015, Issue 6, Page: 172-178 |
| ISSN: | 2042-6372 |
| Month and Year of | DEC 2015 |
| Publication: | |
| Impact Factor: | n/a |
| Affiliated Department(s): | Pharmacology |
| Author(s): | M Allibaih, LM Khan |
| Correspondent's Email: | n/a |

ABSTRACT

The current study aims at exploring the possibility of aligning peer assessment, audiovisuals, and medical case-report extracts (vignettes) in medical terminology teaching. In addition, the study wishes to highlight the effectiveness of audio materials and medical history vignettes in preventing medical students' comprehension, listening, writing, and pronunciation errors. The study also aims at reflecting the medical students' attitudes towards the teaching and learning process. The study involved 161 medical students who received an intensive medical terminology course through audio and medical history extracts. Peer assessment and formative assessment platforms were applied through fake quizzes in a pre- and post-test manner. An 18-item survey was distributed amongst students to investigate their attitudes and feedback towards the teaching and learning process. Quantitative and qualitative data were analysed using the SPSS software. The students did better in the posttests than on the pretests for both the quizzes of audios and medical vignettes showing a t-test of -12.09 and -13.60 respectively. Moreover, out of the 133 students, 120 students (90.22%) responded to the survey questions. The students gave positive attitudes towards the application of audios and vignettes in the teaching and learning of medical terminology and towards the learning process. The current study revealed that the teaching and learning of medical terminology have more room for the application of advanced technologies, effective assessment platforms, and active learning strategies in higher education. It also highlights that students are capable of carrying more responsibilities of assessment, feedback, and elearning.



Department of Physiology

Department of Physiology

<u>Head of Department</u> د. محمد عبده غالب المخلافي <u>Members</u>

عبدالرحمن فهمي أحمد سبع عودة مسعود عواد الحازمى جيهان إبراهيم محمد السلاموني حسام الدين أحمد عوض حنان أحمد عاطف القاضى زينب عبدالحفيظ محمد الرفاعى محمد صالح وهيب محمد محمود ابتسام عزيز صالح العوفي بدره سعيد على الغامدي بسمة محمد حسن عبد الحميد زواوى خلود سامي أبو الخير محمد حسين سوسن محمد رحيم على عذراء كيرماني عاطف موسى منير عبود احمد محمد ضيف الله السهلي شذى معتوق محمد يحيى الحرازي محمد الأمين فيصل إبراهيم زاهر أحمد محمد ضيف الله السهلى الاء حامد سعيد حبيب حسن حاتم حسن قاضي حسام رضا حبيب معمر ربى عبدالقدوس عبدالرقيب صوفى رشدي محمد عبدالرحمن الغامدي سلطان فهمي جميل السليماني صفا يوسف عمر المغربي عبير فهد مسعود المرزوقى محمد حسين محسن السقاق محمد معتوق قاسم كرامى هديل احمد خضر السفياني أريج محمد احمد عيد خالد محمد سعيد عبد القادر طيب بندر طلال محمد الغامدى سميره ابراهيم محمد النور فاتن محمد خميس الدباغ محمد عايض حامد السالمي محمد صالح عبدالله الغامدي محمد فايز شاهين الاحول



| | Cardiac autonomic dysfunction in young obese males is |
|---------------------------|--|
| Research Title: | not associated with disturbances in pituitary-thyroid axis |
| | hormones |
| | European Review For Medical And Pharmacological |
| S | Sciences |
| Source: | Verduci Publisher |
| | Vol. 19, Issue 9, Page: 1689-1695 |
| ISSN: | 1128-3602 |
| Month and Year of | MAX 2015 |
| Publication: | MAY 2015 |
| Impact Factor: | 1.213 |
| Affiliated Department(s): | Physiology |
| | BA Al-Trad, MAIE Faris, M Al-Smadi, A Bashir, M |
| | Mansi, M Alaraj, A Al-Hazimi, S Tabur, S Oztuzcu, E |
| | Oguz, H Korkmaz, S Eroglu, M Ozkaya, AT Demiryürek, |
| | A Aslaner, A Öngen, M KoŞar, T Çakır, B Mayir, U |
| | Doğan, U Gündüz, G Cantilav, M Habibi, Ş Özdemir, MT |
| | Oruç, N Bülbüller, IV Duzen, A Eraydin, G Currò, G |
| | Navarra, CC Xiao, A Ren, J Yang, SD Ye, XN Xing, SM |
| Autnor(s): | Li, C Chen, RP Chen, Z Yasar, M Buyuksirin, FD |
| | Ucsular, A Kargı, F Erdem, F Talay, OK Kurt, A De |
| | Giorgi, F Fabbian, M Pala, R Tiseo, C Parisi, E Misurati, |
| | R Manfredini, P Richette, RN Flipo, DK Patrikos, Y Lu, |
| | XQ Fei, SF Yang, BK Xu, YY Li, LL Quan, H Wang, Y |
| | Tian, X Mu, Y Zhang, K Tao, M Agilli, FN Aydin, T |
| | Cayci, YG Kurt, E Gajewska, M Sobieska, L Al-Dokhi |
| Correspondent's Email: | bahaa.tr@yu.edu.jo |

ABSTRACT

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

Patients And Methods: On the basis of body mass index (BMI), 40 participants were grouped into normal weight group (NW; BMI = 18.5-25 kg/m(2); n = 15), over weight group (OW; BMI = 25-29.9 kg/m(2); n = 12) and obese group (OB; BMI = 30 kg/m(2); n = 13). Electrocardiogram was recorded using PowerLab system and the time and frequency domain measures of heart rate variability (HRV) were calculated. Fasting blood samples were drawn for measurement of serum thyroid stimulating hormone (TSH), total thyroxin (TT4) and total triiodothyronine (TT3) concentrations.

Results: The levels of TSH, TT4 and TT3 were not significantly different between the groups. The frequency domain HRV parameter reflecting parasympathetic tone (high-frequency normalized units, HFnu) was significantly reduced in OB group. The parameters which reflect sympathetic activation (Heart rate, low-frequency normalized units; LFnu and the LF/HF ratio) were significantly increased in the OB group. HFnu was significantly and negatively correlated with BMI, waist hip ratio and body fat percentage, whereas LFnu and LF/HF ratio were significantly and positively correlated with the



above mentioned parameters. No significant relationships were noted between the HRV parameters and the levels of TSH or thyroid hormones.

Conclusions: Cardiac autonomic dysfunction in obese young adult males is not linked with underlying thyroid disturbance.



| Research Title: | Effect of vitamin D3 on thyroid function and de-iodinase |
|---------------------------|--|
| | 2 expression in diabetic rats |
| Source: | Archives of Physiology and Biochemistry |
| | Informa Healthcare |
| ISSN: | 1381-3455 |
| Month and Year of | NOV 2015 |
| Publication: | NOV 2013 |
| Impact Factor: | 1.763 |
| Affiliated Department(s): | Physiology |
| Author(s): | Zienab Alrefaie, Hossam Awad |
| Correspondent's Email: | z_elrefay@yahoo.com |

ABSTRACT

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

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

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

Conclusion: Diabetes mellitus inhibited peripheral conversion of T4 into T3 secondary to reduction in D2 expression. Vitamin D3 greatly corrected the alterations in thyroid profile and D2 expression.



| Research Title: | The Effect of Parity and Lactation on Bone Mineral |
|----------------------------------|---|
| | Density among Saudi Women, Jeddah |
| Source: | 3rd World Congress, on Controversies, Debates & |
| | Consensus, in Bone, Muscle & Joint Diseases |
| ISSN: | n/a |
| Month and Year of | ADD 2015 |
| Publication: | AFK 2015 |
| Impact Factor: | n/a |
| Affiliated Department(s): | Physiology; Clinical Biochemistry |
| Author(s): | Rajaa M Al-Raddadi, Hanan A Al Kadi, Fanar F Hakim, |
| | Mohammad SM Ardawi |
| Correspondent's Email: | n/a |

ABSTRACT

Background: Osteoporosis is a major public health problem in Saudi Arabia. Low bone mineral density (BMD) is a major predictor for osteoporosis and fractures. Parity and lactation are suggested as two risk factors for Low BMD. The aim of this study is to assess the relation between parity, lactation and bone mineral density among Saudi women

Methods: This cross sectional study was conducted at Centre of Excellence for Osteoporosis Research (CEOR), Jeddah City, Saudi Arabia on a sample of 321 women. Women who delivered within the past two years were excluded. A total of 283 women were included in the final analysis. Dual- Energy-X-Ray Absorptiometry (DEXA) was used for BMD measurements using Lunar DPX-IQ Machine. The measurements included: Lumbar spine , total hip and total wrist. The data collected was age, number of children, duration of lactation, height and weight for body mass index (BMI) calculation. Multiple logistic regression was used to identify the effect of parity and lactation on BMD.

Results: A sample of 283 women ranging in age from 23 to 58 years, mead (SD) 39.1(6.4). Number of pregnancies ranged from 0 to 12, with a median of 4 pregnancies and Inter Quartile Range (IQR) 2-5. Lactation was reported by 79.7% of those who have live births. Median duration of lactation was 20 months IQR 2-24. After adjustment for confounding variables, a decrease in wrist BMD was significantly associated with increase duration of lactation.

Conclusion: The results of the current study suggest that duration of lactation is one of the determinants of BMD at wrist joint



| Research Title: | Vitamin D-3 improves decline in cognitive function and |
|----------------------------------|--|
| | streptozotocin-induced diabetic rats |
| | Behavioural Brain Research |
| Source: | Elsevier Science BV |
| | Vol. 287, Page: 156-162 |
| ISSN: | 1872-7549 |
| Month and Year of | HH 2015 |
| Publication: | JUL 2015 |
| Impact Factor: | 3.391 |
| Affiliated Department(s): | Physiology; Anatomy |
| Author(s): | Zienab Alrefaie, Abdulmone'em Alhayani |
| Correspondent's Email: | z.elrefay@yahoo.com, zalrfae@kau.edu.sa (|

ABSTRACT

Complications of diabetes mellitus include cognitive impairments and functional changes in the brain. The present study aimed to investigate the possible beneficial effect of vitamin D-3 on episodic memory and cholinergic transmission in the prefrontal cortex of streptozotocin-induced diabetic rats.

Thirty male Wistar rats (150-200g) were included into control, diabetic and diabetic supplemented with vitamin D3 groups. Diabetes was induced by single intraperitoneal injection of streptozotocin 45 mg/kg in citrate buffer. Vitamin D-3 was administered orally in a dose of 500 IU/kg/day in corn oil for 10 weeks. Then rats were subjected to novel object recognition test to examine for episodic memory. Animals were sacrificed under diethyl ether anesthesia and prefrontal cortices were dissected to measure the activity of choline acetyl transferase (CAT) and acetyle choline esterase (ACE) enzymes to assess for cholinergic transmission.

Diabetic rats spent significantly less time exploring the novel object compared to control animals. Vitamin D-3 significantly attenuated the diabetes-induced impairment so that animals again spent significantly more time exploring the novel object. The CAT activity was significantly decreased in diabetic animals while the ACE activity was significantly increased compared to control non-diabetic animals. Diabetes-induced alterations in enzyme activity in the prefrontal cortex were mitigated by vitamin D-3 supplementation.

The present findings demonstrate the potential effect of vitamin D-3 supplementation on cognitive function in diabetic animals. It is possible that this effect is mediated through enhancing the prefrontal cortex cholinergic transmission.



Department of Radiology

Department of Radiology

<u>Head of Department</u> د. خالد غالب حمزة خاشقجي <u>Members</u>

محمد محمود محمد حسن رواس ياسر عبدالعزيز عبد الرحمن بهادر سارة كمال عاكف حاجى ماوية عبدالكريم محمد على خفاجي أحمد هيثم محمد عبدالجبار خالد غازى حسين الصافى خالد غالب حمزة خاشقجى راني غازي عبدالرحمن أحمد رزان كمال جلال داغستاني رولينا كمال حسن الوسية عمرو محمد حسن عبدالرزاق عجلان عبدالرؤوف عبدالله إبراهيم ميمنى ليلى خالد عبد القادر أشقر محمد عبدالرحيم محمد وزان محمد عبدالله أسحاق عطار نادية عبدالله عمر باطويل احمد طارق محمد الحارثي احمد هيثم محمد عبدالجبار اروی اسامه محمد سعید بادیب حاتم حسين علي العبسي حاتم زهير محمد المرزوقي حسام عبدالعزيز جميل حجازي خديجة فايز إبراهيم بدر رزان طلعت محمد حسن نور إلهى

روان محمود عثمان حافظ ريم خالد عايد عجيمي ريم ليث احمد ميمش صباح محمد جميل سجينى عبدالله مبارك عباس جاد كريم عبدالرحمن عبدالرؤوف ميمنى عبير احمد مصطفى البار عدنان عبدالهادي احمد طيب عمر فيصل إبراهيم اسكندراني علياء حسام الدين محمد غنيم علياء سعيد أحمد بن محفوظ غفران حسن على الهاشمي فادي عبد الله بكر تونسي لينا فتحي اسماعيل جوهرجي محمد رضا محمد خليل مشاعل مفرج محمد عيد الحربى نوف محيى الدين محمد ملبياري هبه مطلق عبدالرحمن المطيري هدى طارق محمد خزندار هدى مجدى حسن الطوخى وائل حمود على المغدوي وليد محمد حيدر صالح أسعد وليد محمد علي محمد عجب نور ياسر عبدالغني محمد القاسمي ياسر محمد نور صديق نور الهي



| Research Title: | A retrospective study of head and neck re-irradiation for |
|---------------------------|---|
| | patients with recurrent or second primary head and neck |
| | cancer: the McGill University experience |
| Source: | Journal of Otolaryngology-Head & Neck Surgery |
| | Biomed Central Ltd |
| | Vol. 44, Issue 31 |
| ISSN: | 1916-0216 |
| Month and Year of | SEDT 2015 |
| Publication: | SEF 1 2015 |
| Impact Factor: | 0.886 |
| Affiliated Department(s): | Radiology |
| Author(s): | Rolina Al-Wassia, Siavosh Vakilian, Crystal Holly, |
| | Khalil Sultanem, George Shenouda |
| Correspondent's Email: | ralwassia@kau.edu.sa |

ABSTRACT

Background: We report our experience with patients who received re-irradiation to the head and neck area for locoregional recurrences (LRR) or second primaries (SP) in a previously irradiated field.

Methods: We reviewed 27 consecutive patients with a diagnosis of LRR or SP head and neck carcinoma treated with a second course of radiotherapy between April 2004 and July 2012. The main outcome measures were local control, overall survival, and complications. The results are expressed as actuarial values using the Kaplan-Meier estimates.

Results: The median follow-up time was 24.7 months (range: 11 days-79.3 months). There were 23 males and four females with a median age of 61 years (range: 40-87 years). The actuarial overall survival rates at 1, 2, and 5 years were 77, 59, and 57 %, respectively. The actuarial local control rate was 80, 52, and 52 % at 1, 2, and 5 years, respectively. Three patients developed systemic metastases. The rate of grade 3 toxicity was 26 %, and that of grade 4 toxicity was 3 %. There were two treatment-related deaths (grade 5 toxicity).

Conclusions: Continuous course re-irradiation in patients with LRR or SP head and neck cancer is feasible with acceptable toxicity. With current encouraging rates of local control and overall survival, this option should be discussed with patients who have few alternative therapeutic options.



| Research Title: | CT Optimization for Diagnosis of Some Acute Abdomen |
|----------------------------------|---|
| | Cases |
| | Advances in Computed Tomography |
| Source: | Scientific Research Publishing Inc. |
| | Vol. 4, Issue 2, Page: 19-26 |
| ISSN: | 2169-2483 |
| Month and Year of | HIN 2015 |
| Publication: | JUN 2015 |
| Impact Factor: | 0.29 |
| Affiliated Department(s): | Radiology |
| | Saddig D Jastaniah, Alamin M Salih, Khalid Gh Alsafi, |
| Author(s): | Hamad Elniel H Eltyib, Sarah Hagi, Maway A Khafaji, |
| | Hanan Y Abbas, Mohammad Alshihri |
| Correspondent's Email: | n/a |

ABSTRACT

The acute abdomen is one of the most frequent causes for presentation to the emergency department. Imaging plays an important role for an accurate diagnosis, which in turn diminishes morbidity and mortality. The aim of this study was to demonstrate optimum CT aspects and emphasize on the important features of CT for those patients presenting with an acute abdominal pain at the Emergency Department both in general and in a number of selected conditions (appendicitis, small-bowel obstruction, acute pancreatitis, and diverticulitis). The reported data by this study are based on the author working experience, which forms a continuous protocol adjustment process. The present study provides evidence that CT would result in definite diagnosis of patients with abdominal pain in terms of the detection of some urgent conditions.



| Research Title: | Cultural challenges to implementation of formative assessment in Saudi Arabia: An exploratory study |
|----------------------------------|--|
| Source: | Medical Teacher |
| | Informa Healthcare |
| | Vol. 37, Issue 1, Page: 9-19 |
| ISSN: | 1466-187X |
| Month and Year of | A DD 2015 |
| Publication: | AFK 2015 |
| Impact Factor: | 1.679 |
| Affiliated Department(s): | Radiology; Medical Education |
| Author(s): | Rolina Al-Wassia, Omayma Hamed, Heidi Al-Wassia, |
| | Reem Alafari, Reda Jamjoom |
| Correspondent's Email: | n/a |

ABSTRACT

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

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

Results: The mean score of understanding FA concept was equal in faculty and students (p = 0.08). The general challenge that scored highest was the need to balance work and academic load in faculty and the need to balance study load and training and mental anxiety in students. There was no difference between faculty and students in perceiving ""learning is teacher-centered" (p = 0.481); and ""past learning and assessment experience" (p = 0.322). There was a significant difference between them regarding interaction with opposite gender (p50.001). Students showed higher value as regards the ""gap between learning theories and assessment practice", ""grade as a priority", and ""discrimination by same faculty gender".

Conclusion: The authors suggested a ""Framework of Innovation in Endorsing Assessment for Learning". It emphasizes a holisitic approach through all levels of the System: Government, Accreditation Bodies, Policy makers; Institution, and Classroom levels.



| Research Title: | De Novo intracerebral aneurysm in a child with acquired |
|----------------------------------|---|
| | immunodeficiency syndrome |
| Source: | Neurosciences (Riyadh, Saudi Arabia) |
| | Europe PubMed Central |
| | Vol. 20, Issue 3, Page: 285-291 |
| ISSN: | 1658-3183 |
| Month and Year of | JUL 2015 |
| Publication: | |
| Impact Factor: | 0.391 |
| Affiliated Department(s): | Radiology; Medicine; Surgery |
| Author(s): | Mohamad G Bakhaidar, Naushad A Ahamed, Mohammed |
| | A Almekhlafi, Saleh S Baeesa |
| Correspondent's Email: | sbaeesa@kau.edu.sa |

ABSTRACT

Human immunodeficiency virus (HIV) infection associated aneurysmal vasculopathy is a rare complication of HIV infection affecting the pediatric and adult population. We present a case of a 7-year-old male child known to have a congenitally acquired HIV infection presenting with a ruptured left distal internal carotid artery fusiform aneurysm that was diagnosed on MRI scans 6 months prior to his presentation. He underwent craniotomy and successful aneurysm reconstruction. He had uncomplicated postoperative course and experienced a good recovery. This case is among the few reported pediatric cases of HIV-associated cerebral arteriopathy to undergo surgery. We also reviewed the relevant literature of this rare condition.



| Research Title: | Estimation of effective dose during hystrosalpingography |
|---------------------------|--|
| | procedures in certain nospitais in Sudan |
| Source: | Applied Radiation and Isotopes |
| | Pergamon-Elsevier Science Ltd |
| | Vol. 100, Page 1-6 |
| ISSN: | 0969-8043 |
| Month and Year of | JUN 2015 |
| Publication: | |
| Impact Factor: | 1.231 |
| Affiliated Department(s): | Radiology |
| Author(s): | K Alzimami, A Sulieman, E Babikir, K Alsafi, M |
| | Alkhorayef, Hiba Omer |
| Correspondent's Email: | kalzimami@ksu.edu.sa |

ABSTRACT

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 and D), two private hospitals (B and C) and one University Hospital (E). The mean ESAK was 20.1 mGy, 28.9 mGy, 13.6 mGy, 17.5 mGy, 35.7 mGy for hospitals A, B, C, D, and E, respectively. The mean effective dose was 2.4 mSv, 3.5 mSv, 1.6 mSv, 2.1 mSv and 4.3 mSv in the same order. The study showed wide variations in the ESDs with three of the hospitals having values above the internationally reported values.



| Research Title: | Exome analysis identified a novel missense mutation in the CLPP gene in a consanguineous Saudi family |
|---------------------------|--|
| | expanding the clinical spectrum of Perrault Syndrome |
| | type-3 |
| Source: | Journal of The Neurological Sciences |
| | Elsevier Science BV |
| | Vol. 353, Issue 2, Page: 149-154 |
| ISSN: | 1878-5883 |
| Month and Year of | HIN 2015 |
| Publication: | JUN 2015 |
| Impact Factor: | 2.262 |
| Affiliated Department(s): | Radiology; Medical Genetics; Pediatrics; Princess Al- |
| | Jawhara Albrahim Center of Excellence in Hereditary |
| | Disorders Research |
| Author(s): | Saleem Ahmed, Musharraf Jelani, Nuha Alrayes, Hussein |
| | Sheikh Ali Mohamoud, Mona Mohammad Almramhi, |
| | Wasim Anshasi, Naushad Ali Basheer Ahmed, Jun Wang, |
| | Jamal Nasir, Jumana Yousuf Al-Aama |
| Correspondent's Email: | mjelani@kau.edu.sa |

ABSTRACT

Perrault syndrome (PRLTS) is a clinically and genetically heterogeneous disorder. Both male and female patients suffer from sensory neuronal hearing loss in early childhood, and female patients are characterized by premature ovarian failure and infertility after puberty. Clinical diagnosis may not be possible in early life, because key features of PRLTS, for example infertility and premature ovarian failure, do not appear before puberty. Limb spasticity, muscle weakness, and intellectual disability have also been observed in PRLTS patients. Mutations in five genes, HSD17B4, HARS2, CLPP, LARS2, and C10orf2, have been reported in five subtypes of PRLTS. We discovered a consanguineous Saudi family with the PRLTS3 phenotype showing an autosomal recessive mode of inheritance. The patients had developed profound hearing loss, brain atrophy, and lower limb spasticity in early childhood. For molecular diagnosis, we complimented genome-wide homozygosity mapping with whole exome sequencing analyses and identified a novel homozygous mutation in exon 6 of CLPP at chromosome 19p13.3. To our knowledge, early onset with regression is a unique feature of these PRLTS patients that has not been reported so far. This study broadens the clinical spectrum of PRLTS3.



| Research Title: | Gestational Choriocarcinoma Presenting with Lacrimal |
|----------------------------------|--|
| | Gland Metastasis: A First Reported Case |
| Source: | Case Reports in Obstetrics and Gynecology |
| | Hindawi Publishing Corporation |
| ISSN: | 2090-6692 |
| Month and Year of | MAY 2015 |
| Publication: | |
| Impact Factor: | n/a |
| Affiliated Department(s): | Radiology; Ob-gyne; ophthalmology; Surgery |
| Author(s): | Naushad AB Ahamed, Khalid Sait, Nisreen Anfnan, |
| | Khader Farwan, SHM Nizamuddin, Saleh S Baeesa |
| Correspondent's Email: | nashlib@gmail.com |

ABSTRACT

Perrault syndrome (PRLTS) is a clinically and genetically heterogeneous disorder. Both male and female patients suffer from sensory neuronal hearing loss in early childhood, and female patients are characterized by premature ovarian failure and infertility after puberty. Clinical diagnosis may not be possible in early life, because key features of PRLTS, for example infertility and premature ovarian failure, do not appear before puberty. Limb spasticity, muscle weakness, and intellectual disability have also been observed in PRLTS patients. Mutations in five genes, HSD17B4, HARS2, CLPP, LARS2, and C10orf2, have been reported in five subtypes of PRLTS. We discovered a consanguineous Saudi family with the PRLTS3 phenotype showing an autosomal recessive mode of inheritance. The patients had developed profound hearing loss, brain atrophy, and lower limb spasticity in early childhood. For molecular diagnosis, we complimented genome-wide homozygosity mapping with whole exome sequencing analyses and identified a novel homozygous mutation in exon 6 of CLPP at chromosome 19p13.3. To our knowledge, early onset with regression is a unique feature of these PRLTS patients that has not been reported so far. This study broadens the clinical spectrum of PRLTS3.



| Research Title: | Helical computed tomography scanning of the larynx and upper trachea in rabbits |
|-----------------------------------|--|
| Source: | Acta Veterinaria Scandinavica |
| | Biomed Central LTD |
| | Vol. 57, Page 57 |
| ISSN: | 0044-605X |
| Month and Year of Publication: | OCT 2015 |
| Impact Factor: | 1.377 |
| Affiliated Department(s): | Radiology; Otorhinolaryngology |
| Author(s): | Amr M Ajlan, Talal Al-Khatib, Mariam Al-Sheikah, Saddig Jastaniah, Alamin Salih, Abdulrahman Althubaiti, Abdulrahman Aljohani, Hani Marzouki, Ameen Alherabi, Osama Marglani, Samar Rabah, Gamal Karrouf |
| Correspondent's Email: | amrajlan@yahoo.com, talkhatib@gmail.com, mariamalsheikah@gmail.com, sjastaniah@kau.edu.sa, dr_amt@live.com, abdulrah556@hotmail.com, hanimarzouki@gmail.com, herabi@hotmail.com, marglani1@yahoo.com, sarmara@yahoo.com, drgamalkarrouf@yahoo.com |

ABSTRACT

Background: Computed tomography (CT) is used to evaluate the human tracheobronchial tree because of its unsurpassed ability to visualize the airway and surrounding structures. To establish an ideal animal model for studying subglottic stenosis, we assessed the size and morphology of the normal rabbit's laryngotracheal airway by helical CT. We measured luminal dimensions at the levels of the arytenoid and cricoid cartilages and the first, third, and eighth tracheal rings. At all levels, the axial slices were used to calculate the maximum anteroposterior (AP) dimension, transverse dimension, and cross-sectional areas. We measured the tracheal length from the cricoid to the third and eighth tracheal rings on sagittal reformation. We assessed the hyoid, thyroid, cricoid, arytenoid, and tracheal rings for the presence of calcific or soft tissue densities. We also addressed the presence or absence of pre-epiglottic and paraglottic fat.

Results: The mean AP tracheal dimension +/- standard deviation (SD) was 8.6 +/- 0.5 mm at the arytenoid level, 8.2 +/- 0.7 mm at the cricoid level, and 7.7 +/- 0.2 mm at the first tracheal ring level. The transverse tracheal dimension +/- SD was 5.3 +/- 0.1 mm at the arytenoid level, 5.5 +/- 0.5 mm at the cricoid level, and 6.1 +/- 0.6 mm at the first tracheal ring level. The mean tracheal area +/- SD was 35.7 +/- 2.2 mm(2) at the arytenoid level, 35.8 +/- 5.1 mm(2) at the cricoid level, and 39.2 +/- 4.3 mm(2) at the first tracheal ring level. The tracheal length +/- SD was 10.7 +/- 2.3 mm from the cricoid to the third tracheal ring and 19.1 +/- 1.14 mm to the eighth tracheal ring. There was complete calcification of the hyoid in all rabbits. Only two rabbits showed complete thyroid, arytenoid, or tracheal ring calcification. The remaining airway components were otherwise either uncalcified or partially calcified. The uvula, epiglottis, aryepiglottic fold, vallecula, piriform sinus, true/false vocal cords, and pre-epiglottic/paraglottic fat were not seen in any rabbit.

Conclusions: Helical CT investigation provides good, highly definitive anatomic details of the larynx and trachea in rabbits. Such results may be used in further evaluation of the normal airway and in cases of subglottic stenosis.


| Research Title: | Impact of High-Fidelity Transvaginal Ultrasound |
|----------------------------------|--|
| | Simulation for Radiology on Residents' Performance and |
| | Satisfacation |
| | Academic Radiology |
| Source: | Elsevier Science Inc |
| | Vol. 22, Issue 2, Page: 234-239 |
| ISSN: | 1076-6332 |
| Month and Year of | EED 2015 |
| Publication: | TEB 2013 |
| Impact Factor: | 2.077 |
| Affiliated Department(s): | Radiology; Medical Education |
| Author(s): | Rani Ahmad, Ghufran Alhashmi, Amr Ajlan, Bassem |
| | Eldeek |
| Correspondent's Email: | n/a |

ABSTRACT

Rationale and Objectives: Because of the intimate and uncomfortable nature of transvaginal ultrasound, training residents to perform this type of examination is a difficult task. As a consequence, residents may receive inadequate training that leads to a lack of the skills and confidence needed to perform this examination. The aim of the study was to assess the effectiveness of using simulation sessions to teach residents how to perform transvaginal ultrasound, enabling them to diagnose obstetric and gynecologic emergencies and helping them survive on-calls alone while keeping their patients safe.

Materials and Methods: We used an experimental study design to compare the confidence levels of 20 senior residents who received clinical training only to those of 25 junior residents who were enrolled in a simulation-based teaching session. We also compared the junior residents' levels of performance and confidence using transvaginal ultrasound before and after the sessions.

Results: The performance of transvaginal ultrasound by the junior residents and their confidence levels significantly improved after they attended the simulation sessions. They had higher levels of confidence than the senior residents who did not attend the session. It was also observed that the number of nondiagnostic transvaginal ultrasounds performed by the on-call resident that needed to be repeated the next day had significantly dropped.

Conclusions: Simulation-based teaching sessions are an effective method of education, which improve trainees' skills and confidence levels and improve patient safety.



| Research Title: | MIBI SPECT Scan and Ultrasonography in Preoperative |
|----------------------------------|---|
| | Imaging of Primary Hyperparathyroidism |
| | OMICS Journal of Radiology |
| Source: | OMICS Publishing Group |
| | Vol. 4, Issue 3, Page: 1-5 |
| ISSN: | 2167-7964 |
| Month and Year of | JUN 2015 |
| Publication: | |
| Impact Factor: | 0.54 |
| Affiliated Department(s): | Radiology |
| Author(s): | NA Batawil |
| Correspondent's Email: | n/a |

ABSTRACT

Objectives: In patients who have parathyroid adenoma, combination of ultrasonography and technetium Tc 99m sestamethoxyisobutylisonitrile scan (also called sestamibi or MIBI scan), which allows anatomic and functional information about parathyroid adenomas, is used commonly to maximize operative cure. The sensitivity of MIBI scan may be increased by adding single photon emission computed tomography (SPECT) and computed tomography (CT) as a combined MIBI-SPECT CT scan. We assessed the accuracy of ultrasonography and parathyroid MIBISPECT scan in detecting parathyroid adenoma and evaluated the potential benefit of the combined protocol of ultrasonography and MIBI-SPECT parathyroid scan.

Methods: In 58 patients who had biochemical evidence of primary hyperparathyroidism, we retrospectively reviewed the preoperative ultrasonography and MIBI-SPECT scans. The results of these studies were correlated with surgical findings.

Results: In the 58 patients, surgery showed that 43 patients (74%) had solitary parathyroid adenoma. The sensitivity, specificity and accuracy of MIBI-SPECT for parathyroid adenoma was (72%,80%,74%) and for ultrasonography (53%,60%,55%) respectively. The highest sensitivity is noted with the combination of MIBI-SPECT and ultrasonography (79%), . 9 adenomas (21%) were missed by both modalities. In the 20 adenomas that were missed by ultrasound 11 were detected by MIBI SPECT.

Conclusion: The MIBI-SPECT had better performance than ultrasonography for parathyroid adenoma localization. The combined MIBI SPECT and ultrasonography has the highest sensitivity for parathyroid adenoma detection (79%). An alternative strategy may be to use MIBI-SPECT initially, and to proceed to ultrasonography only in patients with negative MIBI-SPECT. This may avoid many ultrasonography procedures.



| | MRI characteristics of cerebellar tubers and their |
|----------------------------------|--|
| Research Title: | longitudinal changes in children with tuberous sclerosis |
| | complex |
| | Childs Nervous System |
| Source: | Springer |
| | Vol. 31, Issue 1, Page: 109-113 |
| ISSN: | 1433-0350 |
| Month and Year of | IAN 2015 |
| Publication: | JAN 2013 |
| Impact Factor: | 1.163 |
| Affiliated Department(s): | Radiology |
| Author(s): | Razan Daghistani, James Rutka, Elysa Widjaja |
| Correspondent's Email: | n/a |

ABSTRACT

Cerebellar tubers have been recognized as a feature of tuberous sclerosis complex (TSC), but the evolution of cerebellar tubers with brain maturation remains unclear. The aim of this study was to assess the evolution of MRI characteristics of cerebellar tubers in children with TSC longitudinally.

The MRI features of cerebellar tubers including number, location, shape, enhancement, presence of hemorrhage, calcifications, retraction, and the longitudinal changes of these features were assessed in children with TSC.

Cerebellar tubers were seen in 69/193 (35.8 %) cases. Cerebellar tubers were wedge shaped, nodular, or demonstrated folia distortion; 33/101 (32.7 %) cerebellar tubers showed enhancement, 29/101 (28.7 %) showed calcification, and 75/101 (74.3 %) had retraction abnormality. No lesion showed hemorrhage. One hundred fifty-two of our patients had more than one MRI examinations and were followed for a mean of 5.3 years from the time of their first MRI till their last study. Of those with follow-up MRI, 53 patients had cerebellar tubers; 15/53 (28.3 %) patients and 20/101 (19.8 %) of the cerebellar tubers demonstrated an increase in size, enhancement, or calcification longitudinally. The majority of the increase in size, enhancement, or calcification occurred in the first 8 years of life. None of the cerebellar tubers showed a reduction in size or enhancement. There was no new cerebellar tuber.

We have found an increase in size, enhancement, and calcification of cerebellar tubers which occurred mainly in the first 8 years of life. Further study that correlates the genetics and clinical manifestation with more advanced imaging of the cerebellar tubers may help us understand the underlying neurobiology of the changes in cerebellar tubers.



| Research Title: | Neopterin: An immune biomarker of coronary artery |
|----------------------------------|--|
| | disease and its association with other CAD markers |
| Source: | IUBMB Life |
| | Wiley-Blackwell |
| | Vol. 67, Issue 6, Page: 453-459 |
| ISSN: | 1521-6551 |
| Month and Year of | IUN 2015 |
| Publication: | JUN 2013 |
| Impact Factor: | 2.755 |
| Affiliated Department(s): | Radiology; Medicine |
| Author(s): | Chelapram Kandy Firoz, Nasimudeen R Jabir, |
| | Mohammad A Kamal, Mohammed Nabil Alama, Ghazi A |
| | Damanhouri, Waseem Khan, Anas S Alzahrani, Hussein |
| | A Almehdar, Shams Tabrez |
| Correspondent's Email: | shamstabrez1@gmail.com |

ABSTRACT

Neopterin has been considered as an important marker of cellular inflammation. The primary objective of the current study was to determine the role of neopterin in cardiovascular disease and its association with other well known cardiac markers. The study was composed of total 200 subjects (100 confirmed coronary artery disease (CAD) patients, 50 recently diagnosed, and 50 managed CAD patients) both men and women and 100 healthy control individuals of matching age and weight. Serum neopterin analysis was done using commercial available ELISA kits. Other cardiac markers viz. troponin, creatine kinase (CK), CK MB isoenzyme (CKMB), lactate dehydrogenase (LDH), fibrinogen, C-reactive protein (CRP), alanine aminotransferase (ALT), and aspartate aminotransferase (AST) estimation was done by standard routine biochemical methods. Neopterin level was found to be remarkably enhanced by 150% and 513% in the recently diagnosed and managed CAD patients, respectively. CK level also showed a significant rise by 62% in the managed patients. However, recently diagnosed patients did not show any significant change. Moreover, cross correlation study showed statistically significant (P<0.01) change in neopterin and CK levels between recently and managed patients. In the other studied CAD markers such as CKMB, fibrinogen and LDH also showed a significant increase in both categories of patients. CRP level was also found to be significantly enhanced by 357% (P<0.01) and 341% (P<0.05) in recently diagnosed and managed patients respectively. Because of cost effectiveness, easy and quick analysis of neopterin in the serum sample, we propose neopterin as the prognostic as well as diagnostic biomarker of CAD before other markers could be tested especially in Saudi population.



| Research Title: | Religious Involvement and Health in Dialysis Patients in |
|----------------------------------|--|
| | Saudi Arabia |
| | Journal of Religion & Health |
| Source: | Springer |
| | Vol. 54, Issue 2, Page: 713-730 |
| ISSN: | 1573-6571 |
| Month and Year of | ADD 2015 |
| Publication: | AFK 2015 |
| Impact Factor: | 0.945 |
| Affiliated Department(s): | Radiology; Medicine |
| 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 |
| Correspondent's Email: | n/a |

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: | The reproducibility of coronary artery calcium scoring on |
|----------------------------------|---|
| | different software platforms |
| | International Journal of Cardiology |
| Source: | Elsevier |
| | Vol. 187, Page: 55-156 |
| ISSN: | 0167-5273 |
| Month and Year of | MAN 2015 |
| Publication: | MAT 2013 |
| Impact Factor: | 5.101 |
| Affiliated Department(s): | Radiology |
| | Muhammad Ajlan, Amjad Ahmed, Abdullah M Alskaini, |
| Author(s): | Norah F Abukhaled, Ahmed Alsaileek, Amr Ajlan, Ihab F |
| | Sulaiman, Mouaz H Al-Mallah |
| Correspondent's Email: | n/a |

ABSTRACT

Coronary Artery Calcium Score (CACS) is commonly used to riskstratify asymptomatic patients with intermediate risk for coronary artery disease (CAD) and in patients in whom treatment decisions are still uncertain. Coronary artery calcium is usually assessed via a non-contrast electrocardiographic (ECG) gated study and quantified using a score developed by Agatston et al. The score is based on the volume and density of calcium deposits and the X-ray attenuation coefficient. The CACS has been shown in many studies to predict outcomes. However, there is scarce data documenting the reproducibility of CACS using different software platforms. Thus, the aim of this analysis is to evaluate the reproducibility of CACS using two different commercial softwares.



| Research Title: | The Role of Radioactive Iodine in Thyrotoxicosis Patients |
|----------------------------------|---|
| | British Journal of Applied Science & Technology |
| Source: | Science Domain International |
| | Vol. 10, Issue 1, Page: 1-7 |
| ISSN: | 2231-0843 |
| Month and Year of | HIN 2015 |
| Publication: | JUN 2013 |
| Impact Factor: | n/a |
| Affiliated Department(s): | Radiology |
| Author(s): | BZ Shakhreet, MQ Alzawad, NA Batawil, SD Jastaniah, |
| | KG Alsafi, HY Abbas, SK Hagi, MA Khafaji |
| Correspondent's Email: | n/a |

ABSTRACT

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

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

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

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

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

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



| Research Title: | Using patients' charts to assess medical trainees in the |
|---------------------------|--|
| | workplace: A systematic review |
| | Medical Teacher |
| Source: | Taylor & Francis LTD |
| | Vol. 37, Supplement 1, Page: 82-87 |
| ISSN: | 1466-187X |
| Month and Year of | ADD 2015 |
| Publication: | APK 2015 |
| Impact Factor: | 1.679 |
| Affiliated Department(s): | Radiology; Pediatrics |
| Author(s): | Heidi Al-Wassia, Rolina Al-Wassia, Shadi Shihata, Yoon |
| | Soo Park, Ara Tekian |
| Correspondent's Email: | halwassia@kau.edu.sa |

ABSTRACT

Objectives: The objective of this review is to summarize and critically appraise existing evidence on the use of chart stimulated recall (CSR) and case-based discussion (CBD) as an assessment tool for medical trainees.

Methods: Medline, Embase, CINAHL, PsycINFO, Educational Resources Information Centre (ERIC), Web of Science, and the Cochrane Central Register of Controlled Trials were searched for original articles on the use of CSR or CBD as an assessment method for trainees in all medical specialties.

Results: Four qualitative and three observational non-comparative studies were eligible for this review. The number of patient-chart encounters needed to achieve sufficient reliability varied across studies. None of the included studies evaluated the content validity of the tool. Both trainees and assessors expressed high level of satisfaction with the tool; however, inadequate training, different interpretation of the scoring scales and skills needed to give feedback were addressed as limitations for conducting the assessment.

Conclusion: There is still no compelling evidence for the use of patient's chart to evaluate medical trainees in the workplace. A body of evidence that is valid, reliable, and documents the educational effect in support of the use of patients' charts to assess medical trainees is needed.



| Research Title: | Uterine perforation and its dosimetric implications in |
|----------------------------------|--|
| | cervical cancer high-dose-rate brachytherapy |
| Source: | Journal of Contemporary Brachytherapy |
| | Termedia Publishing House LTD |
| | Vol. 7, Issue 1, page: 41-47 |
| ISSN: | 1689-832X |
| Month and Year of | LAN 2015 |
| Publication: | JAN 2013 |
| Impact Factor: | 1.284 |
| Affiliated Department(s): | Radiology |
| Author(s): | Bahadur YA, Eltaher MM, Hassouna AH, Attar MA, |
| | Constantinescu C |
| Correspondent's Email: | n/a |

ABSTRACT

Purpose: To retrospectively assess the incidence of sub-serosal and uterine perforation of intra-uterine tandem in intracavitary high-dose-rate (HDR) brachytherapy for cervical cancer, and to evaluate its dosimetric implications on computed tomography (CT)-based treatment planning.

Material and methods: Computed tomography images and brachytherapy plans of cervical cancer patients treated from February 2006 to December 2012 were reviewed for sub-optimal implants (sub-serosal and uterine perforation), and their correlation with cancer FIGO stage and patients' age. For each patient, the plans showing sub-optimal insertion of intra-uterine tandem were analyzed and compared to plans with adequate insertion. The difference in dose coverage of clinical-target-volume (CTV) and variation of the dose delivered to organs-at-risk (OARs) rectum and bladder were evaluated.

Results: A total of 231 brachytherapy plans for 82 patients were reviewed. We identified 12 (14.6%) patients and 14 (6%) applications with uterine perforation, and 12 (14.6%) patients and 20 (8.6%) applications with sub-serosal insertion of tandem. Data analysis showed that advanced stage correlates with higher incidence of sub-optimal implants (p = 0.005) but not the age (p = 0.18). Dose-volume-histograms (DVHs) analysis showed large variations for CTV dose coverage: D90 significantly decreased with average of $-115.7\% \pm 134.9\%$ for uterine perforation and $-65.2\% \pm 82.8\%$ for sub-serosal insertion (p = 0.025). The rectum and bladder dose assessed by D2cc increased up to 70.3% and 43.8%, respectively, when sub-optimal insertion of uterine tandem occurred.

Conclusions: We report a low incidence of uterine perforation and sub-serosal insertion of uterine tandem in intracavitary HDR brachytherapy for cervical cancer. However, the effects on treatment plan dosimetry can be considerably detrimental. Therefore, we recommend image-guided insertion, at least for the challenging cases.



| Research Title: | Utilization of Milk as an Oral Contrast Agent in CT Scan |
|----------------------------------|--|
| | of the Abdomen |
| | Advances in Computed Tomography |
| Source: | Scientific Research Publishing Inc. |
| | Vol. 3, Issue 3, Page: 33-41 |
| ISSN: | 2169-2483 |
| Month and Year of | SEDT 2015 |
| Publication: | SEP 1 2015 |
| Impact Factor: | 0.29 |
| Affiliated Department(s): | Radiology |
| Author(s): | Asma Badawood, Nisreen Alsioufi, Samar Fathuddin, |
| | Nabeel Mishah, Saddiq Jastaniah |
| Correspondent's Email: | n/a |

ABSTRACT

The present study aimed to evaluate using the whole milk as alternative oral contrast for the as-sessment of gastrointestinal CT enterography. Fifty patients undergo (18 female and 32 male) aged from 21 to 79 years (mean 45 years) undergo abdominal CT at the department of diagnostic radiology of King Abdulaziz University Hospital. They receive 1 - 1.5 liter whole milk. Siemens SOMATOM definition CT Scan Machine with 64 slices and dual source was utilized to image all pa-tients in research population group where iodinated oral contrast media was replaced by a whole milk available in the local market. Patients were scanned as per the routine protocol used for CT Abdomen at KAUH-CT Unit: Helical Mode with 0.7 Pitch was performed on all paints in supine po-sition using a 16-detector row scanner (Bright Speed S, General Electric-Milwaukee Wisconsin, USA). The following parameters were applied: collimation of 16×0.625 (1.25 - 3.75) mm, pitch of 3, Slice thickness: 5 mm, gantry rotation time of 400 mAs, tube voltage of 120 KV and scan time 11.05 second. The images of all cases were reviewed by two qualified radiologists. Conclusion: The present study suggested that whole milk was found to be an effective alternative negative contrast for the assessment of the jejunum, ileum and terminal ileum in CT enterography. It was excellent for gastric imaging and we recommended replacing milk as negative oral contrast since it is available and cost effective. Further research to be conducted with modified milk drinking timing for better large bowel distention.



Department of Surgery

Department of Surgery

<u>Head of Department</u> د. عثمان أسامة محمد الراضي Members

أحمد محمد عارف محمد كنسارة أسامة محمد محمد صالح ريس جمال صديق أحمد دليل الرحمن كمال حسن على أحمد الزهراني خالد إبراهيم عبد الرحمن آل إبراهيم زهور خضر ناصر الغيثى الشريف صالح سالم عوض باعيسى صباح صالح محمود مشرف عبدالرحمن محمد سعيد صبياني عدنان عبد المعطى سليمان مرداد فيصل محمد حسين صالح المشاط محمد أحمد حمدان الأحمدي الحربي محمد عابد محمد عمر باخطمة ياسر صالح محمد جمال اسكندر سليمان سالم القثمى حسين حمزة حسين جباد صالح محمد اسعد الدقل عادل علي عباس الجوهري عبدالملك محمد صالح سعيد ألطف عثمان أسامة محمد الراضى محمد حسن عبدالله بنقش منصر صالح سعيد العمودى فاطمة خنيفس عوض الله الثبيتي احمد محمد فخري مكي اشرف عبدالرحمن محمود مغربى باسم عبدالله يحى أوان بسام محمد جميل عداس حاتم على حسن العبادي رضا عبدالله محمد جميل جمجوم عبد الإله محمد رابع محمد ثانى الهوساوى ماجد محمود محمد صدقة منصوري مازن عمر محمد كردى محمد مصطفى غريب بدرى مراد مصطفى عبد الرحمن الجفرى

نادية حسين حمزة بندقجى هناء محمد نعيم عبدالشكور طاشكندي وائل عبدالحفيظ يوسف طاشكندى يحى عبدالله أحمد المرحبي إبراهيم أحمد إبراهيم ابوشوشه ابرار يوسف أحمد نواوي احمد طلال على مختار احمد محمد انس محمد خان قاضى مخدوم احمد محمد عبده الصائغ اخلاص سمير عقيل برديسي اسامة طلعت حسين خوج اسامة عبدالله قارى سمرقندى امانى محمد جمعان الحداد امجد محمد صدقه بخاري انس حسن على حسن الزهراني الاء بدر أحمد حبيب الله حازم محمود شاهين الاحول حسان عبدالله محمد التركى دانه جمال عبدالرحمن عسلى راكان فاروق يحيى بخاري زاهر طلال صديق فاضل سامى سليمان حسين جديبا سلطان أسامه رامز خجا سهی عبده محمود آل عمر عبد العزيز ممدوح بديع سليم عبد الله إبراهيم سعيد رده عبدالله محمد رفيق إبراهيم جان عبدالله عبدالله هشام عبدالله باغفار عبير محمد يحيى باعامر عروب عادل حسن الكعكى عصام محمود إسماعيل كتبي عمرو وائل احمد خياط علاء محمد فؤاد محمد موصلى على حسن محمد على فارسى

على عبد الله على سمكري على عبد الله على سمكري مودة جمال محمد الرجراجي مودة جمال محمد الرجراجي علياء طارق محسن البغدادي علياء طارق محسن البغدادي غادة نبيل علي عناني غادة نبيل على عناني لجين مصطفى احمد فضل لجين مصطفى احمد فضل لؤي سمير علي جمال لؤي سمير علي جمال لؤي زهير محمد حامد المرزوقي لؤي زهير محمد حامد المرزوقي محمد أحمد علي غنيم محمد أحمد علي غنيم محمد أسامة إبراهيم ناصف محمد أسامة إبراهيم ناصف محمد حسين عبدالله باسندوه محمد حسين عبدالله باسندوه محمد حماد مرزوق الحارثي محمد حماد مرزوق الحارثي محمد سعيد محمد باسمح محمد سعيد محمد باسمح محمد عبدالفتاح سليمان مشاط محمد عبدالفتاح سليمان مشاط محمد عبدالعزيز محمد اليوسف مها محمد محمد الخزيم محمد غالب محمد باخيضر ناصر محمد أحمد بستنجى محمد نايف حمزة سحلى نديم حسين محمد مليباري محمود حاسن محمد الغامدى نورا حاتم محمد طرابلسى مرام طه عمر الخطيب نوف عبدالله قزعان العتيبي معاذ محمد عقيل سقاف نوف يحيى عبدالله عقيل معاذ وليد حسين أبو الفرج هتان عبدالحافظ حمزة الجعلى معيضه على فتنان القرنى هتان عبدالله صالح الغامدي

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| Research Title: | A Proposed Resident's Operative Case Tracking and |
|----------------------------------|---|
| | Evaluation System (ROCTES) |
| | World Neurosurgery |
| Source: | Elsevier Inc |
| | Page: 1-38 |
| ISSN: | 1878-8750 |
| Month and Year of | OCT 2015 |
| Publication: | 001 2015 |
| Impact Factor: | 2.878 |
| Affiliated Department(s): | Surgery |
| Author(s): | Deema N Sehli, Ignatius N Esene, Saleh S Baeesa |
| Correspondent's Email: | sbaeesa@kau.edu.sa |

ABSTRACT

Objectives: Neurosurgery program trainers are continuously searching for new methods to evaluate trainees' competency besides number of cases and training duration. Recently, efforts are made on the development of reliable methods to teach competency as well as valid methods to measure teaching efficacy. Herein we propose the ""Resident's Operative Case Tracking and Evaluation System"" (ROCTES) for the assessment and monitoring of the resident's performance quality during each procedure.

Methods: We developed a data based website and smart phones application for neurosurgical attending physicians, residents and resident review committee in our accredited neurosurgical institutions. ROCTES runs through five steps: Login (Resident), Case Entry, Login (Attending Physician), Case Approval & Evaluation and Report. The Resident enters each case record under ""Case Entry" field and can ""save"", ""edit"" or ""submit"" the case data to his Attending Physician. The later from his login profile will be able to ""approve and evaluate"" the resident's ""knowledge"", ""skills"" and ""attitude"" ranking from 1 to 15 for that particular case; add his comments and then either ""save"", ""edit the data"" or ""submit"" the data which can be viewed by users as a ""report"". Program Directors can also ""login""to monitor the resident's progress.

Results: The implementation of this communication tool should enable the filtering and retrieval of information needed for the better assessment and monitoring of residents' exposure to variety of cases in each training center.

Conclusions: This proposed evaluation system will provide a transparent assessment for residency training programs and should convert trainees into competent neurosurgeons.



| Research Title: | A Randomized, Controlled Clinical Trial of Honey- |
|-------------------------------|---|
| | Impregnated Dressing for Treating Diabetic Foot Ulcer |
| | Jcpsp-Journal of the College of Physicians and Surgeons |
| Sources | Pakistan |
| Source. | Coll Physicians & Surgeons Pakistan |
| | Vol. 25, Issue 10, Page: 721-725 |
| ISSN: | 1681-7168 |
| Month and Year of | OCT 2015 |
| Publication: | 0C1 2013 |
| Impact Factor: | 0.318 |
| Affiliated Department(s): | Surgery; Cilical Biochemistry; Microbiology and Medical |
| | Parasitology |
| Author(s): | Muhammad Imran, Muhammad Barkaat Hussain, |
| | Mukhtiar Baig |
| Correspondent's Email: | surgeonimran@gmail.coin |

ABSTRACT

Objective: To investigate the effect of Ben-honey-impregnated dressing on diabetic foot ulcer and compare it with normal saline dressing.

Study Design: A randomized, controlled trial.

Place and Duration of Study: Sughra Shafi Medical Complex, Narowal, Pakistan and Bhatti International Trust (BIT) Hospital, Affiliated with Central Park Medical College, Lahore, from February 2006 to February 2010.

Methodology: Patients with Wagner's grade 1 and 2 ulcers were enrolled. Those patients were divided in two groups; group A (n=179) treated with honey dressing and group B (n=169) treated with normal saline dressing. Outcome measures were calculated in terms of proportion of wounds completely healed (primary outcome), wound healing time, and deterioration of wounds. Patients were followed-up for a maximum of 120 days.

Results: One hundred and thirty six wounds (75.97%) out of 179 were completely healed with honey dressing and 97 (57.39%) out of 169 with saline dressing (p=0.001). The median wound healing time was 18.00 (6 - 120) days (Median with IQR) in group A and 29.00 (7 - 120) days (Median with IQR) in group B (p <0.001).

Conclusion: The present results showed that honey is an effective dressing agent instead of conventional dressings, in treating patients of diabetic foot ulcer.



| Research Title: | A Synopsis of Nano-Technological Approaches Toward |
|----------------------------------|--|
| | Anti-Epilepsy Therapy: Present and Future Research |
| | Implications |
| | Current Drug Metabolism |
| Source: | Bentham Science Publ LTD |
| | Vol. 16. Issue 5, Page: 336-345 |
| ISSN: | 1875-5453 |
| Month and Year of | 14.01.2015 |
| Publication: | JAN 2015 |
| Impact Factor: | 2.976 |
| Affiliated Department(s): | Surgery |
| | Nasimudeen R Jabir, Shams Tabrez, CK Firoz, Syed |
| Author(s): | Kashif Zaidi, Saleh S Baeesa, Siew Hua Gan, Shazi |
| | Shakil, Mohammad Amjad Kamal |
| Correspondent's Email: | meu.fabg@hotmail.com |

ABSTRACT

Epilepsy is a non-communicable central nervous system disorder that affects over 60 million people worldwide. The developments in epilepsy treatment face major hurdles due to drug resistance and disease recurrence after reduction in medication. Nano-technological anti-epileptic drug (AED) delivery systems have recently garnered attention due to their ability to cross the blood brain barrier, improved selectivity and potential for sustained drug delivery to the brain. This review focuses on several nano-based AED delivery systems, including liposomes, nano-emulsions, polymeric nanoparticles, solid-lipid nanoparticles and magnetic nanoparticles. Their limitations and future prospects in terms of AED delivery to the brain are also highlighted. It is hoped that the present communication will be helpful in the identification of potential AED delivery systems based on their advantages and disadvantages.



| Research Title: | Ameliorating effect of olive oil on fertility of male rats |
|-------------------------------|--|
| | fed on genetically modified soya bean |
| | Food & Nutrition Research |
| Source: | Co-Action Publishing |
| | Page: 27758 |
| ISSN: | 1654-6628 |
| Month and Year of | CEDT 2015 |
| Publication: | SEP 1 2015 |
| Impact Factor: | 2.162 |
| Affiliated Department(s): | Surgery |
| Author(s): | Thanaa AF El-Kholy, Hatim A Al-Abbadi, Dina Qahwaji, |
| | Ahmed K Al-Ghamdi, Vishal G Shelat, Hanan M Sobhy, |
| | Mohammad Abu Hilal |
| Correspondent's Email: | Telkholy@Kau.edu.Sa |

ABSTRACT

Background: Genetically modified soya bean (GMSB) is a commercialized food. It has been shown to have adverse effects on fertility in animal trials. Extra virgin olive oil (EVOO) has many beneficial effects including anti-oxidant properties. The aim of this study is to elucidate if addition of EVOO ameliorates the adverse effects on reproductive organs of rats fed on GMSB containing diet.

Methods: Forty adult male albino rats (150-180 g) of Sprague Dawley strain were separated into four groups of 10 rats each: Group 1 - control group fed on basal ration, Group 2 - fed on basal ration mixed with EVOO (30%), Group 3 - fed on basal ration mixed with GMSB (15%), and Group 4 - fed on basal ration mixed with GMSB (15%) and EVOO (30%). This feeding regimen was administered for 65 days. Blood samples were collected to analyze serum zinc, vitamin E, and testosterone levels. Histopathological and weight changes in sex organs were evaluated.

Results: GMSB diet reduced weight of testis (0.669 +/- 0.06 vs. 1.7 +/- 90.06, p<0.001), epididymis (0.4899 +/- 0.03 vs. 0.79 +/- 0.03, p<0.001), prostate (0.04 +/- 90.009 vs. 0.689 +/- 0.04, p<0.001), and seminal vesicles (0.0579 +/- 0.01 vs. 0.8 +/- 0.04, p<0.001). GMSB diet adversely affected sperm count (406 +/- 7.1 vs. 610 +/- 7.8, p<0.001), motility (p<0.001), and abnormality (p<0.001). GMSB diet also reduced serum zinc (p<0.05), vitamin E (p<0.05), and testosterone (p<0.05) concentrations. EVOO diet had no detrimental effect. Addition of EVOO to GMSB diet increased the serum zinc (pB0.05), vitamin E (pB0.05), and testosterone (pB0.05) levels and also restored the weights of testis (1.35 +/- 0.16 vs. 0.66 +/- 0.06, p<0.01), epididymis (0.614 +/- 0.13 vs. 0.489 +/- 0.03, p<0.001), prostate (0.291 +/- 0.09 vs. 0.04 +/- 0.009, p<0.001), seminal vesicle (0.516 +/- 0.18 vs. 0.057 +/- 0.01, p<0.001) along with sperm count (516 +/- 3.1 vs. 406 +/- 7.1, p<0.01), motility (p<0.01), and abnormality (p<0.05).

Conclusion: EVOO ameliorates the adverse effects of GMSB on reproductive organs in adult male albino rats. This protective action of EVOO justifies its use against the oxidative damage induced by GMSB in reproductive organs.



| Research Title: | Aneurysmal subarachnoid hemorrhage affects the younger |
|---------------------------|--|
| | age groups in a Saudi academic center |
| Source: | Annals of Saudi Medicine |
| | K Faisal Spec Hosp Res Centre |
| | Vol. 35, Issue 1, Page: 36-40 |
| ISSN: | 0256-4947 |
| Month and Year of | 14.31.2015 |
| Publication: | JAIN 2013 |
| Impact Factor: | 0.705 |
| Affiliated Department(s): | Surgery; Medicine |
| Author(s): | Yasir A Bokhari, Abdulaziz H Batarfi, Yasir A Alnahdi, |
| | Mohammed A Almekhlafi, Saleh S Baeesaa |
| Correspondent's Email: | sbaeesa@kau.edu.sa |

ABSTRACT

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

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

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

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

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



| Research Title: | Awake craniotomy A patient's perspective |
|---------------------------|--|
| | Neurosciences |
| Source: | Riyadh Armed Forces Hospital |
| | Vol. 20, Issue 3, Page: 248-252 |
| ISSN: | 1319-6138 |
| Month and Year of | H.H. 2015 |
| Publication: | JUL 2015 |
| Impact Factor: | 0.708 |
| Affiliated Department(s): | Surgery |
| Author(s): | Khalid M Bajunaid, Abdulrazag M Ajlan |
| Correspondent's Email: | n/a |

ABSTRACT

Objective: To report the personal experiences of patients undergoing awake craniotomy for brain tumor resection.

Methods: We carried out a qualitative descriptive survey of patients' experiences with awake craniotomies for brain tumor resection. The survey was conducted through a standard questionnaire form after the patient was discharged from the hospital.

Results: Of the 9 patients who met the inclusion criteria and underwent awake craniotomy, 3 of those patients reported no recollection of the operation. Five patients had auditory recollections from the operation. Two-thirds (6/9) reported that they did not perceive pain. Five patients remembered the head clamp fixation, and 2 of those patients classified the pain from the clamp as moderate. None of the patients reported that the surgery was more difficult than anticipated.

Conclusion: Awake craniotomy for surgical resection of brain tumors was well tolerated by patients. Most patients reported that they do not recall feeling pain during the operation. However, we feel that further work and exploration are needed in order to achieve better control of pain and discomfort during these types of operations.



| Research Title: | Characterization of familial breast cancer in Saudi Arabia |
|----------------------------------|--|
| | BMC Genomics |
| Source: | Biomed Central LTD, |
| | Vol. 16, Supplement 1, Page: 3 |
| ISSN: | 1471-2164 |
| Month and Year of | IAN 2015 |
| Publication: | JAN 2015 |
| Impact Factor: | 4.041 |
| Affiliated Department(s): | Surgery; Medicine; Pathology |
| Author(s): | Adnan Merdad, Mamdooh A Gari, Shireen Hussein, |
| | Shadi Al-Khayat, Hana Tashkandi, Jaudah Al-Maghrabi, |
| | Fatma Al-Thubaiti, Ibtessam R Hussein, Taha |
| | Koumosani, Nehad Shaer, Adeel G Chaudhary, Adel M |
| | Abuzenadah, Mohammed H Al-Qahtani, Ashraf Dallol |
| Correspondent's Email: | n/a |

ABSTRACT

Background: The contribution of genetic factors to the development of breast cancer in the admixed and consanguineous population of the western region of Saudi Arabia is thought to be significant as the disease is early onset. 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. The advent of whole-exome sequencing is offering a unique opportunity to identify the breast cancer susceptibility genes in each family of sufferers. The polymorphisms.mutations identified will then allow for personalizing the genetic screening tests accordingly. To this end, we have performed wholeexome sequencing of seven breast cancer patients with positive family history of the disease using the Agilent SureSelect T Whole-Exome Enrichment kit and sequencing on the SOLiD T platform.

Results: We have identified several coding single nucleotide variations that were either novel or rare affecting genes controlling DNA repair in the BRCA1.2 pathway.

Conclusion: The disruption of DNA repair pathways is very likely to contribute to breast cancer susceptibility in the Saudi population.



| Research Title: | De Novo intracerebral aneurysm in a child with acquired |
|---------------------------|---|
| | immunodeficiency syndrome |
| Source: | Neurosciences (Riyadh, Saudi Arabia) |
| | Europe PubMed Centra |
| | Vol. 20, Issue 3, Page: 285-291 |
| ISSN: | 1658-3183 |
| Month and Year of | H.H. 2015 |
| Publication: | JUL 2013 |
| Impact Factor: | 0.391 |
| Affiliated Department(s): | Surgery; Medicine; Radiology |
| Author(s): | Mohamad G Bakhaidar, Naushad A Ahamed, Mohammed |
| | A Almekhlafi, Saleh S Baeesa |
| Correspondent's Email: | sbaeesa@kau.edu.sa |

ABSTRACT

Human immunodeficiency virus (HIV) infection associated aneurysmal vasculopathy is a rare complication of HIV infection affecting the pediatric and adult population. We present a case of a 7-year-old male child known to have a congenitally acquired HIV infection presenting with a ruptured left distal internal carotid artery fusiform aneurysm that was diagnosed on MRI scans 6 months prior to his presentation. He underwent craniotomy and successful aneurysm reconstruction. He had uncomplicated postoperative course and experienced a good recovery. This case is among the few reported pediatric cases of HIV-associated cerebral arteriopathy to undergo surgery. We also reviewed the relevant literature of this rare condition.



| Research Title: | Comparison of microarray expression profiles between follicular variant of papillary thyroid carcinomas and |
|----------------------------------|---|
| | follicular adenomas of the thyroid |
| | BMC Genomics |
| Source: | BioMed Central Ltd |
| | Vol. 16, Issue 1, Page: 7 |
| ISSN: | 1471-2164 |
| Month and Year of | LAN 2015 |
| Publication: | JAIN 2013 |
| Impact Factor: | 4.041 |
| Affiliated Department(s): | Surgery; Pathology |
| Author(s): | Hans-Juergen Schulten, Zuhoor Al-Mansouri, Ibtisam |
| | Baghallab, Nadia Bagatian, Ohoud Subhi, Sajjad Karim, |
| | Hosam Al-Aradati, Abdulmonem Al-Mutawa, Adel |
| | Johary, Abdulrahman A Meccawy, Khalid Al-Ghamdi, |
| | Osman Abdel Al-Hamour, Mohammad Hussain Al- |
| | Qahtani, Jaudah Al-Maghrabi |
| Correspondent's Email: | n/a |

ABSTRACT

Background: Follicular variant of papillary thyroid carcinoma (FVPTC) and follicular adenoma (FA) are histologically closely related tumors and differential diagnosis remains challenging. RNA expression profiling is an established method to unravel molecular mechanisms underlying the histopathology of diseases.

Methods: BRAF mutational status was established by direct sequencing the hotspot region of exon 15 in six FVPTCs and seven FAs. Whole-transcript arrays were employed to generate expression profiles in six FVPTCs, seven FAs and seven normal thyroid tissue samples. The threshold of significance for differential expression on the gene and exon level was a p-value with a false discovery rate (FDR) < 0.05 and a fold change cutoff > 2. Two dimensional average linkage hierarchical clustering was generated using differentially expressed genes. Network, pathway, and alternative splicing utilities were employed to interpret significance of expression data on the gene and exon level.

Results: Expression profiling in FVPTCs and FAs, all of which were negative for a BRAF mutation, revealed 55 transcripts that were significantly differentially expressed, 40 of which were upregulated and 15 downregulated in FVPTCs vs. FAs. Amongst the most significantly upregulated genes in FVPTCs were GABA B receptor, 2 (GABBR2), neuronal cell adhesion molecule (NRCAM), extracellular matrix protein 1 (ECM1), heparan sulfate 6-O-sulfotransferase 2 (HS6ST2), and retinoid X receptor, gamma (RXRG). The most significantly downregulated genes in FVPTCs included interaction protein for cytohesin exchange factors 1 (IPCEF1), G protein-coupled receptor 155 (GPR155), Purkinje cell protein 4 (PCP4), chondroitin sulfate Nacetylgalactosaminyltransferase 1 (CSGALNACT1), and glutamate receptor interacting protein 1 (GRIP1). Alternative splicing analysis detected 87 genes, 52 of which were also included in the list of 55 differentially expressed genes. Network analysis demonstrated multiple interactions for a number of differentially expressed molecules including vitamin D (1,25- dihydroxyvitamin D3) receptor (VDR), SMAD family member 9



(SMAD9), v-kit Hardy-Zuckerman 4 feline sarcoma viral oncogene homolog (KIT), and RXRG.

Conclusions: This is one of the first studies using whole-transcript expression arrays to compare expression profiles between FVPTCs and FAs. A set of differentially expressed genes has been identified that contains valuable candidate genes to differentiate both histopathologically related tumor types on the molecular level.



| Research Title: | Development of stroke-induced quadriplegia after endovascular repair of blunt aortic injury pseudoaneurysm |
|--------------------------------|---|
| Source: | Neurosciences Riyadh Armed Forces Hospital Vol. 20, Issue 1, Page: 52-54 |
| ISSN: | 1319-6138 |
| Month and Year of Publication: | JAN 2015 |
| Impact Factor: | 3.327 |
| Affiliated Department(s): | Surgery; Medicine |
| Author(s): | Abdullah S Amoudi, Anas A Merdad, Ahmed Q Makhdoom, Reda A Jamjoom |
| Correspondent's Email: | n/a |

ABSTRACT

Endovascular repair of blunt aortic injury is now a first-line approach in management. This can warrant coverage of the left subclavian artery (LSA), which could lead to posterior strokes. In this case report, we present a severe complication of endovascular repair of a traumatic aortic aneurysm. A 53-year-old man presented with blunt aortic injury, endovascular repair was carried out where the left subclavian artery was covered. The intervention had a 100% technical success. Twelve hours later, he was discovered to have quadriplegia, a CT scan showed a large left cerebellar infarction extending to the medulla oblongata and proximal spinal cord. Strokes complicate 3% of thoracic endovascular aortic repairs, 80% of those strokes occur in patients who had their LSA's covered. Most patients however, tolerate the coverage. Although our patient had a dominant right vertebral artery, and lacked risks for these strokes, he developed an extensive stroke that left him quadriplegic.



| Research Title: | Effect of BRAF mutational status on expression profiles in |
|----------------------------------|--|
| | conventional papillary thyroid carcinomas |
| Source: | BMC Genomics |
| | Biomed Central Ltd |
| | Vol. 16, Supplement 1; Page 6 |
| ISSN: | 1471-2164 |
| Month and Year of | LAN 2015 |
| Publication: | JAN 2015 |
| Impact Factor: | 4.041 |
| Affiliated Department(s): | Surgery; Pathology |
| Author(s): | Hans-Juergen Schulten, Reem Alotibi, Alaa Al-Ahmadi, |
| | Manar Ata, Sajjad Karim, Etimad Huwait, Mamdooh Gari, |
| | Khalid Al-Ghamdi, Faisal Al-Mashat, Osman A Al-Hamour, |
| | Mohammad H Al-Qahtani, Jaudah Al-Maghrabi |
| Correspondent's Email: | n/a |

ABSTRACT

Background: Whereas 40 % to 70 % of papillary thyroid carcinomas (PTCs) are characterized by a BRAF mutation (BRAF(mut)), unified biomarkers for the genetically heterogeneous group of BRAF wild type (BRAF(wt)) PTCs are not established yet. Using state-of-the-art technology we compared RNA expression profiles between conventional BRAF(wt) and BRAF(mut) PTCs.

Methods: Microarrays covering 36,079 reference sequences were used to generate whole transcript expression profiles in 11 BRAF(wt) PTCs including five micro PTCs, 14 BRAF(mut) PTCs, and 7 normal thyroid specimens. A p-value with a false discovery rate (FDR) < 0.05 and a fold change > 2 were used as a threshold of significance for differential expression. Network and pathway utilities were employed to interpret significance of expression data. BRAF mutational status was established by direct sequencing the hotspot region of exon 15.

Results: We identified 237 annotated genes that were significantly differentially expressed between BRAF(wt) and BRAF(mut) PTCs. Of these, 110 genes were down-and 127 were upregulated in BRAF(wt) compared to BRAF(mut) PTCs. A number of molecules involved in thyroid hormone metabolism including thyroid peroxidase (TPO) were differentially expressed between both groups. Among cancer-associated molecules were ERBB3 that was downregulated and ERBB4 that was upregulated in BRAF(wt) PTCs. Two microRNAs were significantly differentially expressed of which miR492 bears predicted functions relevant to thyroid-specific molecules. The protein kinase A (PKA) and the G protein-coupled receptor pathways were identified as significantly related signaling cascades to the gene set of 237 genes. Furthermore, a network of interacting molecules was predicted on basis of the differentially expressed gene set.

Conclusions: The expression study focusing on affected genes that are differentially expressed between BRAF(wt) and BRAF(mut) conventional PTCs identified a number of molecules which are connected in a network and affect important canonical pathways. The identified gene set adds to our understanding of the tumor biology of BRAF(wt) and BRAF(mut) PTCs and contains genes/biomarkers of interest.



| | Frequent methylation of the KLOTHO gene and |
|----------------------------------|---|
| Research Title: | overexpression of the FGFR4 receptor in invasive ductal |
| | carcinoma of the breast |
| | Tumor Biology |
| Source: | Springer International Publishing AG |
| | Vol. 2015, Page: 1-7 |
| ISSN: | 1423-0380 |
| Month and Year of | UU 2015 |
| Publication: | JUL 2013 |
| Impact Factor: | 2.84 |
| Affiliated Department(s): | Surgery; Medicine; Pathology |
| Author(s): | Ashraf Dallol, Abdelbaset Buhmeida, Adnan Merdad, |
| | Jaudah Al-Maghrabi, Mamdooh A Gari, Muhammad M |
| | Abu-Elmagd, Aisha Elaimi, Mourad Assidi, Adeel G |
| | Chaudhary, Adel M Abuzenadah, Taoufik Nedjadi, |
| | Eramah Ermiah, Shadi S Alkhayyat, Mohammed H Al- |
| | Qahtani |
| Correspondent's Email | adallol@kau edu sa |

ABSTRACT

Invasive ductal carcinoma of the breast is the most common cancer affecting women worldwide. The marked heterogeneity of breast cancer is matched only with the heterogeneity in its associated or causative factors. Breast cancer in Saudi Arabia is apparently an early onset with many of the affected females diagnosed before they reach the age of 50 years. One possible rationale underlying this observation is that consanguinity, which is widely spread in the Saudi community, is causing the accumulation of yet undetermined cancer susceptibility mutations. Another factor could be the accumulation of epigenetic aberrations caused by the shift toward a Western-like lifestyle in the past two decades. In order to shed some light into the molecular mechanisms underlying breast cancer in the Saudi community, we identified KLOTHO (KL) as a tumor-specific methylated gene using genome-wide methylation analysis of primary breast tumors utilizing the MBD-seq approach. KL methylation was frequent as it was detected in 55.3 % of breast cancer cases from Saudi Arabia (n = 179) using MethyLight assay. Furthermore, KL is downregulated in breast tumors with its expression induced following treatment with 5-azacytidine. The involvement of KL in breast cancer led us to investigate its relationship in the context of breast cancer, with one of the protagonists of its function, fibroblast growth factor receptor 4 (FGFR4). Overexpression of FGFR4 in breast cancer is frequent in our cohort and this overexpression is associated with poor overall survival. Interestingly, FGFR4 expression is higher in the absence of KL methylation and lower when KL is methylated and presumably silenced, which is suggestive of an intricate relationship between the two factors. In conclusion, our findings further implicate "metabolic" genes or pathways in breast cancer that are disrupted by epigenetic mechanisms and could provide new avenues for understanding this disease in a new context.



| Research Title: | Gestational Choriocarcinoma Presenting with Lacrimal |
|----------------------------------|--|
| | Gland Metastasis: A First Reported Case |
| Source: | Case Reports in Obstetrics and Gynecology |
| | Hindawi Publishing Corporation |
| | Vol. 2015; Page: 1-7 |
| ISSN: | 2090-6692 |
| Month and Year of | MAY 2015 |
| Publication: | |
| Impact Factor: | n/a |
| Affiliated Department(s): | Surgery; Ob-gyne; Ophthalmology; Radiology |
| Author(s): | Naushad AB Ahamed, Khalid Sait, Nisreen Anfnan, |
| | Khader Farwan, SHM Nizamuddin, Saleh S Baeesa |
| Correspondent's Email: | nashlib@gmail.com |

ABSTRACT

Background: Gestational choriocarcinoma (GC) is a recognized clinicopathological subtype of gestational trophoblastic neoplasia that usually metastasizes hematogenously to highly vascular organs like the lung, liver, and brain. However, orbital metastasis to the choroid and lacrimal gland is a rare occurrence.

Case Presentation: A 21-year-old female presented with headache and left orbital swelling one year after resection of a complete hydatidiform mole followed by adjuvant methotrexate chemotherapy. A metastatic imaging screening revealed multiple metastases in the lungs, brain, and adrenal gland, in addition to the choroid and lacrimal gland. Based on her modified WHO risk factors scoring she was started on chemotherapy and whole brain radiotherapy, which resulted in a complete response. At two-year follow-up, serum b-HCG level was with normal limits; imaging surveillance was uneventful.

Conclusion: We present the first case of lacrimal gland metastasis in a young girl from GC relapse.



| Research Title: | Human Immunodeficiency Virus-Associated Cerebral |
|----------------------------------|--|
| | Aneurysmal Vasculopathy: A Systematic Review |
| | World Neurosurgery |
| Source: | Elsevier B.V. |
| | Vol. 15 |
| ISSN: | 1878-8750 |
| Month and Year of | NOV 2015 |
| Publication: | NOV 2013 |
| Impact Factor: | 2.878 |
| Affiliated Department(s): | Surgery; Medicine |
| Author(s): | Saleh S Baeesa, Mohamad Bakhaidar, Mohammed A |
| | Almekhlafi, Tariq A Madani |
| Correspondent's Email: | n/a |

ABSTRACT

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

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

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

Conclusion: HIV-associated cerebral aneurysmal arteriopathy is associated with high mortality. The optimal management is not well established but early initiation of antiretroviral therapy may improve the survival rate in those patients.



| Research Title: | Improving Door to Needle Thrombolysis in Acute ST- |
|----------------------------------|--|
| | Elevation Myocardial Infarction |
| Source: | Saudi Journal of Internal Medicine |
| | Saudi Society of Internal Medicine |
| | Vol. 5, Issue 1, Page: 19-23 |
| ISSN: | 1658-5763 |
| Month and Year of | A DD 2015 |
| Publication: | AI K 2015 |
| Impact Factor: | n/a |
| Affiliated Department(s): | Surgery |
| Author(s): | Husain H Jabbad H Jabbad |
| Correspondent's Email: | n/a |

ABSTRACT

Background: Although primary percutaneous coronary intervention is the recommended method of reperfusion for ST-segment elevation myocardial infarction patients, thrombolytic therapy should still be given to ST-segment elevation myocardial infarction patients when anticipated delay in percutaneous coronary intervention is more than 120 minutes from fi rst medical contact.

Objective: The aim of this study is to assess improvement of door to needle time in cases of ST-segment elevation myocardial infarction aft er applying new clinical pathway for cases of ST-segment elevation myocardial infarction presenting to Emergency Department at King Abdulaziz University Hospital over one year period.

Methods: A prospective study conducted at King Abdulaziz University Hospital, Jeddah, Saudi Arabia, in patients with ST-segment elevation myocardial infarction who underwent thrombolysis from November 2012 to October 2013 to compare door to needle time obtained from this study with door to needle time from previous records during October 2010 till September 2011.Results: A total of 93 patients with ST-segment elevation myocardial infarction received thrombolytic in Emergency Department. Mean age 50 years. Median door to Electrocardiogram 3 minutes, median Electrocardiogram to thrombolytic 25 minutes and door to needle time 30 minutes. 54.8% of patients received thrombolytic within 30 minutes or less.

Conclusions: Improvement in door to needle time for thrombolysis of cases of ST-segment elevation myocardial infarction has been achieved at King Abdulaziz University Hospital during the period of the study compared to previous data.



| | Insidence of dishetic fact disorders in noticets with |
|-------------------------------|---|
| Research Title: | incluence of diabetic foot disorders in patients with |
| | diabetes in Jeddah, Saudi Arabia |
| Source: | International Journal of Diabetes in Developing Countries |
| | Springer India |
| | Vol. 35, Issue 2, Page: 115-122 |
| ISSN: | 1998-3832 |
| Month and Year of | HIN 2015 |
| Publication: | JUN 2013 |
| Impact Factor: | 0.373 |
| Affiliated Department(s): | Surgery; Mohammed Hussein Al-Amoudi Chair for |
| | Diabetic Foot Research |
| Author(s): | Hasan A Alzahrani, Dong Wang, Almad H Alzahrani, |
| | Frank B Hu |
| Correspondent's Email: | n/a |

ABSTRACT

Epidemiology of diabetic foot disorders in Saudi Arabia has not been well documented. We therefore performed a 1-year follow-up study to characterize the incidence of diabetic foot disorders, including peripheral arterial disease (PAD), peripheral neuropathy (PN), foot ulcer, gangrene, and amputation, among 556 diabetic patients in Saudi Arabia. All the disorders were diagnosed by standard objective diagnostic tools or diagnosed clinically by a specialized surgeon. Complication of foot ulcer (CFU) was defined as at least one of the following complications: foot ulcer, gangrene, and amputation. Diabetic foot disorder (DFD) was defined as at least one of the following complications: foot ulcer, gangrene, and amputation. The 1-year cumulative incidence of PAD, PN, CFU, and DFD was 6.3, 9.2, 3.6, and 16.7 %, respectively. The 1-year cumulative incidence was 1.8 % for foot ulcer, 1.5 % for gangrene, and 0.6 % for amputation. Only one participant was diagnosed as more than one disorder. The longer duration of diabetes was associated with an increased incidence of PN and DFD. Relatively high incidences, as well as the duration of diabetes as the major risk factors for diabetic foot disorders were found in this Saudi population.



| Research Title: | Management of Postoperative Gastrointestinal Leakage |
|----------------------------------|--|
| | With Autologous Stromal Vascular Fraction |
| Source: | International Surgery |
| | Int College of Surgeons |
| | Vol. 100, Issue 4, Page: 748-754 |
| ISSN: | 0020-8868 |
| Month and Year of | APR 2015 |
| Publication: | |
| Impact Factor: | 0.248 |
| Affiliated Department(s): | Surgery; Pathology |
| Author(s): | Saleh M Aldaqal, Meiaad F Khayat, Rana Y Bokhary, |
| | Mazen M Wakka, Adnan A Merdad, Leena A Merdad |
| Correspondent's Email: | mfkhayyat@kau.edu.sa |

ABSTRACT

To assess the efficacy of using autologous stromal vascular fraction (SVF) to promote healing of controlled fistula tracts in the management of postoperative upper gastrointestinal leakage. This is an experimental study conducted on 10 experimental rabbits. Animal models were divided into the SVF group which received an autologous SVF and the control group which did not receive the implantation. Surgery was performed on both groups to induce a gastric leak and create a controlled fistula tract between the leakage site in the stomach and the skin. After 2 weeks, surgery was performed on the SVF group to harvest, process and then implant the autologous SVF in the fistula tract. Animal models were followed up and their fistula tracts were evaluated for healing by gross and microscopic examination of the fistula tracts before the SVF implantation and at 24 hours, 1 week, 2 weeks and 3 weeks after implantation. The control group revealed no closure of fistula tracts by the 3rd week after implantation and there were no signs of inflammation or drainage. On the other hand, the SVF group showed signs of healing process with progressive closure of the fistula tract to about 95% by the 3rd week after implantation. The use of autologous SVF implantation to promote the healing of controlled fistula tracts seems to be a novel, safe and effective method in the management of postoperative upper gastrointestinal leakage. It could prevent reoperation and reduce hospital stay, morbidity and mortality. These results are promising and provide support for further clinical studies.



| Research Title: | Nonalcoholic Fatty Liver Disease: Noninvasive Methods |
|----------------------------------|--|
| | of Diagnosing Hepatic Steatosis |
| Source: | Saudi Journal of Gastroenterology |
| | Medknow Publications & Media Pvt Ltd |
| | Vol. 21, Issue 2, Page: 6470 |
| ISSN: | 1998-4049 |
| Month and Year of | MAD 2015 |
| Publication: | MAK 2013 |
| Impact Factor: | 1.221 |
| Affiliated Department(s): | Surgery |
| Author(s): | Rasha AlShaalan, Murad Aljiffry, Said Al-Busafi, Peter |
| | Metrakos, Mazen Hassanain |
| Correspondent's Email: | n/a |

ABSTRACT

Hepatic steatosis is the buildup of lipids within hepatocytes. It is the simplest stage in nonalcoholic fatty liver disease (NAFLD). It occurs in approximately 30% of the general population and as much as 90% of the obese population in the United States. It may progress to nonalcoholic steatohepatitis, which is a state of hepatocellular inflammation and damage in response to the accumulated fat. Liver biopsy remains the gold standard tool to diagnose and stage NAFLD. However, it comes with the risk of complications ranging from simple pain to life-threatening bleeding. It is also associated with sampling error. For these reasons, a variety of noninvasive radiological markers, including ultrasound, computed tomography, magnetic resonance spectroscopy, and the controlled attenuation parameter using transient elastography and Xenon-133 scan have been proposed to increase our ability to diagnose NAFLD, hence avoiding liver biopsy. The aim of this review is to discuss the utility and accuracy of using available noninvasive diagnostic modalities for fatty liver in NAFLD.



| Research Title: | Portal vein embolization and its effect on tumour |
|---------------------------|--|
| | progression for colorectal cancer liver metastases |
| Source: | British Journal of Surgery |
| | Wiley-Blackwell |
| | Vol. 102, Issue 10, Page: 1240-1249 |
| ISSN: | 1365-2168 |
| Month and Year of | SEDT 2015 |
| Publication: | SEF 1 2015 |
| Impact Factor: | 5.21 |
| Affiliated Department(s): | Surgery |
| Author(s): | E Simoneau, M Hassanain, M Shaheen, M Aljiffry, N |
| | Molla, P Chaudhury, S Anil, A Khashper, D Valenti, P |
| | Metrakos |
| Correspondent's Email: | peter.metrakos@mcgill.ca |

ABSTRACT

Background: The aim of this study was to evaluate the long-term outcomes of patients with colorectal cancer liver metastasis (CRCLM) exhibiting disease progression after portal vein embolization (PVE).

Methods: Patients with CRCLM requiring PVE before hepatectomy between 2003 and 2014 were included. Clinical variables, and liver and tumour volumes determined by three-dimensional CT volumetry were assessed before and after PVE. Overall and disease-free survival data were obtained. Univariable and multivariable logistic regression analyses were performed to identify predictors of tumour progression after PVE.

Results: Of 141 patients who underwent PVE, 93 (660 per cent) had tumour progression and 17 (121 per cent) developed new contralateral lesions. Significantly fewer patients had resectable disease in the group with disease progression than among those with stable disease: 43 (46 per cent) of 93 versus 36 (75 per cent) of 48 respectively (P = 0001). Median survival was similar in patients with and without tumour growth after PVE: 225 versus 260months for patients with unresectable tumours (P = 0706) and 462 versus 522months for those with resectable disease (P = 0953). However, disease-free survival for patients with tumour progression after PVE was shorter than that for patients with stable disease (60 versus 202months; P = 0045). Response to neoadjuvant chemotherapy was the only significant factor associated with tumour progression in multivariable analysis.

Conclusion: Tumour progression after PVE did not affect overall survival, but patients with resected tumours who had tumour growth after embolization experienced earlier recurrence. A borderline response to neoadjuvant chemotherapy seemed to be associated with tumour progression after PVE. Tumour progression after portal vein embolization has no effect on survival



| Research Title: | Post-Transplant Liver Function Score as an Early |
|---------------------------|--|
| | Surrogate Marker of Long-Term Outcome |
| Source: | Annals of Transplantation |
| | Int Scientific Literature |
| | Vol. 20, Page: 198-205 |
| ISSN: | 1425-9524 |
| Month and Year of | ADD 2015 |
| Publication: | AFK 2015 |
| Impact Factor: | 1.261 |
| Affiliated Department(s): | Surgery |
| Author(s): | Mazen Hassanain, Eve Simoneau, Ahmad Madkhali, |
| | Nouf Al-Saati, Murad Aljiffry, Jean Tchervenkov, Jeffrey |
| | Barkun, Peter Metrakos |
| Correspondent's Email: | peter.metrakos@mcgill.ca |

ABSTRACT

Background: Currently, there is no universally accepted method to evaluate liver function post-orthotopic liver transplant (OLTx) and there are no early surrogate function markers to assess the impact of perioperative interventions in trial settings.

Material/Methods: We studied the performance of the Schindl scoring system and modified it to better predict post-orthotopic liver transplantation outcomes, using total bilirubin levels, international normalized ratio (INR), and lactic acid, resulting in a post-transplant liver function (PTLF) score. We retrospectively reviewed all adult liver transplants from deceased donors done between 1995 and 2012. Univariate and multivariate analyses were performed and Kaplan-Meier survival curves were obtained.

Results: In total, 495 patients were included in the study. On multivariate analysis, PTLF score, defined as normal (score < 4) or dysfunctional (score 3 4), was the only significant variable for determining significant complications (P=0.014) and graft survival (P=002) during the perioperative period.

Conclusions: PTLF score shows promise as an early surrogate marker of post-orthotopic liver transplantation mortality and morbidity by providing results within the first 7 days post-transplantation. PTLF score can potentially be used as a tool to assess the impact of perioperative interventions by predicting long-term outcomes early in the clinical course of transplant patients.



| Research Title: | Post-transplant venous thromboembolic events and their |
|----------------------------------|--|
| | effect on graft survival |
| Source: | Saudi Journal of Kidney Diseases and Transplantation |
| | Wolters Kluwer |
| | Vol. 26, Issue 1, Page: 1-5 |
| ISSN: | 2320-3838 |
| Month and Year of | LAN 2015 |
| Publication: | JAN 2013 |
| Impact Factor: | n/a |
| Affiliated Department(s): | Surgery |
| Author(s): | Nasser Abualhassan, Murad Aljiffry, Lukman Thalib, |
| | Razek Coussa, Peter Metrakos, Mazen Hassanain |
| Correspondent's Email: | n/a |

ABSTRACT

Venous thromboembolic events (VTEs) are a major cause of post-operative morbidity and mortality. Our objective is to establish the prevalence of VTEs in kidney transplant recipients and assess its impact on graft survival. Data regarding renal transplant patients with VTEs from 1985 to 2010 were identified and analyzed. After excluding recipients of combined grafts and late VTE development, 1596 recipients were included in this analysis. The prevalence of post-operative VTEs and graft survival were determined. Cox regression was used to analyze the survival data and data on prognostic (confounding) variables. The observed prevalence of VTEs in kidney transplant recipients was 1.6%. Of the 1596 kidney recipients, 25 recipients who developed VTEs had a mean graft survival of 12.3 years (compared with 20.5 years in patients without). The hazard ratio was 1.1 (95% confidence interval: 0.4-3.0, P = 0.447). The prevalence of VTEs post kidney transplantation is small. Although it did not reach statistical significance, it increased the risk of graft failure by 30%.


| Research Title: | Proficiency Performance Benchmarks for Removal of |
|----------------------------------|---|
| | Simulated Brain Tumors Using a Virtual Reality |
| | Simulator NeuroTouch |
| | Journal of Surgical Education |
| Source: | Elsevier Science Inc |
| | Vol. 72, Issue 4, Page: 685-696 |
| ISSN: | 1878-7452 |
| Month and Year of | иш 2015 |
| Publication: | JOE 2015 |
| Impact Factor: | 1.379 |
| Affiliated Department(s): | Surgery |
| Author(s): | Gmaan AlZhrani, Fahad Alotaibi, Hamed Azarnoush, |
| | Alexander Winkler-Schwartz, Abdulrahman Sabbagh, |
| | Khalid Bajunaid, Susanne P Lajoie, Rolando F Del |
| | Maestro |
| Correspondent's Email: | gmaan.al-zhrani@mail.mcgill.ca |

ABSTRACT

Objective: Assessment of neurosurgical technical skills involved in the resection of cerebral tumors in operative environments is complex. Educators emphasize the need to develop and use objective and meaningful assessment tools that are reliable and valid for assessing trainees' progress in acquiring surgical skills. The purpose of this study was to develop proficiency performance benchmarks for a newly proposed set of objective measures (metrics) of neurosurgical technical skills performance during simulated brain tumor resection using a new virtual reality simulator (NeuroTouch).

Design: Each participant performed the resection of 18 simulated brain tumors of different complexity using the NeuroTouch platform. Surgical performance was computed using Tier 1 and Tier 2 metrics derived from NeuroTouch simulator data consisting of (1) safety metrics, including (a) volume of surrounding simulated normal brain tissue removed, (b) sum of forces utilized, and (c) maximum force applied during tumor resection; (2) quality of operation metric, which involved the percentage of tumor removed; and (3) efficiency metrics, including (a) instrument total tip path lengths and (b) frequency of pedal activation.

Setting: All studies were conducted in the Neurosurgical Simulation Research Centre, Montreal Neurological Institute and Hospital, McGill University, Montreal, Canada.

Participants: A total of 33 participants were recruited, including 17 experts (board-certified neurosurgeons) and 16 novices (7 senior and 9 junior neurosurgery residents).

Results: The results demonstrated that ""expert"" neurosurgeons resected less surrounding simulated normal brain tissue and less tumor tissue than residents. These data are consistent with the concept that ""experts"" focused more on safety of the surgical procedure compared with novices. By analyzing experts' neurosurgical technical skills performance on these different metrics, we were able to establish benchmarks for goal proficiency performance training of neurosurgery residents.



Conclusion: This study furthers our understanding of expert neurosurgical performance during the resection of simulated virtual reality tumors and provides neurosurgical trainees with predefined proficiency performance benchmarks designed to maximize the learning of specific surgical technical skills.



| Research Title: | Quality of Gastroenterology Research Published in Saudi Arabian Scientific Journals |
|----------------------------------|--|
| | Saudi Journal of Gastroenterology |
| Source: | Medknow Publications & Media Pvt Ltd |
| | Vol. 21, Issue 2, Page: 90-94 |
| ISSN: | 1998-4049 |
| Month and Year of | MAD 2015 |
| Publication: | MAR 2013 |
| Impact Factor: | 1.221 |
| Affiliated Department(s): | Surgery |
| | Majed M Almaghrabi, Abdullah S Alamoudi, Suhaib A |
| Author(s): | Radi, Anas A Merdad, Ahmad M Makhdoum, Faisal A |
| | Batwa |
| Correspondent's Email: | n/a |

ABSTRACT

Background/Aims: Evidence-based medicine has established itself in the field of gastroenterology. In this study we aim to assess the types of study designs of gastroenterology-related articles published in Saudi scientific journals. Patients and

Methods: An online review using PubMed was carried out to review gastroenterologyrelated articles published in six Saudi medical journals in the time interval from 2003 to 2012. To classify the level of evidence in these articles we employed the Oxford's levels of evidence. One-way analysis of variance was used to compare the levels of evidence between published articles.

Results: A total of 721 gastroenterology-related articles were reviewed, of which 591 articles met our inclusion criteria; 80.7% were level IV. The three most common types of studies we encountered were cross-sectional (33.9%), case reports (27.9%), and case series (18.8%). Forty-three percent of the published research was in the field of hepatobiliary and spleen. The total number of articles increased from 260 articles in the 1st 5-year period (2003-2007) to 330 in the 2nd period (2008-2012). However, no statistically significant difference in the level of evidence was noted. In Annals of Saudi Medicine Journal, articles with level II increased from 0 to 10% with a P value 0.02.

Conclusion: In our review of gastroenterology-related published articles in Saudi scientific journals, we observed an increase in the quantity of articles with the quality and level of evidence remaining unchanged. Further research is recommended to explore different reasons affecting the volume and quality of gastroenterology-related research in Saudi scientific journals.



| Research Title: | Re-evaluation of lateral subcutaneous sphincterotomy in |
|----------------------------------|---|
| | treating anal fissure |
| | Archieves of International Surgery |
| Source: | Medknow |
| | Vol. 5, Issue 1, Page: 20-24 |
| ISSN: | 2320-4761 |
| Month and Year of | MAD 2015 |
| Publication: | MAK 2013 |
| Impact Factor: | n/a |
| Affiliated Department(s): | Surgery |
| Author(s): | A Kensarah, NH Zaidi, SM Al Daqal, HM Shaheen, A |
| | Johari, A Altaf, H Khogeer, AR Sibiani |
| Correspondent's Email: | n/a |

ABSTRACT

Background: Anal fissure is a common disease and has a myriad of treatment options. The aim of this study was to re-evaluate lateral subcutaneous sphincterotomy in the treatment of anal fissure.

Patients and Methods: We retrospectively studied143 patients with chronic anal fissure at King Abdulaziz University Hospital between March 1995 and April 2011, to determine the outcome of lateral subcutaneous sphincterotomy. These patients were studied using file data, operative notes, post operative course, OPD follow up. Variables studied were age, sex, nationality, History of previous surgery, recurrence, open or closed sphincterotomy, healing of wound, duration of healing [weeks], post op pain, post op bleeding, incontinence of flatus, liquid or solid stool, length of incontinence, duration of surgery, and weather admitted or treated as a day case.

Results: In our study the youngest patient was 18 years old and the oldest 67 years old with mean age 42.5 years. Majority were females 65% and males 35%. Saudis were 52.4% and non Saudis were 47.5%. 55.4% of patients had previous surgery. Recurrence occurred in 5.4% of patients. 42.3% underwent closed surgery and 57.7% open surgery. Duration of operation was minimum 4 minutes and maximum 25 minutes with mean duration of 14.5 minutes. 11.9% of patients needed admission while 88.1% were treated as day case. Healing occurred in 72.8% while 27.2% did not have healing of wounds. Majority of wound healed in one week-57.6% and 18.4 had healing in two weeks while longest healing occurred in 52 weeks. Longest follow up was 180 weeks. Post op pain occurred in 50% of cases and no pain in 50% of cases while 14.1 % of patients had incontinence of flatus, 4.3% of liquid stools 1% incontinence of solid stool. Length of incontinence was one to sixteen weeks. In 16.3% cases incontinence was resolved and in 3.2% cases it did not resolve. 73.9% of patients expressed satisfied with the treatment.

Conclusion: Lateral sphincterotomy is a safe, effective treatment of anal fissure and evolving as a gold standard treatment for chronic anal fissure."



| Research Title: | Risk factors for falls in a longitudinal cohort study of |
|----------------------------------|--|
| | Saudi postmenopausal women: the Center of Excellence |
| | for Osteoporosis Research Study |
| | Menopause: The Journal of The North American |
| Sources | Menopause Society |
| Source: | The North American Menopause Society |
| | Vol. 22, Issue 9, Page: 1012-1020 |
| ISSN: | 1072-3714 |
| Month and Year of | SEDT 2015 |
| Publication: | SEF 1 2015 |
| Impact Factor: | 3.361 |
| Affiliated Department(s): | Surgery; Clinical Biochemistry; Hematology; Ob-gyne |
| | Abdulrahim A Rouzi, Mohammed-Salleh M Ardawi, |
| Author(s): | Mohammed H Qari, Talal M Bahksh, Rajaa M Raddadi, |
| | Ahmed Y Ali, Mona M Jalal, Amal A Taha, Heba S Kary |
| Correspondent's Email: | n/a |

ABSTRACT

Objective: This study aims to identify possible risk factors for falls among Saudi postmenopausal women in a population-based study.

Methods: Seven hundred seven postmenopausal women aged 50 years or older were followed in a prospective cohort study. Participant demographic characteristics, medical history, lifestyle factors, past-year history of falls, and physical activity (PA) scores were assessed. We recorded single and multiple falls, anthropometric parameters, five special physical performance tests, hormone levels, and bone mineral density measurements. Data on knee osteoarthritis (OA), lumbar spondylosis, and osteopenia were collected. Knee and lower back pain were assessed by interview, and cognition was assessed with Mini-Mental State Examination.

Results: During the mean (SD) follow-up of 5.2 (1.3) years, 164 women (23.2%) reported at least one fall, of whom 73 women (10.3%) reported multiple falls. Six independent predictors of all falls were identified: PA score of 12.61 or lower (lowest quartile; odds ratio [OR], 4.10; 95% CI, 1.82-8.90); past-year history of falls (OR, 2.44; 95% CI, 2.30-2.90); age 65 years or older (OR, 2.16; 95% CI, 1.30-3.12); presence of knee OA (OR, 1.56; 95% CI, 1.03- 2.34); handgrip strength of 13.88 kg or lower (lowest quartile; OR, 1.33; 95% CI, 1.09-1.64); and 8-ft walk test of 3.94 s or longer (highest quartile; OR, 1.18; 95% CI, 1.07-1.35).

Conclusions: Poor PA score, past-year history of falls, age 65 years or older, presence of knee OA, poor handgrip strength, and prolonged time on the 8-ft walk test are risk factors for all falls among Saudi postmenopausal women.



| Research Title: | Surgical Treatment for Hepatocellular Carcinoma |
|----------------------------------|---|
| Source: | Saudi Journal of Gastroenterology |
| | Medknow Publications & Media Pvt Ltd |
| | Vol. 21, Issue 7, Page: 11-17 |
| ISSN: | 1998-4049 |
| Month and Year of | EED 2015 |
| Publication: | FED 2013 |
| Impact Factor: | 1.221 |
| Affiliated Department(s): | Surgery |
| Author(s): | Madkhali, Ahmad A., Fadel, Zahir T., Aljiffry, Murad M, |
| | Hassanain, Mazen M. |
| Correspondent's Email: | n/a |

ABSTRACT

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



| Research Title: | Synopsis on the Linkage of Alzheimer's and Parkinson's |
|-------------------------------|--|
| | Disease with Chronic Diseases |
| | |
| | Cns Neuroscience & Therapeutics |
| Source: | Wiley-Blackwell |
| | Vol. 21, Issue 14, Page: 1-7 |
| ISSN: | 1755-5949 |
| Month and Year of | LAN 2015 |
| Publication: | JAN 2013 |
| Impact Factor: | 3.931 |
| Affiliated Department(s): | Surgery |
| Author(s): | Nasimudeen R Jabir, Chelapram K Firoz, Saleh S Baeesa, |
| | Ghulam Md Ashraf, Suhail Akhtar, Warda Kamal, |
| | Mohammad A Kamal, Shams Tabrez |
| Correspondent's Email: | shamstabrez1@gmail.com |

ABSTRACT

Neurodegeneration is the progressive loss of neuronal structure and function, which ultimately leads to neurological disorders such as Alzheimer's disease (AD), Parkinson's disease (PD), multiple sclerosis, and Huntington's disease. Even after the recent significant advances in neurobiology, the above-mentioned disorders continue to haunt the global population. Several studies have suggested the role of specific environmental and genetic risk factors associated with these disorders. However, the exact mechanism associated with the progression of these disorders still needs to be elucidated. In the recent years, sophisticated research has revealed interesting association of prominent neurodegenerative disorders such as AD and PD with chronic diseases such as cancer, diabetes, and cardiovascular diseases. Several common molecular mechanisms such as generation of free radicals, oxidative DNA damage, aberrations in mitochondrial DNA, and dysregulation of apoptosis have been highlighted as possible points of connection. The present review summarizes the possible mechanism of coexistence of AD and PD with other chronic diseases.



| Research Title: | The desire to utilize postmastectomy breast reconstruction |
|-------------------------------|--|
| | in Saudi Arabian women Predictors and barriers |
| | Saudi Medical Journal |
| Source: | Saudi Med J |
| | Vol. 36, Issue 3, Page: 304-309 |
| ISSN: | 0379-5284 |
| Month and Year of | NAD 2015 |
| Publication: | MAR 2013 |
| Impact Factor: | 0.554 |
| Affiliated Department(s): | Surgery |
| Author(s): | Basim A Awan, Osama A Samargandi, Hattan A |
| | Alghamdi, Anas A Sayegh, Yasir J Hakeem, Leena |
| | Merdad, Adnan A Merdad |
| Correspondent's Email: | n/a |

ABSTRACT

Objectives: To study factors that influence the desire to utilize breast reconstruction after mastectomy, and to investigate the barriers to reconstruction among women in Saudi Arabia.

Methods: We conducted a cross-sectional study at 2 surgical centers in Jeddah, Saudi Arabia. A self-administered questionnaire was distributed to all breast cancer patients attending the surgery clinics for follow-up after mastectomy between January and March 2013. Ninety-one patients met the study inclusion criteria. The first part of the questionnaire covered the demographic and socioeconomic information regarding factors that might influence the desire to utilize breast reconstruction including possible barriers. Multivariate logistic regression was used to determine the significant predictors of the desire to undergo reconstruction.

Results: Overall, 16.5% of patients underwent breast reconstruction after mastectomy. Young age and high educational attainment were significantly associated with an increased desire to undergo reconstruction. The main barriers to reconstruction were the lack of adequate information on the procedure (63%), concerns on the complications of the procedure (68%), and concerns on the reconstruction interfering with the detection of recurrence (54%).

Conclusion: Age and educational level were significant predictors of the desire to utilize breast reconstruction. Furthermore, modifiable barriers included the lack of knowledge and misconceptions on the procedure. Addressing these issues may increase the rate of breast reconstruction in Saudi Arabia.



| Research Title: | The Dramatic Spread of Diabetes Mellitus Worldwide and |
|----------------------------------|--|
| | Influence of Helicobacter pylori |
| | General Medicine: Open Access |
| Source: | OMICS Publishing Group |
| | Vol. 3, Issue 1, Page: 1-4 |
| ISSN: | 2327-5146 |
| Month and Year of | LAN 2015 |
| Publication: | JAN 2015 |
| Impact Factor: | n/a |
| Affiliated Department(s): | Surgery |
| Author(s): | SAM Nasrat, RM Nasrat, MM Nasrat, MA Ibrahim, AM |
| | Nasrat |
| Correspondent's Email: | n/a |

ABSTRACT

Objective: Demonstration of an influence of Helicobacter pylori in the dramatic spread of Diabetes mellitus (DM) among many patients during the last two decades.

Background: The flare up of a lot of medical challenges related to H. pylori through immune or different unknown reasons made the medical world believe that H. pylori eradication should be a necessary attempt. These H. pylorirelated medical problems are sufficient to render the matter that H. pylori can reside hidden somewhere in the body be taken seriously. The spread of DM is rising in a dramatic way as the fire spreading in hey especially in developing countries giving the term ""diabetic epidemic"" an actual credibility. H. pylori could migrate or get forced to migrate to the colon leading to accumulation of profuse toxic amounts of ammonia unopposed or buffered by any acidity leading to biological stress to the body that could predispose to stress diabetes among disadvantaged susceptible people.

Design: Prospective study.

Setting: Balghsoon Clinic, Jeddah, Saudi Arabia.

Patients & Methods: 18 cases of newly discovered DM associated with a definite history of H. pylori dyspepsia were included in this study. The study was held in Balghsoon Clinic in Jeddah during the period between May, 2011 and October, 2013. Traditional measures were used for the relief of dyspeptic symptoms, eradication of H. pylori, colon care and colon clear.

Results: All patients expressed dramatic relief of their dyspeptic symptoms and the diabetic condition has been successfully and permanently corrected in 16 patients.

Conclusion: In the light of the accurate determination of recent findings and statistics, a revision of the current guidelines for the management of H. pylori and newly discovered DM may be needed. It may be incorrect that the current world's burden of DM is on the account of type II diabetes. It seems that the antibiotic violence has obliged a domestic bug to become wild in sequels instead of getting rid of it.



| Research Title: | The efficacy of a percutaneous expandable titanium |
|----------------------------------|---|
| | device in anatomical reduction of vertebral compression |
| | fractures of the thoracolumbar spine |
| | Saudi Medical Journal |
| Source: | Saudi Med J |
| | Vol. 36, Issue 1, Page: 52-60 |
| ISSN: | 0379-5284 |
| Month and Year of | LAN 2015 |
| Publication: | JAN 2013 |
| Impact Factor: | 0.554 |
| Affiliated Department(s): | Surgery |
| Author(s): | Saleh S Baeesa, Antonio Krueger, Francisco A Aragón, |
| | David C Noriega |
| Correspondent's Email: | n/a |

ABSTRACT

Objectives: To evaluate the feasibility of a minimally invasive technique using a titanium expandable device to achieve anatomical restoration of vertebral compression fractures (VCF) of the thoracolumbar spine.

Methods: This prospective study included 27 patients diagnosed with VCF (Magerl classification A. 1.2, A. 1.3, and A. 3.1) of the thoracolumbar spine treated with percutaneous cement augmentation using the SpineJack (R) device. The study was conducted in Valladolid University Hospital, Valladolid, Spain from January to December 2012, with a minimum one-year follow up. Preoperative evaluation included visual analogue scale (VAS) for pain, and radiological assessment of the VCF using 3-dimensional computed tomography (3D-CT) scans for measurements of vertebral heights and angles. The patients were followed at 3, 6, and 12 months with clinical VAS and radiological assessments.

Results: The procedure was performed in 27 patients with a mean age of 55.9 ± 17.3 years, 55.6% females. All patients underwent surgery within 6 weeks from time of injury. No procedure related complications occurred. Pain measured by VAS score decreased from 7.0 preoperatively to 3.2 within 24 hours, and remained 2.2 at 3 months, 2.1 at 6 months, and 1.5 at 12-months follow-up (p<0.05). Mean height restorations for the anterior was 3.56 mm, central was 2.49, and posterior vertebral was 1.28 mm, and maintained at 12-months follow-up (p=0.001).

Conclusion: This new percutaneous technique for VCF has shown good clinical results in pain control and the possibility to reduce both vertebral kyphosis angles and fractured endplates seen in 3D-CT scans assessment method. Further studies are needed to confirm those results on larger cohorts with long-term follow up.



| Research Title: | Transcriptomics profiling study of breast cancer from |
|-------------------------------|--|
| | Kingdom of Saudi Arabia revealed altered expression of |
| | Adiponectin and Fatty Acid Binding Protein4: Is lipid |
| | metabolism associated with breast cancer? |
| | BMC Genomics |
| Source: | Biomed Central Ltd |
| | Vol. 16, Supplement 1, Page: 11 |
| ISSN: | 1471-2164 |
| Month and Year of | LAN 2015 |
| Publication: | JAN 2015 |
| Impact Factor: | 4.041 |
| Affiliated Department(s): | Surgery |
| | Adnan Merdad, Sajjad Karim, Hans-Juergen Schulten, |
| | Manikandan Jayapal, Ashraf Dallol, Abdelbaset |
| Author(s): | Buhmeida, FATIMA AL-THUBAITY, Mamdooh A |
| | GariI, Adeel GA Chaudhary, Adel M Abuzenadah, |
| | Mohammed H Al-Qahtani |
| Correspondent's Email: | n/a |

ABSTRACT

Background: Breast cancer incidence rates are increasing at an alarming rate among Saudi Arabian females. Most molecular genetic discoveries on breast cancer and other cancers have arisen from studies examining European and American patients. However, possibility of specific changes in molecular signature among cancer patients of diverse ethnic groups remains largely unexplored. We performed transcriptomic profiling of surgically-resected breast tumors from 45 patients based in the Western region of Saudi Arabia using Affymetrix Gene 1.0 ST chip. Pathway and biological function-based clustering was apparent across the tissue samples.

Results: Pathway analysis revealed canonical pathways that had not been previously implicated in breast cancer. Biological network analysis of differentially regulated genes revealed that Fatty acid binding protein 4, adipocyte (FABP4), adiponectin (ADIPOQ), and retinol binding protein 4 (RBP4) were most down regulated genes, sharing strong connection with the other molecules of lipid metabolism pathway. The marked biological difference in the signatures uncovered between the USA and Saudi samples underpins the importance of this study. Connectivity Map identified compounds that could reverse an observed gene expression signature

Conclusions: This study describes, to our knowledge, the first genome-wide profiling of breast cancer from Saudi ethnic females. We demonstrate the involvement of the lipid metabolism pathway in the pathogenesis of breast cancer from this region. This finding also highlights the need for strategies to curb the increasing rates of incidence of this disease by educating the public about life-style risk factors such as unhealthy diet and obesity.



| Research Title: | Transient small bowel intussusception in an adult: case report with intraoperative video and literature review |
|--------------------------------|---|
| Source: | BMC Surgery Biomed Central LTD Vol. 15, Page: 36 |
| ISSN: | 1471-2482 |
| Month and Year of Publication: | APR 2015 |
| Impact Factor: | 1.24 |
| Affiliated Department(s): | Surgery |
| Author(s): | Hager Aref, Abrar Nawawi, Abdulmalik Altaf, Murad Aljiffry |
| Correspondent's Email: | dr.hageraref@gmail.com, Abrar.nawawi@gmail.com, altaf12345@yahoo.com, dr.aljiffry@gmail.com |

ABSTRACT

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

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

Conclusion: Transient intussusception is extremely rare and is a challenging condition. Imaging techniques, especially CT scan, are helpful in the diagnosis of intussusception. However, laparoscopy offers the advantage of distinguishing transient intussusception from persistent intussusception.



| Research Title: | Vagus nerve stimulation for refractory epilepsy: |
|----------------------------------|--|
| | experience from Saudi Arabia |
| Source: | Annals of Saudi Medicine |
| | K Faisal Spec Hosp Res Centre |
| | Vol. 35, Issue 1, Page 41-45 |
| ISSN: | 1319-9226 |
| Month and Year of | LAN 2015 |
| Publication: | JAN 2013 |
| Impact Factor: | 0.486 |
| Affiliated Department(s): | Surgery |
| Author(s): | Youssef Al-Said, Saleh Baeesa, Muhammad Khalid, |
| | Mohamed Abdeen, Husam R Kayyalia |
| Correspondent's Email: | kahusam@kfshrc.edu.saYoussef |

ABSTRACT

Background: Vagus nerve stimulation (VNS) has been approved for the treatment of refractory partial epilepsy in adults and children over 12 years of age. Later on, its application expanded to include younger children and other types of epilepsy. We report our experience with this treatment modality for refractory epilepsy in Saudi Arabia.

Design And Settings: Open-label, uncontrolled, retrospective study of patients with refractory epilepsy, who were treated with VNS in a tertiary care hospital from January 2010 to June 2013.

Patients And Methods: Collected data included 26 patients' demographics, epilepsy characteristics, seizure frequency, and treatment history. Patients with a follow-up duration of minimum 12 months were included in the analysis. The examined outcome measures were seizure reduction rates, antiepileptic drugs (AEDs) burden, and impact on patients' quality of life (QOL).

Results: Onset of seizures was from birth to 30 years. Patients' ages at VNS implantation ranged from 4 to 38 years (18.9 [8.7] years). Epilepsy was classified as focal in 8 patients (30%), multifocal in 9 patients (35%), and generalized in 9 patients (35%). The average number of AEDs failed before VNS was 4.2 (1.4). Greater than 50% seizure reduction was achieved in 50% of patients at 3 months, 67% at 6 months, 73% at 12 months, and 78% at 24 months. There was no significant reduction in AEDs burden during the same period. Subjective QOL improvement was reported by 72% of patients at 3 months, 83% at 6 months, 78% at 12 months, and 73% at 24 months after VNS. Minor adverse effects were reported in 27% of patients. One patient had the device replaced due to malfunction.

Conclusion: The experience with VNS in a single center in Saudi Arabia confirms that it is a safe and effective adjunctive therapy for refractory epilepsy in adult and pediatric patients.



Department of Urology

Department of Urology

<u>Head of Department</u> د أحمد جلال مصطفى الصياد <u>Members</u>

عبدالملك محمد سعيد طيب هشام أحمد محمد موصلي أحمد جلال مصطفى الصياد رائد أنور حامد أز هر محمد ممدوح عبدالعظيم محمد رزق مي أحمد عبدالله سالم بانخر أمجد حسن حسين الوعل أيمن ياسين برهان إدريس بندر أبو بكر محمد الحبشي عبدالرحمن عصام عبدالله الصبان عبدالغفور هاشم عبدالغفور حلواني عمر محمد عمر باحسن



| Research Title: | Adult Ureterocele Presenting with Ureteral Obstruction |
|---------------------------|--|
| | and Urosepsis during Pregnancy |
| Source: | Urology Journal |
| | Urol & Nephrol Res Ctr-Unrc |
| | Vol. 12, Issue 4, Page: 2285-2286 |
| ISSN: | 1735-1308 |
| Month and Year of | HU 2015 |
| Publication: | JUL 2013 |
| Impact Factor: | 0.565 |
| Affiliated Department(s): | Urology |
| Author(s): | Catherine R Harris, Amjad Alwaal, Glen Yang, Michael L |
| | Eisenberg, Benjamin N Breyer |
| Correspondent's Email: | amjadwal@yahoo.com |

ABSTRACT

Ureteroceles are cystic dilatations of the distal ureter that occur due to congenital ureteric wall weakness. They can be orthotopic, occurring in normal ureteric locations and most commonly seen in adults. On the other hand, heterotopic ureteroceles are located in ectopic ureters or in ectopic duplex renal systems, and are more common in children. Ureterocele causing obstruction in adults is less commonly reported. There are few case reports and small case series in the adult population that describe ureteral obstruction from ureteroceles, and only one published report of a ureterocele presenting as prolapsed mass containing stones during pregnancy. We describe a report of an adult presenting with an obstructing ureterocele and urosepsis during pregnancy. The ureter- ocele was successfully extirpated cystoscopically without radiation exposure to mother or fetus. We also review the varied presentations and management of obstructing ureteroceles in adults who have presented at our institution.



| Research Title: | Anatomic partial nephrectomy: technique evolution |
|----------------------------------|---|
| | Current Opinion in Urology |
| Source: | Wolters Kluwer Health |
| | Vol. 25, Issue 2, Page: 95-99 |
| ISSN: | 0963-0643 |
| Month and Year of | MAR 2015 |
| Publication: | |
| Impact Factor: | 2.115 |
| Affiliated Department(s): | Urology |
| Author(s): | Raed A Azhar, Charles Metcalfe, Inderbir S Gill |
| Correspondent's Email: | n/a |

ABSTRACT

Purpose of review: Partial nephrectomy provides equivalent long-term oncologic and superior functional outcomes as radical nephrectomy for T1a renal masses. Herein, we review the various vascular clamping techniques employed during minimally invasive partial nephrectomy, describe the evolution of our partial nephrectomy technique and provide an update on contemporary thinking about the impact of ischemia on renal function.

Recent findings: Recently, partial nephrectomy surgical technique has shifted away from main artery clamping and towards minimizing/eliminating global renal ischemia during partial nephrectomy. Supported by high-fidelity three-dimensional imaging, novel anatomic-based partial nephrectomy techniques have recently been developed, wherein partial nephrectomy can now be performed with segmental, minimal or zero global ischemia to the renal remnant. Sequential innovations have included early unclamping, segmental clamping, super-selective clamping and now culminating in anatomic zero-ischemia surgery. By eliminating 'under-the-gun' time pressure of ischemia for the surgeon, these techniques allow an unhurried, tightly contoured tumour excision with point-specific sutured haemostasis. Recent data indicate that zero-ischemia partial nephrectomy may provide better functional outcomes by minimizing/eliminating global ischemia and preserving greater vascularized kidney volume.

Summary: Contemporary partial nephrectomy includes a spectrum of surgical techniques ranging from conventional-clamped to novel zero-ischemia approaches. Technique selection should be tailored to each individual case on the basis of tumour characteristics, surgical feasibility, surgeon experience, patient demographics and baseline renal function.



| Research Title: | Expression of the cell cycle regulator p27 kip1 in Saudi |
|----------------------------------|--|
| | bladder cancer patients |
| Source: | European Journal of Cancer |
| | Elsevier Sci LTD. |
| | Vol. 51, Page: 506 |
| ISSN: | 1879-0852 |
| Month and Year of | CEDT 2015 |
| Publication: | SEF 1 2015 |
| Impact Factor: | 5.417 |
| Affiliated Department(s): | Urology; Pathology |
| Author(s): | T Nedjadi, A Asayyad, D Khayyat, N Salem, A |
| | Alammari, J Al-Maghrabi |
| Correspondent's Email: | n/a |

ABSTRACT

Background: In men, bladder cancer (BC) is the fourth most common type of cancer and a leading cause of cancer-related death globally. p27Kip1 is a member of the Cip/Kip family of the cyclin kinase inhibitors superfamily (CKIs), which regulate cell cycle progression at the G1-S checkpoint. The expression of p27Kip1 has been shown to be associated with various human malignancies. The aim of the current study is to analyze the expression pattern of p27 in urothelial carcinoma of the bladder in Saudi cancer patients and correlate it with clinical outcome.

Methods: Analysis of p27 expression was performed by immunohistochemistry using tissue microarray of bladder cancer specimens obtained 114 patients who underwent surgical resection for BC at King Abdulaziz University Hospital, KSA. The degree of immuno-reactivity was correlated with the patients' clinical parameters including tumour type, grade, stage, and survival. Statistical analysis was performed using SPSS statistical software.

Results: A total of 50% of patients (57 out of 114) showed positive expression of p27 protein. Immunohistochemical staining of p27 antibody exhibited nuclear localization. Interestingly, loss of p27 expression correlated significantly with increased tumour grade (p = 0.0002) and muscle invasion (p = 0.014). No association was observed between p27 levels and other pathological parameters (age, gender, stage, recurrence). More importantly patients with reduced p27 expression had trend toward poorer survival (p = 0.069, log-rank test).

Conclusion: This is the first study to describe the expression of p27 in bladder cancer patients of Arab origin. This data indicates that p27 plays an important role in bladder carcinogenesis and high p27 levels could help in the stratification and the management of high risk BC population.



| Research Title: | Leptin influences estrogen metabolism and accelerates |
|----------------------------------|---|
| | prostate cell proliferation |
| Source: | Life Sciences |
| | Pergamon-Elsevier Science LTD |
| | Vol. 121, page: 10-15 |
| ISSN: | 1879-0631 |
| Month and Year of | LAN 2015 |
| Publication: | JAN 2015 |
| Impact Factor: | 2.296 |
| Affiliated Department(s): | Urology |
| Author(s): | Christine N Habib, Ahmed M Al-Abd, Mai F Tolba, |
| | Amani E Khalifa, Alaa Khedr, Hisham A Mosli, Ashraf B |
| | Abdel-Naim |
| Correspondent's Email: | n/a |

ABSTRACT

Aim: The present study was designed to investigate the effect of leptin on estrogen metabolism in prostatic cells.

Main methods: Malignant (PC-3) and benign (BPH-1) human prostate cells were treated with 17-beta-hydroxyestradiol (1 mu M) alone or in combination with leptin (0.4, 4, 40 ng/ml) for 72 h. Cell proliferation assay, immunocytochemical staining of estrogen receptor (ER), liquid chromatography-tandem mass spectrometry method (LC-MS) and semi-quantitative reverse transcriptase polymerase chain reaction (RT-PCR) were used.

Key findings: Cell proliferation assay demonstrated that leptin caused significant growth potentiation in both cells. Immunocytochemical staining showed that leptin significantly increased the expression of ER-alpha and decreased that of ER-beta in PC-3 cells. LC-MS method revealed that leptin increased the concentration 4-hydroxyestrone and/or decreased that of 2-methoxyestradiol, 4-methoxyestradiol and 2-methoxyestrone. Interestingly, RT-PCR showed that leptin significantly up-regulated the expression of aromatase and cytochrome P450 1B1 (CYP1B1) enzymes; however down-regulated the expression of catechol-o-methyltransferase (COMT) enzyme.

Significance: These data indicate that leptin-induced proliferative effect in prostate cells might be partly attributed to estrogen metabolism. Thus, leptin might be a novel target for therapeutic intervention in prostatic disorders.



| Research Title: | Management of Peyronie's Disease after Collagenase |
|----------------------------------|--|
| | (Xiaflex (R)) |
| Source: | Current Drug Targets |
| | Bentham Science Publ LTD |
| | Vol. 16, Issue 5, Page: 484-494 |
| ISSN: | 1873-5592 |
| Month and Year of | IAN 2015 |
| Publication: | JAIN 2013 |
| Impact Factor: | 3.021 |
| Affiliated Department(s): | Urology |
| Author(s): | Amjad Alwaal, Ahmed Aly Hussein, Uwais B Zaid, Tom |
| | F Lue |
| Correspondent's Email: | amjadwal@yahoo.com |

ABSTRACT

Although the prevalence of Peyronie's disease (PD) is reported to be 3-9% in men, the true prevalence is likely higher due to under-reporting. Many treatment modalities have been described for PD with varying degrees of success. In this article, we review and summarize the current literature pertaining to all pharmacotherapies (oral, intralesional, iontophoresis, and topical) and minimally invasive treatments available for PD (vacuum, traction device, shock wave therapy, and radiation treatment). Additionally, we discuss emerging therapies for PD that are still in pre-clinical development, including stem cell therapy.



| Research Title: | Metformin Attenuates Testosterone-Induced Prostatic |
|----------------------------------|---|
| | Hyperplasia in Rats: A Pharmacological Perspective |
| Source: | Scientific Reports |
| | Nature Publishing Group |
| | Vol. 5, Page: 15639 |
| ISSN: | 2045-2322 |
| Month and Year of | OCT 2015 |
| Publication: | 0C1 2015 |
| Impact Factor: | 5.578 |
| Affiliated Department(s): | Urology |
| Author(s): | Hala H Mosli, Ahmed Esmat, Reem T Atawia, Sherif M |
| | Shoieb, Hisham A Mosli, Ashraf B Abdel-Naim |
| Correspondent's Email: | n/a |

ABSTRACT

Benign prostatic hyperplasia (BPH) is uncontrolled proliferation of prostate tissue. Metformin, a widely prescribed anti-diabetic agent, possesses anticancer activity through induction of apoptotic signaling and cell cycle arrest. This study aimed to investigate the protective effect of metformin against experimentally-induced BPH in rats. Treatment with 500 and 1000 mg/kg metformin orally for 14 days significantly inhibited testosterone-mediated increase in the prostate weight & prostate index (prostate weight/body weight [mg/g]) and attenuated the pathological alterations induced by testosterone. Mechanistically, metformin significantly protected against testosteroneinduced elevation of estrogen receptor-alpha (ER-alpha) and decrease of estrogen receptor-beta (ER-beta) expression, with no significant effect of androgen receptor (AR) and 5 alpha-reductase expression. It decreased mRNA expression of IGF-1 and IGF-1R and protein expression ratio of pAkt/total Akt induced by testosterone. Furthermore, it significantly ameliorated testosterone-induced reduction of mRNA expression Bax/Bcl-2 ratio, P21 and phosphatase and tensin homolog (PTEN) and AMPK [PT-172] activity. In conclusion, these findings elucidate the effectiveness of metformin in preventing testosterone-induced BPH in rats. These results could be attributed, at least partly, to its ability to enhance expression ratio of ER-beta/ER-alpha, decrease IGF-1, IGF-1R and pAkt expressions, increase P21, PTEN, Bax/Bcl-2 expressions and activate AMPK with a subsequent inhibition of prostate proliferation.



| Research Title: | Minimally invasive management of urological fistulas |
|----------------------------------|--|
| | Current Opinion in Urology |
| Source: | Wolters Kluwer Health |
| | Vol. 25, Issue 2, Page: 136-142 |
| ISSN: | 0963-0643 |
| Month and Year of | MAR 2015 |
| Publication: | |
| Impact Factor: | 2.115 |
| Affiliated Department(s): | Urology |
| Author(s): | Luciano A Núñez Bragayrac, Raed A Azhar, Rene Sotelo |
| Correspondent's Email: | n/a |

ABSTRACT

Purpose of review: Urological fistulas are an underestimated problem worldwide and have devastating consequences for patients. Many urological fistulas result from surgical complications and/or inadequate perinatal obstetric healthcare. Surgical correction is the standard treatment. This article reviews minimally invasive surgical approaches to manage urological fistulas with a particular emphasis on the robotic techniques of fistula correction.

Recent findings: In recent years, many surgeons have explored a minimally invasive approach for the management of urological fistulas. Several studies have demonstrated the feasibility of laparoscopic surgery and the reproducibility of reconstructive surgery techniques. Introduction of the robotic platform has provided significant advantages given the improved dexterity and exceptional vision that it confers.

Summary: Fistulas are a concern worldwide. Laparoscopic surgery correction has been developed through the efforts of several authors, and difficulties such as the increased learning curve have been overcome with innovations, including the robotic platform. Although minimally invasive surgery offers numerous advantages, the most successful approach remains the one with the surgeon is most familiar.



| Research Title: | Molecular Interaction of a Kinase Inhibitor Midostaurin |
|----------------------------------|---|
| | with Anticancer Drug Targets, S100A8 and EGFR: |
| | Transcriptional Profiling and Molecular Docking Study |
| | for Kidney Cancer Therapeutics |
| | PLOS One |
| Source: | Public Library Science |
| | Vol. 10, Issue 3, Article no.: e0119765 |
| ISSN: | 1932-6203 |
| Month and Year of | MAD 2015 |
| Publication: | MAR 2013 |
| Impact Factor: | 3.534 |
| Affiliated Department(s): | Urology; Pathology |
| 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 |
| Correspondent's Email: | skarim1@kau.edu.sa, mhalgahtani@kau.edu.sa |

ABSTRACT

The S100A8 and epidermal growth factor receptor (EGFR) proteins are proto-oncogenes that are strongly expressed in a number of cancer types. EGFR promotes cellular proliferation, differentiation, migration and survival by activating molecular pathways. Involvement of proinflammatory S100A8 in tumor cell differentiation and progression is largely unclear and not studied in kidney cancer (KC). S100A8 and EGFR are potential therapeutic biomarkers and anticancer drug targets for KC. In this study, we explored molecular mechanisms of interaction profiles of both molecules with potential anticancer drugs. We undertook transcriptional profiling in Saudi KCs using Affymetrix HuGene 1.0 ST arrays. We identified 1478 significantly expressed genes, including S100A8 and EGFR overexpression, using cut-off p=value <0.05 and fold change >= 2. Additionally, we compared and confirmed our findings with expression data available at NCBI's GEO database. A significant number of genes associated with cancer showed involvement in cell cycle progression, DNA repair, tumor morphology, tissue development, and cell survival. Atherosclerosis signaling, leukocyte extravasation signaling, notch signaling, and IL-12 signaling were the most significantly disrupted signaling pathways. The present study provides an initial transcriptional profiling of Saudi KC patients. Our analysis suggests distinct transcriptomic signatures and pathways underlying molecular mechanisms of KC progression. Molecular docking analysis revealed that the kinase inhibitor "midostaurin" has amongst the selected drug targets, the best ligand properties to S100A8 and EGFR, with the implication that its binding inhibits downstream signaling in KC. This is the first structure-based docking study for the selected protein targets and anticancer drug, and the results indicate S100A8 and EGFR as attractive anticancer targets and midostaurin with effective drug properties for therapeutic intervention in KC.



| Research Title: | Normal male sexual function: emphasis on orgasm and |
|----------------------------------|---|
| | ejaculation |
| Source: | Fertility and Sterility |
| | Elsevier Science Inc |
| | Vol. 104, Issue 5, Page: 1051-1060 |
| ISSN: | 0015-0282 |
| Month and Year of | NOV 2015 |
| Publication: | |
| Impact Factor: | 4.590 |
| Affiliated Department(s): | Urology |
| Author(s): | Amjad Alwaal, Benjamin N Breyer, Tom F Lue |
| Correspondent's Email: | amjadwal@yahoo.com |

ABSTRACT

Orgasm and ejaculation are two separate physiological processes that are sometimes difficult to distinguish. Orgasm is an intense transient peak sensation of intense pleasure creating an altered state of consciousness associated with reported physical changes. Antegrade ejaculation is a complex physiological process that is composed of two phases (emission and expulsion), and is influenced by intricate neurological and hormonal pathways. Despite the many published research projects dealing with the physiology of orgasm and ejaculation, much about this topic is still unknown. Ejaculatory dysfunction is a common disorder, and currently has no definitive cure. Understanding the complex physiology of orgasm and ejaculation allows the development of therapeutic targets for ejaculatory dysfunction. In this article, we summarize the current literature on the physiology of orgasm and ejaculation, starting with a brief description of the anatomy of sex organs and the physiology of erection. Then, we describe the physiology of orgasm and ejaculation process.



| Research Title: | Novel augmentation ileocystoplasty technique to manage |
|----------------------------------|--|
| | noncompliant bladders in the presence of obstructed |
| | megaureters: The "fez procedure" |
| Source: | International Journal of Urology |
| | Wiley-Blackwell |
| | Vol. 22, Issue 3, Page: 301-305 |
| ISSN: | 1442-2042 |
| Month and Year of | MAD 2015 |
| Publication: | MAR 2013 |
| Impact Factor: | 2.409 |
| Affiliated Department(s): | Urology |
| Author(s): | Abdulmalik Tayib, Taha A Abdel-Meguid, Ahmed J |
| | Al-Sayyad, Truki E Altayloni, Mohammed K Khan, |
| | Ahmed S Zugail |
| Correspondent's Email: | n/a |

ABSTRACT

Objectives: To show the efficacy and safety of a novel modification of Studer's neobladder, herein defined as the fez procedure.

Methods: The medical records of 21 children (mean age 9.4 1.3 years) who underwent the fez procedure at King Abdulaziz University Hospital, Jeddah, Saudi Arabia, to manage refractory poorly-compliant bladders and concomitantly obstructed megaureters were retrospectively reviewed. The patients had been previously managed by either preliminary cutaneous ureterostomy (17 patients) or temporary nephrostomy (four patients) to improve and stabilize the renal functions. The fez procedure entailed augmentation ileocystoplasty and the use of an afferent tubularized ileal loop for direct ureteroileal anastomosis. The augmented bladder together with the tubularized loop were fashioned as a fez with its tassel. The outcome measures were changes in cystometric capacity, bladder compliance, glomerular filtration rate, serum creatinine, technetium 99m-diethylene triamine pentaacetic acid diuretic renography (T1/2), ureteral diameter, vesicoureteral reflux, febrile urinary tract infections, continence and complications.

Results: The mean study follow-up period was 52.5 ± 12.8 months. Means of changes of cystometric capacity (273.2 ± -60.9 mL) and bladder compliance (15.6 ± -4.2 mL/cm H2O) were significant (P < 0.0001). Resolution of ureteral obstruction was documented with improved T1/2 and ureteral diameter (P < 0.0001, each) of all patients. The initially improved renal functions after ureterostomies or nephrostomies were maintained after fez surgery, with non-significant changes in the improved glomerular filtration rate (P = 0.22) and serum creatinine (P = 0.18). None of the patients experienced ureteral restenosis, vesicoureteral reflux, febrile urinary tract infections, incontinence or significant complications.

Conclusions: The fez procedure represents a versatile and successful surgical option for these selected patients, as it offers improved bladder capacity/compliance, resolution of ureteral obstruction and vesicoureteral reflux, preservation of the renal function, control of urinary tract infections and urinary continence, and acceptable morbidity.



| Research Title: | Port Placement and Docking for Robotic Surgery: The |
|----------------------------------|---|
| | University of Southern California Approach |
| Source: | Journal of Endourology |
| | Mary Ann Liebert |
| | Vol. 29, Issue 8, Page: 868-872 |
| ISSN: | 1557-900X |
| Month and Year of | AUG 2015 |
| Publication: | |
| Impact Factor: | 1.708 |
| Affiliated Department(s): | Urology |
| Author(s): | A AzharRaed, K BergerAndre |
| Correspondent's Email: | n/a |

ABSTRACT

Purpose: To describe our approach for port placement and robot docking for pelvic and kidney surgery (KS).

Patients and Methods: We use a four-arm robotic approach and a 5 to 6 port placement consisting of: One 12-mm camera port, three 8-mm robotic ports, and one to two assistant ports. For radical prostatectomy, the working robotic ports run parallel below the level of the umbilicus. Radical cystectomy ports are more cephalad and above the level of the umbilicus. For transperitoneal KS, two bariatric robotic ports are used, aiming for an equilateral triangle configuration. With retroperitoneal (RN) KS, a balloon dilator and balloon port create the RN space; bariatric ports comprise the most anterior and posterior ports.

Results: This technique has been used since 2010 on more than 2370 robotic urologic cases. To date, no procedure has needed patient or robot positioning while maintaining fourth arm functionality with minimal robotic arm clashing.

Conclusions: Our approach of port placement and robot docking is reproducible and feasible for pelvic surgical procedures and KS.



| Research Title: | Prospects of stem cell treatment in benign urological |
|----------------------------------|---|
| | diseases |
| Source: | Korean Journal of Urology |
| | Korean Association of Medical Journals |
| | Vol. 56, Issue 4, Page: 257-265 |
| ISSN: | 2005-6745 |
| Month and Year of | MAD 2015 |
| Publication: | WIAK 2013 |
| Impact Factor: | n/a |
| Affiliated Department(s): | Urology |
| Author(s): | Amjad Alwaal, Ahmed A Hussein, Ching-Shwun Lin, |
| | Tom F Lue |
| Correspondent's Email: | n/a |

ABSTRACT

Stem cells (SCs) are undifferentiated cells that are capable of self-renewal and differentiation and that therefore contribute to the renewal and repair of tissues. Their capacity for division, differentiation, and tissue regeneration is highly dependent on the surrounding environment. Several preclinical and clinical studies have utilized SCs in urological disorders. In this article, we review the current status of SC use in benign urological diseases (erectile dysfunction, Peyronie disease, infertility, and urinary incontinence), and we summarize the results of the preclinical and clinical trials that have been conducted.



| Research Title: | Prostate Cancer Volume Estimation by Combining |
|----------------------------------|--|
| | Magnetic Resonance Imaging and Targeted Biopsy |
| | Proven Cancer Core Length: Correlation with Cancer |
| | Volume |
| Source: | The Journal of Urology |
| | Elsevier B.V. |
| | Vol. 194, Issue 4, Page: 957-965 |
| ISSN: | 0022-5347 |
| Month and Year of | OCT 2015 |
| Publication: | |
| Impact Factor: | 4.471 |
| Affiliated Department(s): | Urology |
| Author(s): | Matsugasumi T, Baco E, Palmer S, Aron M, Sato Y, |
| | Fukuda N, Süer E, Bernhard JC, Nakagawa H, Azhar RA, |
| | Gill IS, Ukimura O |
| Correspondent's Email: | n/a |

ABSTRACT

Purpose: Multiparametric magnetic resonance imaging often underestimates or overestimates pathological cancer volume. We developed what is to our knowledge a novel method to estimate prostate cancer volume using magnetic resonance/ultrasound fusion, biopsy proven cancer core length.

Materials and Methods: We retrospectively analyzed the records of 81 consecutive patients with magnetic resonance/ultrasound fusion, targeted biopsy proven, clinically localized prostate cancer who underwent subsequent radical prostatectomy. As 7 patients each had 2 visible lesions on magnetic resonance imaging, 88 lesions were analyzed. The dimensions and estimated volume of visible lesions were calculated using apparent diffusion coefficient maps. The modified formula to estimate cancer volume was defined as the formula of vertical stretching in the anteroposterior dimension of the magnetic resonance based 3-dimensional model, in which the imaging estimated lesion anteroposterior dimension was replaced by magnetic resonance/ultrasound targeted, biopsy proven cancer core length. Agreement of pathological cancer volume with magnetic resonance estimated volume or the novel modified volume was assessed using a Bland-Altman plot.

Results: Magnetic resonance/ultrasound fusion, biopsy proven cancer core length was a stronger predictor of the actual pathological cancer anteroposterior dimension than magnetic resonance estimated lesion anteroposterior dimension (r = 0.824 vs 0.607, each p <0.001). Magnetic resonance/ultrasound targeted, biopsy proven cancer core length correlated with pathological cancer volume (r = 0.773, p <0.001). The modified formula to estimate cancer volume demonstrated a stronger correlation with pathological cancer volume than with magnetic resonance estimated volume (r = 0.824 vs 0.724, each p <0.001). Agreement of modified volume with pathological cancer volume was improved over that of magnetic resonance estimated volume on Bland-Altman plot analysis. Predictability was more enhanced in the subset of lesions with a volume of 2 ml or less (ie if spherical, the lesion was approximately 16 mm in diameter).



Conclusions: Combining magnetic resonance estimated cancer volume with magnetic resonance/ultrasound fusion, biopsy proven cancer core length improved cancer volume predictability.



| Research Title: | Soy polysaccharide as a novel superdisintegrant in |
|---------------------------|---|
| | sildenafil citrate sublingual tablets: preparation, |
| | characterization, and in vivo evaluation |
| Source: | Drug Design Development and Therapy |
| | Dove Medical Press Ltd |
| | Vol. 9, Page: 465-472 |
| ISSN: | 1177-8881 |
| Month and Year of | LAN 2015 |
| Publication: | JAN 2013 |
| Impact Factor: | 3.026 |
| Affiliated Department(s): | Urology |
| Author(s): | Khaled Mohamed Hosny, Hisham Ahmed Mosli, Ali |
| | Habiballah Hassan |
| Correspondent's Email: | n/a |

ABSTRACT

Sildenafil citrate (SC), a drug used to treat erectile dysfunction, is available in tablet form but has three major problems. First, the drug displays inadequate aqueous solubility, which delays the onset of its action. Second, the drug undergoes extensive first-pass metabolism, resulting in a low (40%) bioavailability. Third, the gastrointestinal effects of SC include dyspepsia and a burning sensation. The aim of this research was to prepare SC as a sublingual tablet utilizing soy polysaccharide as novel superdisintegrant to mitigate the abovementioned problems. The solubility of SC in various hydrophilic carrier solutions was estimated in order to prepare the drug as a coprecipitate. Sublingual tablets were prepared and evaluated for hardness, friability, drug content, wetting time, water absorption ratio, in vitro dispersion time, dissolution rate, and stability study. The pharmacokinetic study of the tablets was carried out on healthy volunteers. The results indicated that the co-precipitation of SC with polyvinylpyrollidone K30 enhanced the solubility of SC by more than eight folds. The tablet contained 8% soy polysaccharide as a superdisintegrant and provided a wetting time of 25 seconds, and in vitro dispersion times of 55 seconds. The drug release was found to be 95.6%. The prepared SC sublingual tablet also exhibited a rapid onset of action, and its bioavailability was enhanced 1.68-fold compared with that of the marketed tablets. It can be concluded that SC sublingual tablet is a promising formulation that results in higher solubility, faster dispersion and onset of action, higher release rate, and higher systemic bioavailability.



| Research Title: | Utilities of Split-Thickness Skin Grafting for Male |
|---------------------------|---|
| | Genital Reconstruction |
| Source: | Urology |
| | Elsevier Science Inc |
| | Vol. 86, Issue 4, Page: 835-839 |
| ISSN: | 1527-9995 |
| Month and Year of | OCT 2015 |
| Publication: | |
| Impact Factor: | 2.188 |
| Affiliated Department(s): | Urology |
| Author(s): | Amjad Alwaal, Jack W McAninch, Catherine R Harris, |
| | Benjamin N Breyer |
| Correspondent's Email: | amjadwal@yahoo.com |

ABSTRACT

Objective: To report our successful outcomes of genital split-thickness skin graft (STSG) in covering major skin loss and providing good functional and cosmetic outcomes.

Materials And Methods: A retrospective chart review was performed for all adult urology patients who underwent STSG at our institution from 1998 to 2014. Patients had a wide range of disease etiologies, including tissue loss (eg post-Fournier's gangrene), lymphedema, buried penis, foreign body injection, and tumors.

Results: A total of 54 patients were identified with the following breakdown of etiology: 13 patients with tissue loss (eg post-Fournier's gangrene), 13 with lymphedema, 12 with buried penis, 8 with foreign body injection, 4 with hidradenitis suppurativa, and 4 with tumors. Fifty-two out of 54 patients had more than 90% graft take, with maintained or improved erection, normal voiding, good cosmetic outcome as judged by the patient and the examining surgeon, and normal mobility. One patient died at 3 months due to cardiovascular cause, and 1 patient had a poor take of the graft.

Conclusion: We show the wide variety of indications for STSG use, the ease of the technique, and its successful outcomes. We believe this procedure should be offered to patients as a first-line treatment and also as a last resort when other more conservative approaches fail.



Scientific Chairs



| Research Title: | Lycopene treatment against loss of bone mass, |
|-------------------------------|--|
| | microarchitecture and strength in relation to regulatory |
| | mechanisms in a postmenopausal osteoporosis model |
| Source: | Bone |
| | Elsevier |
| | Vol. 83, Page: 127-140 |
| ISSN: | 8756-3282 |
| Month and Year of | NOV 2015 |
| Publication: | NOV 2015 |
| Impact Factor: | 3.973 |
| Affiliated Department(s): | Center of Excellence for Osteoporosis Research; |
| | Anatomy; Clinical Biochemistry; Hematology; Ob-gyne |
| Author(s): | Mohammed-Salleh M Ardawi, Mohammed H Badawoud, |
| | Sherif M Hassan, Abdulrahim A Rouzi, Jumanah MS |
| | Ardawi, Nouf M AlNosani, Mohammed H Qari, Shaker A |
| | Mousa |
| Correspondent's Email: | msmardawi@yahoo.com |

ABSTRACT

Lycopene supplementation decreases oxidative stress and exhibits beneficial effects on bone health, but the mechanisms through which it alters bone metabolism in vivo remain unclear. The present study aims to evaluate the effects of lycopene treatment on postmenopausal osteoporosis. Six-month-old female Wistar rats (n = 264) were shamoperated (SHAM) or ovariectomized (OVX). The SHAM group received oral vehicle only and the OVX rats were randomized into five groups receiving oral daily lycopene treatment (mg/kg body weight per day): 0 OVX (control), 15 OVX, 30 OVX, and 45 OVX, and one group receiving alendronate (ALN) (2 µg/kg body weight per day), for 12 weeks. Bone densitometry measurements, bone turnover markers, biomechanical testing, and histomorphometric analysis were conducted. Micro computed tomography was also used to evaluate changes in microarchitecture. Lycopene treatment suppressed the OVXinduced increase in bone turnover, as indicated by changes in biomarkers of bone metabolism: serum osteocalcin (s-OC), serum N-terminal propeptide of type 1 collagen (s-PINP), serum crosslinked carboxyterminal telopeptides (s-CTX-1), and urinary deoxypyridinoline (u-DPD). Significant improvement in OVX-induced loss of bone mass, bone strength, and microarchitectural deterioration was observed in lycopenetreated OVX animals. These effects were observed mainly at sites rich in trabecular bone, with less effect in cortical bone. Lycopene treatment down-regulated osteoclast differentiation concurrent with up-regulating osteoblast together with glutathione peroxidase (GPx) catalase (CAT) and superoxide dismutase (SOD) activities. These findings demonstrate that lycopene treatment in OVX rats primarily suppressed bone turnover to restore bone strength and microarchitecture.



| Research Title: | c-MET immunostaining in colorectal carcinoma is |
|---------------------------|--|
| | associated with local disease recurrence |
| Source: | Bmc Cancer |
| | Biomed Central Ltd |
| | Vol. 15, Page: 676 |
| ISSN: | 1471-2407 |
| Month and Year of | OCT 2015 |
| Publication: | |
| Impact Factor: | 3.362 |
| Affiliated Department(s): | Colon Cancer Chair; Medicine; Pathology |
| Author(s): | Jaudah Al-Maghrabi, Eman Emam, Wafaey Gomaa, |
| | Moaath Saggaf, Abdelbaset Buhmeida, Mohammad Al- |
| | Qahtani, Mahmoud Al-Ahwal |
| Correspondent's Email: | jalmaghrabi@hotmail.com, iman.emam20@gmail.com, |
| | wafgom@yahoo.com, mo3athe@hotmail.com, |
| | buhmeida7@yahoo.com, mhalqahtani@kau.edu.sa, |
| | mahwal@kau.edu.sa |

ABSTRACT

Background: Increased mesenchymal-epithelial transition factor gene (c-MET) expression in several human malignancies is related to increased tumour progression. The aim of the present study is to explore the relationship between immunohistochemical expression of c-MET in colorectal carcinoma (CRC) and the clinicopathological characteristics and follow up data, to compare the expression of c-MET in primary CRC and its metastasis in lymph nodes and to test its validity as independent prognostic factor.

Methods: Hundred and thirty-five archival CRC and nodal metastases samples were collected from King Abdulaziz University Hospital, Saudi Arabia. Tissue microarrays were constructed and immunohistochemistry was done to detected c-MET protein expression. Appropriate statistical analysis was performed.

Results: High c-MET immunostaining was significantly associated with tumour size larger than 5 cm (p < 0.003) and in left colon subsite (p < 0.05). There was no significant correlation between c-MET protein expression and age, sex, degree of differentiation, tumour invasion, presence of nodal metastasis, lymphovascular invasion, status of surgical resection margin, or presence of distant metastasis. Furthermore, no association between c-MET protein expression and disease free survival. High protein expression of c-MET is associated with the incidence of local disease recurrence (p < 0.012).

Conclusion: c-MET is a new promising target that may help in understanding the pathogenesis of CRC, and to be used as independent prognostic biomarker to predict local disease recurrence in CRC. Further molecular in vitro and in vivo studies are required to pursue c-MET as potential molecular marker of metastases and test the possibility of its incorporation as a new targeted therapeutic target.


| Research Title: | Immunoexpression of cyclin D1 in colorectal carcinomas |
|-------------------------------|--|
| | is not correlated with survival outcome |
| | Journal of Microscopy and Ultrastructure |
| Source: | Elsevier B.V. |
| | Vol. 3, Issue 3, Page: 62-67 |
| ISSN: | 2213-879X |
| Month and Year of | HUN 2015 |
| Publication: | JUN 2013 |
| Impact Factor: | n/a |
| Affiliated Department(s): | Colon Cancer Chair; Medicine; Pathology |
| | Jaudah Al-Maghrabi, Shagufta Mufti, Wafaey Gomaa, |
| Author(s): | Abdelbaset Buhmeida, Mohammed Al-Qahtani, |
| | Mahmoud Al-Ahwal |
| Correspondent's Email: | n/a |

ABSTRACT

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

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

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

Results: There were more cases with low nuclear immunoexpression of CCND1in both primary tumours and nodal metastasis (p < 0.001). Cyclin D1 did not show association with clinicopathological features except with lymphovascular invasion. Low nuclear immunoexpression of CCND1 was associated with negative lymphovascular invasion (p = 0.046). There was no statistically significant correlation between CCND1 immunoexpression and survival probability (Log Rank = 2.474, p = 0.116).

Conclusion: Our study indicates that CCND1 immunoexpression cannot be used as a predictor of survival in CRC. It also shows no significant correlation with clinicopathological features except with lymphovascular invasion.



| Research Title: | Immunoexpression of PAX-8 as a Useful Marker in |
|---------------------------|--|
| | Distinguishing Gynecological Malignancy fromColorectal |
| | Carcinomas: a Tissue Microarray-Based Approach |
| Source: | Journal of American Science |
| | Marsland Press |
| | Vol. 11, Issue 2, Page: 76-81 |
| ISSN: | 1545-1003 |
| Month and Year of | ADD 2015 |
| Publication: | AFK 2015 |
| Impact Factor: | n/a |
| Affiliated Department(s): | Colon Cancer Chair; Medicine; Pathology |
| Author(s): | Jaudah Al-Maghrabi, Abdelbaset Buhmeida, Mohammad |
| | Al-Qahtani, Mahmoud Al-Ahwal |
| Correspondent's Email: | n/a |

ABSTRACT

Introduction: PAX 8 is a transcription factor that belongs to PAX gene family. The data on the diagnostic applications of PAX-8 is limited. In this study, the expression of PAX-8 in colorectal, endometrial and ovarian carcinomas is evaluated.

Material and methods: Tissue microarrays were prepared from archival of colorectal carcinomas (n: 133), endometrial carcinomas (n: 79) and ovarian carcinomas (75) obtained from the Department of Pathology at King Abdulaziz University Jeddah, Saudi Arabia. Tissue sections were immunostained using monoclonal antibodies to PAX-8. The immunohistochemical stains were scored semiquantitatively from 0 to 4+.

Results: PAX-8 immunoexpression was detected in 132/154 (83%) of the Mullerian carcinomas (93 and 43% for non-mucinous and mucinous carcinomas, respectively). PAX-8 expression was found in all serous carcinomas from ovarian and endometrial origin. PAX-8 was not detected in any of the colorectal carcinoma.

Conclusion: PAX-8 is a sensitive marker for non-mucinous carcinomas of Mullerian origin and it is a useful marker indifferentiating endometrial and ovarian carcinomas from colorectal carcinomas.



| Research Title: | The significance of sonic hedgehog immunohistochemical |
|-------------------------------|--|
| | expression in colorectal carcinoma |
| | Journal of Microscopy and Ultrastructure |
| Source: | Elsevier B.V. |
| | Page:1-6 |
| ISSN: | 2213-879X |
| Month and Year of | HIN 2015 |
| Publication: | JUN 2013 |
| Impact Factor: | n/a |
| Affiliated Department(s): | Colon Cancer Chair; Medicine; Pathology |
| | Doaa Al Ghamdi, Wafaey Gomaa, Abdulrhman |
| Author(s): | Abulaban, Mahmoud Al-Ahwal, Abdelbaset Buhmeida, |
| | Mohammed Al-Qahtani, Jaudah Al-Maghrabi |
| Correspondent's Email: | n/a |

ABSTRACT

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



| Research Title: | Development and applications of universal H7 subtype- specific antibodies for the analysis of influenza H7N9 vaccines |
|-----------------------------------|--|
| Source: | Vaccine Elsevier Sci Ltd Vol. 33, Issue 9, Page: 1129-1134 |
| ISSN: | 1873-2518 |
| Month and Year of Publication: | FEB 2015 |
| Impact Factor: | 3.624 |
| Affiliated Department(s): | King Fahd Center for Medical Research - Special Infectious Agents Unit; Microbiology and Medical Parasitology |
| Author(s): | Caroline Gravel, Cathie Elmgren, Abenaya Muralidharan, Anwar M Hashem, Bozena Jaentschke, Kangwei Xu, Jennifer Widdison, Kristin Arnold, Aaron Farnsworth, Aline Rinfret, Gary Van Domselaar, Junzhi Wang, Changgui Li, Xuguang Li |
| Correspondent's Email: | sean.li@hc-sc.gc.ca |

ABSTRACT

H7N9 is a newly emerged avian influenza virus with a relatively high mortality rate in humans. At this time, there is no licensed vaccine for human protection. Development of analytical tools for H7N9 vaccine could facilitate vaccine development. Here, a universally conserved epitope in all H7 hemagglutinin (HA) sequences was identified through comprehensive bioinformatics analyses. The peptide epitope, RSGSSFYAEMK, (aa positions 149 to 159), is located on the head of the HA molecule. Antibodies generated against this universal H7 epitope were remarkably specific against H7 viral sequence with no detectable cross-reactivity to other HA subtypes. A new immunoblotting assay based on the universal H7 antibody was developed and compared with the traditional single radial immunodiffusion assay (SRID) for potency analyses of candidate H7N9 vaccines. This new assay was more sensitive and rapid compared to SRID. In addition to statistically acceptable precision and reproducibility, the new assay differs from many other alternative potency assays for influenza vaccine in that it is potentially stability-indicating, which is an important requirement for industry vaccine stability studies analyses. Furthermore, the robustness of this new assay was demonstrated by the quantitative determination of HA content in four H7N9 vaccines (split or inactivated) from different manufacturers.



| Research Title: | Incidence of diabetic foot disorders in patients with |
|---------------------------|---|
| | diabetes in Jeddah, Saudi Arabia |
| | International Journal of Diabetes in Developing Countries |
| Source: | Springer India |
| | Vol. 35, Issue 2, Page: 115-122 |
| ISSN: | 1998-3832 |
| Month and Year of | HIN 2015 |
| Publication: | JUN 2013 |
| Impact Factor: | 0.373 |
| Affiliated Department(s): | Mohammed Hussein Al-Amoudi Chair for Diabetic Foot |
| | Research; Surgery |
| Author(s): | Hasan A Alzahrani, Dong Wang, Almad H Alzahrani, |
| | Frank B Hu |
| Correspondent's Email: | n/a |

ABSTRACT

Epidemiology of diabetic foot disorders in Saudi Arabia has not been well documented. We therefore performed a 1-year follow-up study to characterize the incidence of diabetic foot disorders, including peripheral arterial disease (PAD), peripheral neuropathy (PN), foot ulcer, gangrene, and amputation, among 556 diabetic patients in Saudi Arabia. All the disorders were diagnosed by standard objective diagnostic tools or diagnosed clinically by a specialized surgeon. Complication of foot ulcer (CFU) was defined as at least one of the following complications: foot ulcer, gangrene, and amputation. Diabetic foot disorder (DFD) was defined as at least one of the following complications: foot ulcer, gangrene, and amputation. The 1-year cumulative incidence of PAD, PN, CFU, and DFD was 6.3, 9.2, 3.6, and 16.7 %, respectively. The 1-year cumulative incidence was 1.8 % for foot ulcer, 1.5 % for gangrene, and 0.6 % for amputation. Only one participant was diagnosed as more than one disorder. The longer duration of diabetes was associated with an increased incidence of PN and DFD. Relatively high incidences, as well as the duration of diabetes as the major risk factors for diabetic foot disorders were found in this Saudi population.



| Research Title: | Lifestyle Factors and their Relation to Measures of |
|-------------------------------|--|
| | Obesity Amongst Adults Living in Jeddah- Saudi Arabia: |
| | A Cross-Sectional Study |
| Source: | Current Research in Nutrition and Food Science |
| | Vol. 3, Issue 2, Page: 98-111 |
| ISSN: | 2322-0007 |
| Month and Year of | AUC 2015 |
| Publication: | AUG 2013 |
| Impact Factor: | n/a |
| Affiliated Department(s): | Mohammed Hussein Al-Amoudi Chair for Diabetic Foot |
| | Research; Clinical Biochemistry; Medicine |
| Author(s): | Sarah Bandar Aljoudi, Eman Talal Kotbi, Fatimah |
| | Abdulaziz Alsomali, Yasser Haddawi, Emtenan Mansour |
| | Meer, Anas Binsalman |
| Correspondent's Email: | n/a |

ABSTRACT

Although the prevalence of obesity and overweight in Saudi Arabia is high, studies of associated factors are lacking. This study aimed to investigate the relationship between socio-demographic and lifestyles factors and different measures of obesity amongst adults living in Jeddah. A cross sectional design was used employing a multi stage geographical cluster random sampling technique to select survey locations. Only families living in KSA for \geq 5 years were included. Participants were interviewed about dietary and socio-demographic information, and their anthropometric measurements (weight, height, waist and hip circumference) were taken. Body mass index (BMI) and waist to hip ratio (WHR) were used as measures of general and abdominal obesity, respectively. 331 adults were included in the study; mean age \pm SD was 37.12 \pm 13.58. General and central obesity were both inversely related to educational level, fast food consumption, number of snacks consumed and the level of physical activity. Central obesity was more prevalent in frequent breakfast consumers and smokers. Males who consumed less snacks and were physically inactive had higher odds of being generally obese, while those with increasing breakfast intake and decreasing fast food consumption were prone to central obesity. Females with a greater number of meals consumption had higher odds of general obesity while those who consumed less snacks and were physically inactive were prone to central obesity. The design of health programs and strategies to reduce the prevalence of obesity tailored to associated factors is a health priority.



| Research Title: | A global reference for human genetic variation |
|---------------------------|--|
| Source: | Nature |
| | Nature Publishing Group |
| | Vol. 526, Issue 7571, Page: 68 |
| ISSN: | 1476-4687 |
| Month and Year of | OCT 2015 |
| Publication: | 001 2013 |
| Impact Factor: | 41.456 |
| Affiliated Department(s): | Princess Al-Jawhara Albrahim Center of Excellence in |
| | Hereditary Disorders Research |
| Author(s): | 1000 Genomes Project Consortium, Auton A, Brooks LD, |
| | Durbin RM, Garrison EP, Kang HM, Korbel JO, Marchini |
| | JL, McCarthy S, McVean GA, Abecasis GR, Jun Wang, |
| | ET AL |
| Correspondent's Email: | goncalo@umich.edu; adam.auton@gmail.com |

ABSTRACT

The 1000 Genomes Project set out to provide a comprehensive description of common human genetic variation by applying whole-genome sequencing to a diverse set of individuals from multiple populations. Here we report completion of the project, having reconstructed the genomes of 2,504 individuals from 26 populations using a combination of low-coverage whole-genome sequencing, deep exome sequencing, and dense microarray genotyping. We characterized a broad spectrum of genetic variation, in total over 88 million variants (84.7 million single nucleotide polymorphisms (SNPs), 3.6 million short insertions/deletions (indels), and 60,000 structural variants), all phased onto high-quality haplotypes. This resource includes >99% of SNP variants with a frequency of >1% for a variety of ancestries. We describe the distribution of genetic variation across the global sample, and discuss the implications for common disease studies.



| Research Title: | Birth prevalence of non-syndromic orofacial clefts in |
|---------------------------|--|
| | Saudi Arabia and the effects of parental consanguinity |
| | Saudi Medical Journal |
| Source: | Saudi Med J |
| | Vol. 36, Issue 9, Page: 1076-1083 |
| ISSN: | 1658-3175 |
| Month and Year of | SEDT 2015 |
| Publication: | SEF 1 2015 |
| Impact Factor: | 0.554 |
| Affiliated Department(s): | Princess Al-Jawhara Albrahim Center of Excellence in |
| | Hereditary Disorders Research; Medical Genetics |
| | Heba J Sabbagh, Nicola P Innes, Bahauddin I Sallout, |
| Author(s). | Najlaa M Alamoudi, Mustafa A Hamdan, Nasir |
| Author(s): | Alhamlan, Amaal I Al-Khozami, Fatma D Abdulhameed, |
| | Jumana Y Al-Aama, Peter A Mossey |
| Correspondent's Email: | n/a |

ABSTRACT

Objectives: To describe the characteristics and prevalence of non-syndromic orofacial clefting (NSOFC) and assess the effects of parental consanguinity on NSOFC phenotypes in the 3 main cities of Saudi Arabia.

Methods: All infants (114,035) born at 3 referral centers in Riyadh, and 6 hospitals in Jeddah and Madinah between January 2010 and December 2011 were screened. The NSOFC cases (n=133) were identified and data was collected through clinical examination and records, and information on consanguinity through parent interviews. The diagnosis was confirmed by reviewing medical records and contacting the infants' pediatricians. Control infants (n=233) matched for gender and born in the same hospitals during the same period, were selected.

Results: The prevalence of NSOFC was 1.07/1000 births in Riyadh, and 1.17/1000 births overall; cleft lip (CL) was 0.47/1000 births, cleft lip and palate (CLP) was 0.42/1000 births, and cleft palate (CP) was 0.28/1000 births. Cleft palate was significantly associated with consanguinity (p=0.047, odds ratio: 2.5, 95% confidence interval: 1 to 6.46), particularly for first cousin marriages.

Conclusion: The birth prevalence of NSOFC in Riyadh alone, and in the 3 main cities of Saudi Arabia were marginally lower than the mean global prevalence. While birth prevalence for CLP was comparable to global figures, the CL:CLP ratio was high, and only CP was significantly associated with consanguinity.



| Research Title: | Case of Sjögren-Larsson syndrome with a large deletion in the ALDH3A2 gene confirmed by single nucleotide |
|-------------------------------|--|
| | polymorphism array analysis |
| | Journal of Dermatology |
| Source: | Wiley-Blackwell |
| | Vol. 42, Issue 7, Page: 706-709 |
| ISSN: | 1346-8138 |
| Month and Year of | HU 2015 |
| Publication: | JOL 2013 |
| Impact Factor: | 2.354 |
| Affiliated Department(s): | Princess Al-Jawhara Albrahim Center of Excellence in |
| | Hereditary Disorders Research; Medical Genetics |
| Author(s): | Nagwa EA Gaboon, Musharraf Jelani, Mona M |
| | Almramhi, Hussein SA Mohamoud, Jumana Y Al-Aama |
| Correspondent's Email: | mjelani@kau.edu.sa |

ABSTRACT

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



| Research Title: | Clinical Management of Catecholaminergic Polymorphic |
|---------------------------|---|
| | Ventricular Tachycardia The Role of Left Cardiac |
| | Sympathetic Denervation |
| Source: | Circulation |
| | Lippincott Williams & Wilkins |
| | Vol. 131, Issue 25, Page: 2185-2193 |
| ISSN: | 1524-4539 |
| Month and Year of | HIN 2015 |
| Publication: | JUN 2013 |
| Impact Factor: | 15.073 |
| Affiliated Department(s): | Princess Al-Jawhara Albrahim Center of Excellence in |
| | Hereditary Disorders Research |
| | De Ferrari GM, Dusi V, Spazzolini C, Bos JM, Abrams |
| | DJ, Berul CI, Crotti L, Davis AM, Eldar M, Kharlap M, |
| | Khoury A, Krahn AD, Leenhardt A, Moir CR, Odero A, |
| Author(s): | Olde Nordkamp L, Paul T, Rosés I Noguer F, |
| | Shkolnikova M, Till J, Wilde AA, Ackerman MJ, |
| | Schwartz PJ |
| Correspondent's Email: | ackerman.michael@mayo.edu; peter.schwartz@unipv.it |

ABSTRACT

Background: Catecholaminergic polymorphic ventricular tachycardia (CPVT) is a genetic disorder causing life-threatening arrhythmias whenever sympathetic activity increases. - Blockers are the mainstay of therapy; when they fail, implantable cardioverter-defibrillators (ICDs) are used but often cause multiple shocks. Preliminary results with flecainide appear encouraging. We proposed left cardiac sympathetic denervation (LCSD) as useful additional therapy, but evidence remains anecdotal.

Methods and Results: We report 63 patients with CPVT who underwent LCSD as secondary (n=54) or primary (n=9) prevention. The median post-LCSD follow-up was 37 months. The 9 asymptomatic patients remained free of major cardiac events. Of the 54 patients with prior major cardiac events either on (n=38) or off (n=16) optimal medical therapy, 13 (24%) had at least 1 recurrence: 0 patients had an aborted cardiac arrest, 2 patients had syncope only, 10 patients had 1 appropriate ICD discharges, and 1 patient died suddenly. The 1- and 2-year cumulative event-free survival rates were 87% and 81%. The percentage of patients with major cardiac events despite optimal medical therapy (n=38) was reduced from 100% to 32% (P<0.001) after LCSD, and among 29 patients with a presurgical ICD, the rate of shocks dropped by 93% from 3.6 to 0.6 shocks per person per year (P<0.001). Patients with an incomplete LCSD (n=7) were more likely to experience major cardiac events after LCSD (71% versus 17%; P<0.01) than those with a complete LCSD.

Conclusions: LCSD is an effective antifibrillatory intervention for patients with CPVT. Whenever syncope occurs despite optimal medical therapy, LCSD could be considered the next step rather than an ICD and could complement ICDs in patients with recurrent shocks.



| Research Title: | Comparison of variations detection between whole- |
|---|--|
| | genome amplification methods used in single-cell |
| | resequencing |
| Source: | Gigascience |
| | Biomed Central Ltd |
| | Vol. 4, Page: 37 |
| ISSN: | 2047-217X |
| Month and Year of | AUG 2015 |
| Publication: | AUG 2015 |
| | |
| Impact Factor: | n/a |
| Impact Factor: | n/a Princess Al-Jawhara Albrahim Center of Excellence in |
| Impact Factor: Affiliated Department(s): | n/a Princess Al-Jawhara Albrahim Center of Excellence in Hereditary Disorders Research |
| Impact Factor: Affiliated Department(s): | n/a Princess Al-Jawhara Albrahim Center of Excellence in Hereditary Disorders Research Hou Y, Wu K, Shi X, Li F, Song L, Wu H, Dean M, Li G, |
| Impact Factor: Affiliated Department(s): | n/a Princess Al-Jawhara Albrahim Center of Excellence in Hereditary Disorders Research Hou Y, Wu K, Shi X, Li F, Song L, Wu H, Dean M, Li G, Tsang S, Jiang R, Zhang X, Li B, Liu G, Bedekar N, Lu |
| Impact Factor: Affiliated Department(s): Author(s): | n/a Princess Al-Jawhara Albrahim Center of Excellence in Hereditary Disorders Research Hou Y, Wu K, Shi X, Li F, Song L, Wu H, Dean M, Li G, Tsang S, Jiang R, Zhang X, Li B, Liu G, Bedekar N, Lu N, Xie G, Liang H, Chang L, Wang T, Chen J, Li Y, |
| Impact Factor: Affiliated Department(s): Author(s): | n/a Princess Al-Jawhara Albrahim Center of Excellence in Hereditary Disorders Research Hou Y, Wu K, Shi X, Li F, Song L, Wu H, Dean M, Li G, Tsang S, Jiang R, Zhang X, Li B, Liu G, Bedekar N, Lu N, Xie G, Liang H, Chang L, Wang T, Chen J, Li Y, Zhang X, Yang H, Xu X, Wang L, Wang J |
| Impact Factor: Affiliated Department(s): Author(s): | n/a Princess Al-Jawhara Albrahim Center of Excellence in Hereditary Disorders Research Hou Y, Wu K, Shi X, Li F, Song L, Wu H, Dean M, Li G, Tsang S, Jiang R, Zhang X, Li B, Liu G, Bedekar N, Lu N, Xie G, Liang H, Chang L, Wang T, Chen J, Li Y, Zhang X, Yang H, Xu X, Wang L, Wang J xuxun@genomics.cn; vascular@fmmu.edu.cn; |

ABSTRACT

Background: Single-cell resequencing (SCRS) provides many biomedical advances in variations detection at the single-cell level, but it currently relies on whole genome amplification (WGA). Three methods are commonly used for WGA: multiple displacement amplification (MDA), degenerate-oligonucleotide-primed PCR (DOP-PCR) and multiple annealing and looping-based amplification cycles (MALBAC). However, a comprehensive comparison of variations detection performance between these WGA methods has not yet been performed.

Results: We systematically compared the advantages and disadvantages of different WGA methods, focusing particularly on variations detection. Low-coverage wholegenome sequencing revealed that DOP-PCR had the highest duplication ratio, but an even read distribution and the best reproducibility and accuracy for detection of copynumber variations (CNVs). However, MDA had significantly higher genome recovery sensitivity (similar to 84 %) than DOP-PCR (similar to 6 %) and MALBAC (similar to 52 %) at high sequencing depth. MALBAC and MDA had comparable single-nucleotide variations detection efficiency, false-positive ratio, and allele drop-out ratio. We further demonstrated that SCRS data amplified by either MDA or MALBAC from a gastric cancer cell line could accurately detect gastric cancer CNVs with comparable sensitivity and specificity, including amplifications of 12p11.22 (KRAS) and 9p24.1 (JAK2, CD274, and PDCD1LG2).

Conclusions: Our findings provide a comprehensive comparison of variations detection performance using SCRS amplified by different WGA methods. It will guide researchers to determine which WGA method is best suited to individual experimental needs at single-cell level.



| Research Title: | Concise Review: Cardiac Disease Modeling Using |
|-------------------------------|--|
| | Induced Pluripotent Stem Cells |
| | Stem Cells |
| Source: | Wiley-Blackwell |
| | Vol. 33, Issue 9, 2643-2651 |
| ISSN: | 1549-4918 |
| Month and Year of | SEDT 2015 |
| Publication: | SEF 1 2015 |
| Impact Factor: | 6.523 |
| Affiliated Department(s): | Princess Al-Jawhara Albrahim Center of Excellence in |
| | Hereditary Disorders Research; Medical Genetics |
| Author(s): | Yang, Chunbo; Al-Aama, Jumana; Stojkovic, Miodrag; |
| | Keavney, Bernard; Trafford, Andrew; Lako, Majlinda; |
| | Armstrong, Lyle |
| Correspondent's Email: | Lyle.Armstrong@ncl.ac.uk |

ABSTRACT

Genetic cardiac diseases are major causes of morbidity and mortality. Although animal models have been created to provide some useful insights into the pathogenesis of genetic cardiac diseases, the significant species differences and the lack of genetic information for complex genetic diseases markedly attenuate the application values of such data. Generation of induced pluripotent stem cells (iPSCs) from patient-specific specimens and subsequent derivation of cardiomyocytes offer novel avenues to study the mechanisms underlying cardiac diseases, to identify new causative genes, and to provide insights into the disease aetiology. In recent years, the list of human iPSC-based models for genetic cardiac diseases has been expanding rapidly, although there are still remaining concerns on the level of functionality of iPSC-derived cardiomyocytes and their ability to be used for modeling complex cardiac diseases in adults. This review focuses on the development of cardiomyocyte induction from pluripotent stem cells, the recent progress in heart disease modeling using iPSC-derived cardiomyocytes, and the challenges associated with understanding complex genetic diseases. To address these issues, we examine the similarity between iPSC-derived cardiomyocytes and their ex vivo counterparts and how this relates to the method used to differentiate the pluripotent stem cells into a cardiomyocyte phenotype. We progress to examine categories of congenital cardiac abnormalities that are suitable for iPSC-based disease modeling.



| Research Title: | De novo assembly of a haplotype-resolved human |
|------------------------------|--|
| | genome |
| | Nature Biotechnology |
| Source: | Nature Publishing Group |
| | Vol. 33, Issue 6, Page: 617 |
| ISSN: | 1546-1696 |
| Month and Year of | IUN 2015 |
| Publication: | 3017 2013 |
| Impact Factor: | 41.541 |
| Affiliated Demontry on t(g). | Princess Al-Jawhara Albrahim Center of Excellence in |
| Annated Department(s): | Hereditary Disorders Research |
| | Hongzhi Cao, Honglong Wu, Ruibang Luo, Shujia |
| | Huang, Yuhui Sun, Xin Tong, Yinlong Xie, Binghang |
| | Liu, Hailong Yang, Hancheng Zheng, Jian Li, Bo Li, Yu |
| | Wang, Fang Yang, Peng Sun, Siyang Liu, Peng Gao, |
| | Haodong Huang, Jing Sun, Dan Chen, Guangzhu He, |
| Author(s): | Weihua Huang, Zheng Huang, Yue Li, Laurent CAM |
| | Tellier, Xiao Liu, Qiang Feng, Xun Xu, Xiuqing Zhang, |
| | Lars Bolund, Anders Krogh, Karsten Kristiansen, Radoje |
| | Drmanac, Snezana Drmanac, Rasmus Nielsen, Songgang |
| | Li, Jian Wang, Huanming Yang, Yingrui Li, Gane Ka- |
| | Shu Wong, Jun Wang |
| | liyr@genomics.cn; gane@ualberta.ca; |
| Correspondent's Email: | wangj@genomics.cn |

ABSTRACT

The human genome is diploid, and knowledge of the variants on each chromosome is important for the interpretation of genomic information. Here we report the assembly of a haplotype-resolved diploid genome without using a reference genome. Our pipeline relies on fosmid pooling together with whole-genome shotgun strategies, based solely on nextgeneration sequencing and hierarchical assembly methods. We applied our sequencing method to the genome of an Asian individual and generated a 5.15-Gb assembled genome with a haplotype N50 of 484 kb. Our analysis identified previously undetected indels and 7.49 Mb of novel coding sequences that could not be aligned to the human reference genome, which include at least six predicted genes. This haplotype-resolved genome represents the most complete de novo human genome assembly to date. Application of our approach to identify individual haplotype differences should aid in translating genotypes to phenotypes for the development of personalized medicine.



| Research Title: | Directional dominance on stature and cognition in diverse |
|---------------------------|---|
| | human populations |
| Source: | Nature |
| | Nature Publishing Group |
| | Vol. 523, Issue 7561, Page: 459 |
| ISSN: | 1476-4687 |
| Month and Year of | HH 2015 |
| Publication: | JOL 2013 |
| Impact Factor: | 41.456 |
| Affiliated Department(s): | Princess Al-Jawhara Albrahim Center of Excellence in |
| | Hereditary Disorders Research |
| Author(s): | Panos Deloukas; ET AL (Link: |
| | http://www.ncbi.nlm.nih.gov/pmc/articles/PMC4516141/) |
| Correspondent's Email: | n/a |

ABSTRACT

Homozygosity has long been associated with rare, often devastating, Mendelian disorders, and Darwin was one of the first to recognize that inbreeding reduces evolutionary fitness. However, the effect of the more distant parental relatedness that is common in modern human populations is less well understood. Genomic data now allow us to investigate the effects of homozygosity on traits of public health importance by observing contiguous homozygous segments (runs of homozygosity), which are inferred to be homozygous along their complete length. Given the low levels of genome-wide homozygosity prevalent in most human populations, information is required on very large numbers of people to provide sufficient power. Here we use runs of homozygosity to study 16 health-related quantitative traits in 354,224 individuals from 102 cohorts, and find statistically significant associations between summed runs of homozygosity and four complex traits: height, forced expiratory lung volume in one second, general cognitive ability and educational attainment (P < 1 x 10(-300), 2.1 x 10(-6), 2.5 x 10(-10) and 1.8 x 10(-10), respectively). In each case, increased homozygosity was associated with decreased trait value, equivalent to the offspring of first cousins being 1.2 cm shorter and having 10 months' less education. Similar effect sizes were found across four continental groups and populations with different degrees of genome-wide homozygosity, providing evidence that homozygosity, rather than confounding, directly contributes to phenotypic variance. Contrary to earlier reports in substantially smaller samples, no evidence was seen of an influence of genome-wide homozygosity on blood pressure and low density lipoprotein cholesterol, or ten other cardio-metabolic traits. Since directional dominance is predicted for traits under directional evolutionary selection, this study provides evidence that increased stature and cognitive function have been positively selected in human evolution, whereas many important risk factors for late-onset complex diseases may not have been.



| Research Title: | Disentangling type 2 diabetes and metformin treatment |
|-----------------------------------|--|
| | signatures in the human gut microbiota |
| Source: | Nature |
| | Nature Publishing Group |
| | Vol. 528, Issue 7581, Page: 262 |
| ISSN: | 1476-4687 |
| Month and Year of Publication: | DEC 2015 |
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| Affiliated Department(a) | Princess Al-Jawhara Albrahim Center of Excellence in |
| Annated Department(s): | Hereditary Disorders Research |
| | Kristoffer Forslund, Falk Hildebrand, Trine Nielsen, |
| | Gwen Falony, Emmanuelle Le Chatelier, Shinichi |
| | Sunagawa, Edi Prifti, Sara Vieira-Silva, Valborg |
| | Gudmundsdottir, Helle Krogh Pedersen, Manimozhiyan |
| Author(s): | Arumugam, Karsten Kristiansen, Anita Yvonne Voigt, |
| | Henrik Vestergaard, Rajna Hercog, Paul Igor Costea, Jens |
| | Roat Kultima, Junhua Li, Torben Jørgensen, Florence |
| | Levenez, Joël Dore, H Bjørn Nielsen, Søren Brunak, |
| | Jeroen Raes, Torben Hansen, Jun Wang, S Dusko Ehrlich, |
| | Peer Bork, Oluf Pedersen |
| Convession dent's Emails | dusko.ehrlich@jouy.inra.fr; bork@embl.de; |
| Correspondent's Email: | oluf@sund.ku.dk |

ABSTRACT

In recent years, several associations between common chronic human disorders and altered gut microbiome composition and function have been reported(1,2). In most of these reports, treatment regimens were not controlled for and conclusions could thus be confounded by the effects of various drugs on the microbiota, which may obscure microbial causes, protective factors or diagnostically relevant signals. Our study addresses disease and drug signatures in the human gut microbiome of type 2 diabetes mellitus (T2D). Two previous quantitative gut metagenomics studies of T2D patients that were unstratified for treatment yielded divergent conclusions regarding its associated gut microbial dysbiosis(3,4). Here we show, using 784 available human gut metagenomes, how antidiabetic medication confounds these results, and analyse in detail the effects of the most widely used antidiabetic drug metformin. We provide support for microbial mediation of the therapeutic effects of metformin through short-chain fatty acid production, as well as for potential microbiota-mediated mechanisms behind known intestinal adverse effects in the form of a relative increase in abundance of Escherichia species. Controlling for metformin treatment, we report a unified signature of gut microbiome shifts in T2D with a depletion of butyrate-producing taxa(3.4). These in turn cause functional microbiome shifts, in part alleviated by metformin-induced changes. Overall, the present study emphasizes the need to disentangle gut microbiota signatures of specific human diseases from those of medication.



| Research Title: | DNA Methylation of Lipid-Related Genes Affects Blood |
|---------------------------|--|
| | Lipid Levels |
| | Circulation-Cardiovascular Genetics |
| Source: | Lippincott Williams & Wilkins |
| | Vol. 8, Issue 2, Page: 334 |
| ISSN: | 1942-3268 |
| Month and Year of | ADD 2015 |
| Publication: | APK 2013 |
| Impact Factor: | 4.631 |
| Affiliated Department(g). | Princess Al-Jawhara Albrahim Center of Excellence in |
| Annated Department(s): | Hereditary Disorders Research |
| | Liliane Pfeifferm, Simone Wahl, Luke C Pilling, Eva |
| | Reischl, Johanna K Sandling, Sonja Kunze, Lesca M Holdt, |
| | Anja Kretschmer, Katharina Schramm, Jerzy Adamski, |
| Author(s): | Norman Klopp, Thomas Illig, Åsa K Hedman, Michael |
| | Roden, Dena G Hernandez, Andrew B Singleton, Wolfgang |
| | E Thasler, Harald Grallert, Christian Gieger, Christian |
| | Herder, Daniel Teupser, Christa Meisinger, Timothy D |
| | Spector, Florian Kronenberg, Holger Prokisch, David |
| | Melzer, Annette Peters, Panos Deloukas, Luigi Ferrucci, |
| | Melanie Waldenberger |
| Correspondent's Email: | waldenberger@helmholtz-muenchen.de |

ABSTRACT

Background: Epigenetic mechanisms might be involved in the regulation of interindividual lipid level variability and thus may contribute to the cardiovascular risk profile. The aim of this study was to investigate the association between genome-wide DNA methylation and blood lipid levels high-density lipoprotein cholesterol, low-density lipoprotein cholesterol, triglycerides, and total cholesterol. Observed DNA methylation changes were also further analyzed to examine their relationship with previous hospitalized myocardial infarction.

Methods and Results: Genome-wide DNA methylation patterns were determined in whole blood samples of 1776 subjects of the Cooperative Health Research in the Region of Augsburg F4 cohort using the Infinium HumanMethylation450 BeadChip (Illumina). Ten novel lipid-related CpG sites annotated to various genes including ABCG1, MIR33B/SREBF1, and TNIP1 were identified. CpG cg06500161, located in ABCG1, was associated in opposite directions with both high-density lipoprotein cholesterol (beta coefficient=-0.049; P=8.26E-17) and triglyceride levels (beta=0.070; P=1.21E-27). Eight associations were confirmed by replication in the Cooperative Health Research in the Region of Augsburg F3 study (n=499) and in the Invecchiare in Chianti, Aging in the Chianti Area study (n=472). Associations between triglyceride levels and SREBF1 and ABCG1 were also found in adipose tissue of the Multiple Tissue Human Expression Resource cohort (n=634). Expression analysis revealed an association between ABCG1 methylation and lipid levels that might be partly mediated by ABCG1 expression. DNA methylation of ABCG1 might also play a role in previous hospitalized myocardial infarction (odds ratio, 1.15; 95% confidence interval=1.06-1.25).

Conclusions: Epigenetic modifications of the newly identified loci might regulate disturbed blood lipid levels and thus contribute to the development of complex lipid-related diseases.



| Research Title: | Dynamics and Stabilization of the Human Gut |
|-------------------------------|--|
| | Microbiome during the First Year of Life |
| | Cell Host & Microbe |
| Source: | Cell Press |
| | Vol. 17, Issue 5, Page: 690-703 |
| ISSN: | 1934-6069 |
| Month and Year of | MAY 2015 |
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| A ffiliated Demonstration (a) | Princess Al-Jawhara Albrahim Center of Excellence in |
| Annateu Depar tment(s): | Hereditary Disorders Research; Medical Genetics |
| Author(s): | Fredrik Bäckhed, Josefine Roswall, Yangqing Peng, |
| | Qiang Feng, Huijue Jia, Petia Kovatcheva-Datchary, Yin |
| | Li, Yan Xia, Hailiang Xie, Huanzi Zhong, Muhammad |
| | Tanweer Khan, Jianfeng Zhang, Junhua Li, Liang Xiao, |
| | Jumana Al-Aama, Dongya Zhang, Ying Shiuan Lee, |
| | Dorota Kotowska, Camilla Colding, Valentina Tremaroli, |
| | Ye Yin, Stefan Bergman, Xun Xu, Lise Madsen, Karsten |
| | Kristiansen, Jovanna Dahlgren, Wang Jun |
| Correspondent's Emails | fredrik.backhed@wlab.gu.se; |
| Correspondent's Email: | jovanna.dahlgren@vgregion.se; wangj@genomics.org.cn |

ABSTRACT

The gut microbiota is central to human health, but its establishment in early life has not been quantitatively and functionally examined. Applying metagenomic analysis on fecal samples from a large cohort of Swedish infants and their mothers, we characterized the gut microbiome during the first year of life and assessed the impact of mode of delivery and feeding on its establishment. In contrast to vaginally delivered infants, the gut microbiota of infants delivered by C-section showed significantly less resemblance to their mothers. Nutrition had a major impact on early microbiota composition and function, with cessation of breast-feeding, rather than introduction of solid food, being required for maturation into an adult-like microbiota. Microbiota composition and ecological network had distinctive features at each sampled stage, in accordance with functional maturation of the microbiome. Our findings establish a framework for understanding the interplay between the gut microbiome and the human body in early life.



| Research Title: | Effect of Ramadan fasting in Saudi Arabia on serum bone |
|---------------------------|---|
| | profile and immunoglobulins |
| Source: | Therapeutic Advances in Endocrinology and Metabolism |
| | SAGE Publications |
| | Page: 1-10 |
| ISSN: | 2042-0196 |
| Month and Year of | HH 2015 |
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| Affiliated Department(s): | Princess Al-Jawhara Albrahim Center of Excellence in |
| | Hereditary Disorders Research; Clinical Biochemistry, |
| | Medical Genetics |
| Author(s): | Suhard M Bahijri, Ghada M Ajabnoor, Anwar Borai, |
| | Jumana Y Al-Aama, George P Chrousos |
| Correspondent's Email: | sbahijri@gmail.com |

ABSTRACT

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

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

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

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



| Research Title: | Epigenome-wide association study (EWAS) of BMI, BMI change and waist circumference in African American adults identifies multiple replicated loci |
|-----------------------------------|--|
| Source: | Human Molecular Genetics Oxford Univ Press Vol. 24, Issue 15, Page: 4464-4479 |
| ISSN: | 1460-2083 |
| Month and Year of Publication: | AUG 2015 |
| Impact Factor: | 6.393 |
| Affiliated Department(s): | Princess Al-Jawhara Albrahim Center of Excellence in Hereditary Disorders Research |
| Author(s): | Demerath EW, Guan W, Grove ML, Aslibekyan S, Mendelson M, Zhou YH, Hedman ÅK, Sandling JK, Li LA, Irvin MR, Zhi D, Deloukas P, Liang L, Liu C, Bressler J, Spector TD, North K, Li Y, Absher DM, Levy D, Arnett DK, Fornage M, Pankow JS, Boerwinkle E |
| Correspondent's Email: | ewd@umn.edu |

ABSTRACT

Obesity is an important component of the pathophysiology of chronic diseases. Identifying epigenetic modifications associated with elevated adiposity, including DNA methylation variation, may point to genomic pathways that are dysregulated in numerous conditions. The Illumina 450K Bead Chip array was used to assay DNA methylation in leukocyte DNA obtained from 2097 African American adults in the Atherosclerosis Risk in Communities (ARIC) study. Mixed-effects regression models were used to test the association of methylation beta value with concurrent body mass index (BMI) and waist circumference (WC), and BMI change, adjusting for batch effects and potential confounders. Replication using whole-blood DNA from 2377 White adults in the Framingham Heart Study and CD4+ T cell DNA from 991 Whites in the Genetics of Lipid Lowering Drugs and Diet Network Study was followed by testing using adipose tissue DNA from 648 women in the Multiple Tissue Human Expression Resource cohort. Seventy-six BMI-related probes, 164 WC-related probes and 8 BMI change-related probes passed the threshold for significance in ARIC ($P < 1 \times 10(-7)$; Bonferroni), including probes in the recently reported HIF3A, CPT1A and ABCG1 regions. Replication using blood DNA was achieved for 37 BMI probes and 1 additional WC probe. Sixteen of these also replicated in adipose tissue, including 15 novel methylation findings near genes involved in lipid metabolism, immune response/cytokine signaling and other diverse pathways, including LGALS3BP, KDM2B, PBX1 and BBS2, among others. Adiposity traits are associated with DNA methylation at numerous CpG sites that replicate across studies despite variation in tissue type, ethnicity and analytic approaches.



| Research Title: | Exome analysis identified a novel missense mutation in the CLPP gene in a consanguineous Saudi family |
|---------------------------|--|
| | expanding the clinical spectrum of Perrault Syndrome |
| | type-3 |
| | Journal of The Neurological Sciences |
| Source: | Elsevier Science Bv |
| | Vol. 353, Issue 2, Page: 149-154 |
| ISSN: | 1878-5883 |
| Month and Year of | IUN 2015 |
| Publication: | JUN 2013 |
| Impact Factor: | 2.262 |
| Affiliated Department(s): | Princess Al-Jawhara Albrahim Center of Excellence in |
| | Hereditary Disorders Research; Medical Genetics; |
| | Pediatrics; Radiology |
| Author(s): | Saleem Ahmed, Musharraf Jelani, Nuha Alrayes, Hussein |
| | Sheikh Ali Mohamoud, Mona Mohammad Almramhi, |
| | Wasim Anshasi, Naushad Ali Basheer Ahmed, Jun Wang, |
| | Jamal Nasir, Jumana Yousuf Al-Aama |
| Correspondent's Email: | mjelani@kau.edu.sa |

ABSTRACT

Perrault syndrome (PRLTS) is a clinically and genetically heterogeneous disorder. Both male and female patients suffer from sensory neuronal hearing loss in early childhood, and female patients are characterized by premature ovarian failure and infertility after puberty. Clinical diagnosis may not be possible in early life, because key features of PRLTS, for example infertility and premature ovarian failure, do not appear before puberty. Limb spasticity, muscle weakness, and intellectual disability have also been observed in PRLTS patients. Mutations in five genes, HSD17B4, HARS2, CLPP, LARS2, and C10orf2, have been reported in five subtypes of PRLTS. We discovered a consanguineous Saudi family with the PRLTS3 phenotype showing an autosomal recessive mode of inheritance. The patients had developed profound hearing loss, brain atrophy, and lower limb spasticity in early childhood. For molecular diagnosis, we complimented genome-wide homozygosity mapping with whole exome sequencing analyses and identified a novel homozygous mutation in exon 6 of CLPP at chromosome 19p13.3. To our knowledge, early onset with regression is a unique feature of these PRLTS patients that has not been reported so far. This study broadens the clinical spectrum of PRLTS3.



| Research Title: | Femoral-facial syndrome in an infant of a diabetic mother |
|---------------------------|---|
| Source: | BMJ Case Reports |
| | BMJ Publishing Group Ltd |
| ISSN: | 1757-790X |
| Month and Year of | H H 2015 |
| Publication: | JOL 2015 |
| Impact Factor: | n/a |
| Affiliated Department(s): | Princess Al-Jawhara Albrahim Center of Excellence in |
| | Hereditary Disorders Research; Medical Genetics; |
| | Pediatrics |
| Author(s): | Saleem Ahmed, Saad Abdullah Alsaedi, Heidi Al-Wassia, |
| | Jumana Yousef Al-Aama |
| Correspondent's Email: | n/a |

ABSTRACT

Femoral–facial syndrome (FFS) is a very rare multiple congenital anomaly syndrome. The authors describe a case of FFS in a 2-day-old infant of a diabetic mother. The phenotypic features include bilateral symmetrical femoral involvement with completely aplastic right-sided femur, severely hypoplastic left femur and unusual facial dysmorphic features without other skeleton/spinal and genitourinary anomalies. Cases of FFS need to be carefully evaluated because of the similarity between FFS and caudal dysgenesis, a condition frequently related to maternal diabetes and with other syndromes characterised by femoral hypoplasia and associated anomalies, which can pose a diagnostic challenge.



| Research Title: | Genetic studies of body mass index yield new insights for |
|---------------------------|--|
| | obesity biology |
| | Nature |
| Source: | Nature Publishing Group |
| | Vol. 518, Issue 7538, Page: 197 |
| ISSN: | 1476-4687 |
| Month and Year of | EEB 2015 |
| Publication: | TEB 2015 |
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| Affiliated Department(g): | Princess Al-Jawhara Albrahim Center of Excellence in |
| Annated Department(s): | Hereditary Disorders Research |
| | Adam E. Locke, Bratati Kahali, Sonja I. Berndt, Anne E. |
| | Justice, Tune H. Pers, Felix R. Day, Corey Powell, Sailaja |
| | Vedantam, Martin L. Buchkovich, Jian Yang, Damien C. |
| Author(s): | Croteau-Chonka, Tonu Esko, Tove Fall, Teresa Ferreira, |
| | Stefan Gustafsson, Zoltán Kutalik, Jian'an Luan, Reedik |
| | Mägi, Joshua C. Randall, Thomas W. Winkler, Andrew |
| | R. Wood, Tsegaselassie Workalemahu, Jessica D. Faul, |
| | Jennifer A. Smith, Jing Hua Zhao, Deloukas, Panos; ET |
| | AL |
| | joelh@broadinstitute.org; ruth.loos@mssm.edu; |
| Correspondent's Email: | espeliot@med.umich.edu |

ABSTRACT

Obesity is heritable and predisposes to many diseases. To understand the genetic basis of obesity better, here we conduct a genome-wide association study and Metabochip metaanalysis of body mass index (BMI), a measure commonly used to define obesity and assess adiposity, in upto 339,224 individuals. This analysis identifies 97 BMI-associated loci ($P < 5 \ge 10(-8)$), 56 of which are novel. Five loci demonstrate clear evidence of several independent association signals, and many loci have significant effects on other metabolic phenotypes. The 97 loci account for similar to 2.7% of BMI variation, and genome-wide estimates suggest that common variation accounts for >20% of BMI variation. Pathway analyses provide strong support for a role of the central nervous systemin obesity susceptibility and implicate new genes and pathways, including those related to synaptic function, glutamate signalling, insulin secretion/action, energy metabolism, lipid biology and adipogenesis.



| Research Title: | Genome-wide profiling of HPV integration in cervical |
|---------------------------|--|
| | cancer identifies clustered genomic hot spots and a |
| | potential microhomology-mediated integration |
| | mechanism |
| | Nature Genetics |
| Source: | Nature Publishing Group |
| | Vol. 47, Issue 2, Page: 158-163 |
| ISSN: | 1546-1718 |
| Month and Year of | EED 2015 |
| Publication: | TEB 2013 |
| Impact Factor: | 29.352 |
| Affiliated Department(s): | Princess Al-Jawhara Albrahim Center of Excellence in |
| | Hereditary Disorders Research |
| | Zheng Hu, Da Zhu, Wei Wang, Weiyang Li, Wenlong Jia, |
| | Xi Zeng, Wencheng Ding, Lan Yu, Xiaoli Wang, Liming |
| | Wang, Hui Shen, Changlin Zhang, Hongjie Liu, Xiao Liu, |
| | Yi Zhao, Xiaodong Fang, Shuaicheng Li, Wei Chen, Tang |
| Author(s): | Tang, Aisi Fu, Zou Wang, Gang Chen, Qinglei Gao, |
| | Shuang Li, Ling Xi, Changyu Wang, Shujie Liao, Xiangyi |
| | Ma, Peng Wu, Kezhen Li, Shixuan Wang, Jianfeng Zhou, |
| | Jun Wang, Xun Xu, Hui Wang, Ding Ma |
| Correspondent's Email: | xuxun@genomics.cn; huit71@sohu.com; |
| Correspondent's Email: | dingma424@yahoo.com |

ABSTRACT

Human papillomavirus (HPV) integration is a key genetic event in cervical carcinogenesis(1). By conducting whole-genome sequencing and high-throughput viral integration detection, we identified 3,667 HPV integration breakpoints in 26 cervical intraepithelial neoplasias, 104 cervical carcinomas and five cell lines. Beyond recalculating frequencies for the previously reported frequent integration sites POU5F1B (9.7%), FHIT (8.7%), KLF12 (7.8%), KLF5 (6.8%), LRP1B (5.8%) and LEPREL1 (4.9%), we discovered new hot spots HMGA2 (7.8%), DLG2 (4.9%) and SEMA3D (4.9%). Protein expression from FHIT and LRP1B was downregulated when HPV integrated in their introns. Protein expression from MYC and HMGA2 was elevated when HPV integrated into flanking regions. Moreover, microhomologous sequence between the human and HPV genomes was significantly enriched near integration breakpoints, indicating that fusion between viral and human DNA may have occurred by microhomology-mediated DNA repair pathways(2). Our data provide insights into HPV integration-driven cervical carcinogenesis.



| Research Title: | Genomic legacy of the African cheetah, Acinonyx jubatus |
|-------------------------------|---|
| Source: | Genome Biology |
| | Biomed Central Ltd |
| | Vol. 16, Page: 277 |
| ISSN: | 1474-760X |
| Month and Year of | DEC 2015 |
| Publication: | DEC 2013 |
| Impact Factor: | 10.810 |
| Affiliated Department(g) | Princess Al-Jawhara Albrahim Center of Excellence in |
| Ailliated Department(s): | Hereditary Disorders Research |
| | Pavel Dobrynin, Shiping Liu, Gaik Tamazian, Zijun |
| | Xiong, Andrey A Yurchenko, Ksenia Krasheninnikova, |
| | Sergey Kliver, Anne Schmidt-Küntzel, Klaus-Peter |
| | Koepfli, Warren Johnson, Lukas FK Kuderna, Raquel |
| | García-Pérez, Marc de Manuel, Ricardo Godinez, Aleksey |
| Author(s): | Komissarov, Alexey Makunin, Vladimir Brukhin, Weilin |
| | Qiu, Long Zhou, Fang Li, Jian Yi, Carlos Driscoll, |
| | Agostinho Antunes, Taras K Oleksyk, Eduardo Eizirik, |
| | Polina Perelman, Melody Roelke, David Wildt, Mark |
| | Diekhans, Tomas Marques-Bonet, Laurie Marker, Jong |
| | Bhak, Jun Wang, Guojie Zhang, Stephen J O'Brien |
| Correspondent's Email: | lgdchief@gmail.com |

ABSTRACT

Background: Patterns of genetic and genomic variance are informative in inferring population history for human, model species and endangered populations.

Results: Here the genome sequence of wild-born African cheetahs reveals extreme genomic depletion in SNV incidence, SNV density, SNVs of coding genes, MHC class I and II genes, and mitochondrial DNA SNVs. Cheetah genomes are on average 95 % homozygous compared to the genomes of the outbred domestic cat (24.08 % homozygous), Virunga Mountain Gorilla (78.12 %), inbred Abyssinian cat (62.63 %), Tasmanian devil, domestic dog and other mammalian species. Demographic estimators impute two ancestral population bottlenecks: one >100,000 years ago coincident with cheetah migrations out of the Americas and into Eurasia and Africa, and a second 11,084-12,589 years ago in Africa coincident with late Pleistocene large mammal extinctions. MHC class I gene loss and dramatic reduction in functional diversity of MHC genes would explain why cheetahs ablate skin graft rejection among unrelated individuals. Significant excess of non-synonymous mutations in AKAP4 (p < 0.02), a gene mediating spermatozoon development, indicates cheetah fixation of five function-damaging amino acid variants distinct from AKAP4 homologues of other Felidae or mammals; AKAP4 dysfunction may cause the cheetah's extremely high (>80 %) pleiomorphic sperm.

Conclusions: The study provides an unprecedented genomic perspective for the rare cheetah, with potential relevance to the species' natural history, physiological adaptations and unique reproductive disposition.



| Decembra Titles | Genomic signatures of evolutionary transitions from |
|--------------------------------|---|
| Research The: | solitary to group living |
| | Science |
| Source: | Amer Assoc Advancement Science |
| | Vol. 348, Isse 6239, Page: 1139-1143 |
| ISSN: | 1095-9203 |
| Month and Year of Publication: | JUN 2015 |
| Impact Factor: | 33.611 |
| Affiliated Department(g) | Princess Al-Jawhara Albrahim Center of Excellence in |
| Annated Department(s): | Hereditary Disorders Research |
| | Karen M Kapheim, Hailin Pan, Cai Li, Steven L Salzberg, |
| | Daniela Puiu, Tanja Magoc, Hugh M Robertson, Matthew |
| | E Hudson, Aarti Venkat, Brielle J Fischman, Alvaro |
| | Hernandez, Mark Yandell, Daniel Ence, Carson Holt, |
| | George D Yocum, William P Kemp, Jordi Bosch, Robert |
| | M Waterhouse, Evgeny M Zdobnov, Eckart Stolle, F |
| | Bernhard Kraus, Sophie Helbing, Robin FA Moritz, Karl |
| | M Glastad, Brendan G Hunt, Michael AD Goodisman, |
| Author(s). | Frank Hauser, Cornelis JP Grimmelikhuijzen, Daniel |
| Author(5). | Guariz Pinheiro, Francis Morais Franco Nunes, Michelle |
| | Prioli Miranda Soares, Érica Donato Tanaka, Zilá Luz |
| | Paulino Simões, Klaus Hartfelder, Jay D Evans, Seth M |
| | Barribeau, Reed M Johnson, Jonathan H Massey, Bruce R |
| | Southey, Martin Hasselmann, Daniel Hamacher, Matthias |
| | Biewer, Clement F Kent, Amro Zayed, Charles Blatti, |
| | Saurabh Sinha, J Spencer Johnston, Shawn J Hanrahan, |
| | Sarah D Kocher, Jun Wang, Gene E Robinson, Guojie |
| | Zhang |
| Correspondent's Email. | karen.kapheim@usu.edu; wangj@genomics.org.cn; |
| Correspondent 8 Email: | generobi@illinois.edu; zhanggj@genomics.org.cn |

ABSTRACT

The evolution of eusociality is one of the major transitions in evolution, but the underlying genomic changes are unknown. We compared the genomes of 10 bee species that vary in social complexity, representing multiple independent transitions in social evolution, and report three major findings. First, many important genes show evidence of neutral evolution as a consequence of relaxed selection with increasing social complexity. Second, there is no single road map to eusociality; independent evolutionary transitions in sociality have independent genetic underpinnings. Third, though clearly independent in detail, these transitions do have similar general features, including an increase in constrained protein evolution accompanied by increases in the potential for gene regulation and decreases in diversity and abundance of transposable elements. Eusociality may arise through different mechanisms each time, but would likely always involve an increase in the complexity of gene networks.



| Research Title: | Genotype-phenotype analysis of Jervell and Lange- |
|---------------------------|--|
| | Nielsen syndrome in six families from Saudi Arabia |
| Source: | Clinical Genetics |
| | Wiley-Blackwell |
| | Vol. 87, Issue 1, Page: 74-79 |
| ISSN: | 1399-0004 |
| Month and Year of | LAN 2015 |
| Publication: | JAN 2015 |
| Impact Factor: | 3.652 |
| | Princess Al-Jawhara Albrahim Center of Excellence in |
| Affiliated Department(s): | Hereditary Disorders Research; Medicine; Medical |
| | Genetics |
| Author(s): | JY Al-Aama, S Al-Ghamdi, AY Bdier, A AlQarawi, OA |
| | Jiman, N Al-Aama, J Al-Aata, AAM Wilde, ZA Bhuiyan |
| Correspondent's Email: | n/a |

ABSTRACT

We sought to explore the genotype-phenotype of Jervell and Lange-Nielsen syndrome (JLNS) patients in Saudi Arabia. We have also assessed the plausible effect of consanguinity into the pathology of JLNS. Six families with at least one JLNS-affected member attended our clinic between 2011 and 2013. Retrospective and prospective clinical data were collected and genetic investigation was performed. Pathogenic mutations in the KCNQ1 gene were detected in all JLNS patients. The homozygous mutations detected were Leu273Phe, Asp202Asn, Ile567Thr, and c.1486_1487delCT and compound heterozygous mutations were c.820_ 830del and c.1251+1G>T. All living JLNS patients except one had a QTc of >500ms and a history of recurrent syncope. -Blockers abolished the cardiac-related events in all patients except two siblings with homozygous Ile567Thr mutation. Four of the six mutations were originally reported in autosomal dominant long QT syndrome (LQTS) patients. Eighty percent of the heterozygote mutation carriers showed prolongation of QTc, but majority of these reported no symptoms attributable to arrhythmias. Mutations detected in this study will be advantageous in tribe and region-specific cascade screening of LQTS in Saudi Arabia.



| | Global gene expression profiling of brown to white |
|-------------------------------|---|
| Research Title: | adipose tissue transformation in sheep reveals novel |
| | transcriptional components linked to adipose remodeling |
| | BMC Genomics |
| Source: | Biomed Central Ltd |
| | Vol. 16, Page: 215 |
| ISSN: | 1471-2164 |
| Month and Year of | MAD 2015 |
| Publication: | MAK 2013 |
| Impact Factor: | 3.986 |
| | Princess Al-Jawhara Albrahim Center of Excellence in |
| Annateu Department(s): | Hereditary Disorders Research |
| | Astrid L Basse, Karen Dixen, Rachita Yadav, Malin P |
| Author(s): | Tygesen, Klaus Qvortrup, Karsten Kristiansen, Bjørn |
| | Quistorff, Ramneek Gupta, Jun Wang, Jacob B Hansen |
| Correspondent's Email: | ramneek@cbs.dtu.dk; jacob.hansen@bio.ku.dk |

ABSTRACT

Background: Large mammals are capable of thermoregulation shortly after birth due to the presence of brown adipose tissue (BAT). The majority of BAT disappears after birth and is replaced by white adipose tissue (WAT).

Results: We analyzed the postnatal transformation of adipose in sheep with a time course study of the perirenal adipose depot. We observed changes in tissue morphology, gene expression and metabolism within the first two weeks of postnatal life consistent with the expected transition from BAT to WAT. The transformation was characterized by massively decreased mitochondrial abundance and down-regulation of gene expression related to mitochondrial function and oxidative phosphorylation. Global gene expression profiling demonstrated that the time points grouped into three phases: a brown adipose phase, a transition phase and a white adipose phase. Between the brown adipose and the transition phase 170 genes were differentially expressed, and 717 genes were differentially expressed between the transition and the white adipose phase. Thirty-eight genes were shared among the two sets of differentially expressed genes. We identified a number of regulated transcription factors, including NR1H3, MYC, KLF4, ESR1, RELA and BCL6, which were linked to the overall changes in gene expression during the adipose tissue remodeling. Finally, the perirenal adipose tissue expressed both brown and brite/beige adipocyte marker genes at birth, the expression of which changed substantially over time.

Conclusions: Using global gene expression profiling of the postnatal BAT to WAT transformation in sheep, we provide novel insight into adipose tissue plasticity in a large mammal, including identification of novel transcriptional components linked to adipose tissue remodeling. Moreover, our data set provides a useful resource for further studies in adipose tissue plasticity.



| Research Title: | Gut microbiome development along the colorectal |
|--------------------------|---|
| | adenoma-carcinoma sequence |
| | Nature Communications |
| Source: | Nature Publishing Group |
| | Vol. 6, Page: 6528 |
| ISSN: | 2041-1723 |
| Month and Year of | MAD 2015 |
| Publication: | MAK 2013 |
| Impact Factor: | 11.470 |
| Affiliated Department(g) | Princess Al-Jawhara Albrahim Center of Excellence in |
| Annated Department(s): | Hereditary Disorders Research |
| | Qiang Feng, Suisha Liang, Huijue Jia, Andreas |
| | Stadlmayr, Longqing Tang, Zhou Lan, Dongya Zhang, |
| | Huihua Xia, Xiaoying Xu, Zhuye Jie, Lili Su, Xiaoping |
| Author(g). | Li, Xin Li, Junhua Li, Liang Xiao, Ursula Huber- |
| Author(s): | Schönauer, David Niederseer, Xun Xu, Jumana Yousuf |
| | Al-Aama, Huanming Yang, Jian Wang, Karsten |
| | Kristiansen, Manimozhiyan Arumugam, Herbert Tilg, |
| | Christian Datz, Jun Wang |
| Correspondent's Email: | Herbert.Tilg@i-med.ac.at; C.Datz@kh-oberndorf.at; |
| Correspondent's Email: | wangj@genomics.org.cn |

ABSTRACT

Colorectal cancer, a commonly diagnosed cancer in the elderly, often develops slowly from benign polyps called adenoma. The gut microbiota is believed to be directly involved in colorectal carcinogenesis. The identity and functional capacity of the adenoma-or carcinoma-related gut microbe(s), however, have not been surveyed in a comprehensive manner. Here we perform a metagenome-wide association study (MGWAS) on stools from advanced adenoma and carcinoma patients and from healthy subjects, revealing microbial genes, strains and functions enriched in each group. An analysis of potential risk factors indicates that high intake of red meat relative to fruits and vegetables appears to associate with outgrowth of bacteria that might contribute to a more hostile gut environment. These findings suggest that faecal microbiome-based strategies may be useful for early diagnosis and treatment of colorectal adenoma or carcinoma.



| Research Title: | GxE Interactions between FOXO Genotypes and Tea |
|---|--|
| | Drinking Are Significantly Associated with Cognitive |
| | Disability at Advanced Ages in China |
| | Journals of Gerontology Series A-Biological Sciences |
| Sources | And Medical Sciences |
| Source: | Oxford Univ Press Inc |
| | Vol. 70, Issue 4, Page: 426-433 |
| ISSN: | 1079-5006 |
| Month and Year of | APR 2015 |
| Publication: | 11 K 2015 |
| | |
| Impact Factor: | 5.416 |
| Impact Factor: | 5.416 Princess Al-Jawhara Albrahim Center of Excellence in |
| Impact Factor: Affiliated Department(s): | 5.416Princess Al-Jawhara Albrahim Center of Excellence in Hereditary Disorders Research |
| Impact Factor: Affiliated Department(s): | 5.416 Princess Al-Jawhara Albrahim Center of Excellence in Hereditary Disorders Research Yi Zeng, Huashuai Chen, Ting Ni, Rongping Ruan, Lei |
| Impact Factor: Affiliated Department(s): | 5.416 Princess Al-Jawhara Albrahim Center of Excellence in Hereditary Disorders Research Yi Zeng, Huashuai Chen, Ting Ni, Rongping Ruan, Lei Feng, Chao Nie, Lingguo Cheng, Yang Li, Wei Tao, Jun |
| Impact Factor: Affiliated Department(s): | 5.416 Princess Al-Jawhara Albrahim Center of Excellence in Hereditary Disorders Research Yi Zeng, Huashuai Chen, Ting Ni, Rongping Ruan, Lei Feng, Chao Nie, Lingguo Cheng, Yang Li, Wei Tao, Jun Gu, Kenneth C Land, Anatoli Yashin, Qihua Tan, Ze |
| Impact Factor: Affiliated Department(s): Author(s): | 5.416 Princess Al-Jawhara Albrahim Center of Excellence in Hereditary Disorders Research Yi Zeng, Huashuai Chen, Ting Ni, Rongping Ruan, Lei Feng, Chao Nie, Lingguo Cheng, Yang Li, Wei Tao, Jun Gu, Kenneth C Land, Anatoli Yashin, Qihua Tan, Ze Yang, Lars Bolund, Huanming Yang, Elizabeth Hauser, D |
| Impact Factor: Affiliated Department(s): Author(s): | 5.416 Princess Al-Jawhara Albrahim Center of Excellence in Hereditary Disorders Research Yi Zeng, Huashuai Chen, Ting Ni, Rongping Ruan, Lei Feng, Chao Nie, Lingguo Cheng, Yang Li, Wei Tao, Jun Gu, Kenneth C Land, Anatoli Yashin, Qihua Tan, Ze Yang, Lars Bolund, Huanming Yang, Elizabeth Hauser, D Craig Willcox, Bradley J Willcox, Xiao-Li Tian, James W |
| Impact Factor: Affiliated Department(s): Author(s): | 5.416 Princess Al-Jawhara Albrahim Center of Excellence in Hereditary Disorders Research Yi Zeng, Huashuai Chen, Ting Ni, Rongping Ruan, Lei Feng, Chao Nie, Lingguo Cheng, Yang Li, Wei Tao, Jun Gu, Kenneth C Land, Anatoli Yashin, Qihua Tan, Ze Yang, Lars Bolund, Huanming Yang, Elizabeth Hauser, D Craig Willcox, Bradley J Willcox, Xiao-Li Tian, James W Vaupel |

ABSTRACT

Logistic regression analysis based on data from 822 Han Chinese oldest old aged 92+ demonstrated that interactions between carrying FOXO1A-266 or FOXO3-310 or FOXO3-292 and tea drinking at around age 60 or at present time were significantly associated with lower risk of cognitive disability at advanced ages. Associations between tea drinking and reduced cognitive disability were much stronger among carriers of the genotypes of FOXO1A-266 or FOXO3-310 or FOXO3-292 compared with noncarriers, and it was reconfirmed by analysis of three-way interactions across FOXO genotypes, tea drinking at around age 60, and at present time. Based on prior findings from animal and human cell models, we postulate that intake of tea compounds may activate FOXO gene expression, which in turn may positively affect cognitive function in the oldest old population. Our empirical findings imply that the health benefits of particular nutritional interventions, including tea drinking, may, in part, depend upon individual genetic profiles.



| Research Title: | Identification of Two Homozygous Sequence Variants in |
|---------------------------|---|
| | the COL7A1 Gene Underlying Dystrophic Epidermolysis |
| | Bullosa by Whole-Exome Analysis in a Consanguineous |
| | Family |
| Source: | Annals of Human Genetics |
| | Wiley-Blackwell |
| | Vol. 79, Issue 5, Page: 350-356 |
| ISSN: | 0003-4800 |
| Month and Year of | SEDT 2015 |
| Publication: | SEP 1 2015 |
| Impact Factor: | 1.926 |
| Affiliated Department(s): | Princess Al-Jawhara Albrahim Center of Excellence in |
| | Hereditary Disorders Research; Dermatology; Medical |
| | Genetics |
| Author(s): | Rehab Serafi, Musharraf Jelani, Mona M Almramhi, |
| | Hussein SA Mohamoud, Saleem Ahmed, Yaser M |
| | Alkhiary, Jianguo Zhang, Huanming Yang, Jumana Y |
| | Al-Aama |
| Correspondent's Email: | mjelani@kau.edu.sa |

ABSTRACT

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



| | Inference of Purifying and Positive Selection in Three |
|---------------------------|--|
| Research Title: | Subarasia of China and Tostave Selection in Three |
| | Subspecies of Chimpanzees (Pan troglodytes) from |
| | Exome Sequencing |
| Source: | Genome Biology and Evolution |
| | Oxford Univ Press |
| | Vol. 7, Issue 4, Page: 1122-1132 |
| ISSN: | 1759-6653 |
| Month and Year of | A DD 2015 |
| Publication: | APK 2015 |
| Impact Factor: | 4.532 |
| Affiliated Department(s): | Princess Al-Jawhara Albrahim Center of Excellence in |
| | Hereditary Disorders Research; Medical Genetics |
| Author(s): | Thomas Bataillon, Jinjie Duan, Christina Hvilsom, Xin |
| | Jin, Yingrui Li, Laurits Skov, Sylvain Glemin, Kasper |
| | Munch, Tao Jiang, Yu Qian, Asger Hobolth, Jun Wang, |
| | Thomas Mailund, Hans R Siegismund, Mikkel H |
| | Schierup |
| Comesnandent's Emails | tbata@birc.au.dk, hsiegismund@bio.ku.dk, |
| Correspondent's Email: | mheide@birc.au.dk |

ABSTRACT

We study genome-wide nucleotide diversity in three subspecies of extant chimpanzees using exome capture. After strict filtering, Single Nucleotide Polymorphisms and indels were called and genotyped for greater than 50% of exons at a mean coverage of 35x per individual. Central chimpanzees (Pan troglodytes troglodytes) are the most polymorphic (nucleotide diversity, theta(w) = 0.0023 per site) followed by Eastern (P. t. schweinfurthii) chimpanzees (theta(w) = 0.0016) and Western (P. t. verus) chimpanzees (theta(w) = 0.0008). A demographic scenario of divergence without gene flow fits the patterns of autosomal synonymous nucleotide diversity well except for a signal of recent gene flow from Western into Eastern chimpanzees. The striking contrast in X-linked versus autosomal polymorphism and divergence previously reported in Central chimpanzees is also found in Eastern and Western chimpanzees. We show that the direction of selection statistic exhibits a strong nonmonotonic relationship with the strength of purifying selection S, making it inappropriate for estimating S. We instead use counts in synonymous versus nonsynonymous frequency classes to infer the distribution of S coefficients acting on nonsynonymous mutations in each subspecies. The strength of purifying selection we infer is congruent with the differences in effective sizes of each subspecies: Central chimpanzees are undergoing the strongest purifying selection followed by Eastern and Western chimpanzees. Coding indels show stronger selection against indels changing the reading frame than observed in human populations.



| Research Title: | In-Silico Analysis of Inflammatory Bowel Disease (IBD) |
|---------------------------|--|
| | GWAS Loci to Novel Connections |
| Source: | PLOS One |
| | Public Library Science |
| | Vol. 10, Issue 3 |
| ISSN: | 1932-6203 |
| Month and Year of | MAD 2015 |
| Publication: | MAR 2013 |
| Impact Factor: | 3.534 |
| Affiliated Department(s): | Princess Al-Jawhara Albrahim Center of Excellence in |
| | Hereditary Disorders Research; Medical Genetics |
| Author(s): | Md Mesbah-Uddin, Ramu Elango, Babajan |
| | Banaganapalli, Noor Ahmad Shaik, Fahad A Al-Abbasi |
| Correspondent's Email: | n/a |

ABSTRACT

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



| | Meta-analysis of 65,734 Individuals Identifies TSPAN15 |
|---------------------------|--|
| Research Title: | and SLC44A2 as Two Susceptibility Loci for Venous |
| | Thromboembolism |
| | American Journal of Human Genetics |
| Source: | Cell Press |
| | Vol. 96, Issue 4, Page: 532-542 |
| ISSN: | 1537-6605 |
| Month and Year of | ADD 2015 |
| Publication: | AFK 2015 |
| Impact Factor: | 10.931 |
| Affiliated Department(s): | Princess Al-Jawhara Albrahim Center of Excellence in |
| | Hereditary Disorders Research |
| Author(s): | Germain M, Chasman DI, de Haan H, Tang W, Lindström |
| | S, Weng LC, de Andrade M, de Visser MC, Wiggins KL, |
| | Suchon P, Saut N, Smadja DM, Le Gal G, van Hylckama |
| | Vlieg A, Di Narzo A, Hao K, Nelson CP, Rocanin-Arjo |
| | A, Folkersen L, Deloukas P, ET AL |
| Correspondent's Email: | nlsmith@u.washington.edu; pierre.morange@ap-hm.fr |

ABSTRACT

Venous thromboembolism (VTE), the third leading cause of cardiovascular mortality, is a complex thrombotic disorder with environmental and genetic determinants. Although several genetic variants have been found associated with VTE, they explain a minor proportion of VTE risk in cases. We undertook a meta-analysis of genome-wide association studies (GWASs) to identify additional VTE susceptibility genes. Twelve GWASs totaling 7,507 VTE case subjects and 52,632 control subjects formed our discovery stage where 6,751,884 SNPs were tested for association with VTE. Nine loci reached the genome-wide significance level of 5 x 10(-8) including six already known to associate with VTE (ABO, F2, F5, F11, FGG, and PROCR) and three unsuspected loci. SNPs mapping to these latter were selected for replication in three independent casecontrol studies totaling 3,009 VTE-affected individuals and 2,586 control subjects. This strategy led to the identification and replication of two VTE-associated loci, TSPAN15 and SLC44A2, with lead risk alleles associated with odds ratio for disease of 1.31 (p = 1.67 x 10(-16)) and 1.21 ($p = 2.75 \times 10(-15)$), respectively. The lead SNP at the TSPAN15 locus is the intronic rs78707713 and the lead SLC44A2 SNP is the nonsynonymous rs2288904 previously shown to associate with transfusion-related acute lung injury. We further showed that these two variants did not associate with known hemostatic plasma markers. TSPAN15 and SLC44A2 do not belong to conventional pathways for thrombosis and have not been associated to other cardiovascular diseases nor related quantitative biomarkers. Our findings uncovered unexpected actors of VTE etiology and pave the way for novel mechanistic concepts of VTE pathophysiology.



| Research Title: | Molecular Signatures of Major Depression |
|-------------------------------|---|
| | Current Biology |
| Source: | Cell Press |
| | Vol. 25, Issue 9, Page: 1146-1156 |
| ISSN: | 1879-0445 |
| Month and Year of | MAX 2015 |
| Publication: | MA 1 2015 |
| Impact Factor: | 9.571 |
| Affiliated Department(g): | Princess Al-Jawhara Albrahim Center of Excellence in |
| Annated Department(s): | Hereditary Disorders Research |
| | Na Cai, Simon Chang, Yihan Li, Qibin Li, Jingchu Hu, |
| | Jieqin Liang, Li Song, Warren Kretzschmar, Xiangchao |
| | Gan, Jerome Nicod, Margarita Rivera, Hong Deng, Bo |
| | Du, Keqing Li, Wenhu Sang, Jingfang Gao, Shugui Gao, |
| | Baowei Ha, Hung-Yao Ho, Chunmei Hu, Jian Hu, |
| | Zhenfei Hu, Guoping Huang, Guoqing Jiang, Tao Jiang, |
| | Wei Jin, Gongying Li, Kan Li, Yi Li, Yingrui Li, Youhui |
| | Li, Yu-Ting Lin, Lanfen Liu, Tiebang Liu, Ying Liu, |
| Author(s): | Yuan Liu, Yao Lu, Luxian Lv, Huaqing Meng, Puyi Qian, |
| | Hong Sang, Jianhua Shen, Jianguo Shi, Jing Sun, Ming |
| | Tao, Gang Wang, Guangbiao Wang, Jian Wang, Linmao |
| | Wang, Xueyi Wang, Xumei Wang, Huanming Yang, |
| | Lijun Yang, Ye Yin, Jinbei Zhang, Kerang Zhang, Ning |
| | Sun, Wei Zhang, Xiuqing Zhang, Zhen Zhang, Hui |
| | Zhong, Gerome Breen, Jun Wang, Jonathan Marchini, |
| | Yiping Chen, Qi Xu, Xun Xu, Richard Mott, Guo-Jen |
| | Huang, Kenneth Kendler, Jonathan Flint |
| Correspondent's Email: | jf@well.ox.ac.uk |

ABSTRACT

Adversity, particularly in early life, can cause illness. Clues to the responsible mechanisms may lie with the discovery of molecular signatures of stress, some of which include alterations to an individual's somatic genome. Here, using genome sequences from 11,670 women, we observed a highly significant association between a stress-related disease, major depression, and the amount of mtDNA ($p = 9.00 \times 10(-42)$, odds ratio 1.33 [95% confidence interval [CI] = 1.29-1.37]) and telomere length ($p = 2.84 \times 10(-14)$, odds ratio 0.85 [95% CI = 0.81-0.89]). While both telomere length and mtDNA amount were associated with adverse life events, conditional regression analyses showed the molecular changes were contingent on the depressed state. We tested this hypothesis with experiments in mice, demonstrating that stress causes both molecular changes, which are partly reversible and can be elicited by the administration of corticosterone. Together, these results demonstrate that changes in the amount of mtDNA and telomere length are consequences of stress and entering a depressed state. These findings identify increased amounts of mtDNA as a molecular marker of MD and have important implications for understanding how stress causes the disease.



| Research Title: | Metagenomic analysis of faecal microbiome as a tool |
|--------------------------|---|
| | towards targeted non-invasive biomarkers for colorectal |
| | cancer |
| | Gut |
| Source: | BMJ Publishing Group Ltd |
| | Page: 1-9 |
| ISSN: | 1468-3288 |
| Month and Year of | SEDT 2015 |
| Publication: | SEP1 2015 |
| Impact Factor: | 13.319 |
| Affiliated Department(a) | Princess Al-Jawhara Albrahim Center of Excellence in |
| Ailliated Department(s): | Hereditary Disorders Research; Medical Genetics |
| | Jun Yu, Qiang Feng, Sunny Hei Wong, Dongya Zhang, |
| | Qiao yi Liang, Youwen Qin, Longqing Tang, Hui Zhao, |
| | Jan Stenvang, Yanli Li, Xiaokai Wang, Xiaoqiang Xu, |
| | Ning Chen, William Ka Kei Wu, Jumana Al-Aama, Hans |
| | Jørgen Nielsen, Pia Kiilerich, Benjamin Anderschou |
| A with an (g): | Holbech Jensen, Tung On Yau, Zhou Lan, Huijue Jia, |
| Author(s): | Junhua Li, Liang Xiao, Thomas Yuen Tung Lam, Siew |
| | Chien Ng, Alfred Sze-Lok Cheng, Vincent Wai-Sun |
| | Wong, Francis Ka Leung Chan, Xun Xu, Huanming |
| | Yang, Lise Madsen, Christian Datz, Herbert Tilg, Jian |
| | Wang, Nils Brünner, Karsten Kristiansen, Manimozhiyan |
| | Arumugam, Joseph Jao-Yiu Sung, Jun Wang |
| Convession dent's Emails | wangj@genomics.org.cn, jjysung@cuhk.edu.hk, |
| Correspondent's Email: | arumugam@sund.ku.dk |

ABSTRACT

Objective: To evaluate the potential for diagnosing colorectal cancer (CRC) from faecal metagenomes.

Design: We performed metagenome-wide association studies on faecal samples from 74 patients with CRC and 54 controls from China, and validated the results in 16 patients and 24 controls from Denmark. We further validated the biomarkers in two published cohorts from France and Austria. Finally, we employed targeted quantitative PCR (qPCR) assays to evaluate diagnostic potential of selected biomarkers in an independent Chinese cohort of 47 patients and 109 controls.

Results: Besides confirming known associations of Fusobacterium nucleatum and Peptostreptococcus stomatis with CRC, we found significant associations with several species, including Parvimonas micra and Solobacterium moorei. We identified 20 microbial gene markers that differentiated CRC and control microbiomes, and validated 4 markers in the Danish cohort. In the French and Austrian cohorts, these four genes distinguished CRC metagenomes from controls with areas under the receiver-operating curve (AUC) of 0.72 and 0.77, respectively. qPCR measurements of two of these genes accurately classified patients with CRC in the independent Chinese cohort with AUC=0.84 and OR of 23. These genes were enriched in early-stage (I-II) patient microbiomes, highlighting the potential for using faecal metagenomic biomarkers for



early diagnosis of CRC.

Conclusions: We present the first metagenomic profiling study of CRC faecal microbiomes to discover and validate microbial biomarkers in ethnically different cohorts, and to independently validate selected biomarkers using an affordable clinically relevant technology. Our study thus takes a step further towards affordable non-invasive early diagnostic biomarkers for CRC from faecal samples.


| Research Title: | New genetic loci link adipose and insulin biology to body |
|---------------------------|---|
| | fat distribution |
| | |
| | Nature |
| Source: | Nature Publishing Group |
| | Vol. 518, Issue 7538, Page: 187 |
| ISSN: | 1476-4687 |
| Month and Year of | EED 2015 |
| Publication: | FEB 2015 |
| Impact Factor: | 41.456 |
| Affiliated Department(s): | Princess Al-Jawhara Albrahim Center of Excellence in |
| | Hereditary Disorders Research |
| Author(s): | Dmitry Shungin, Thomas W. Winkler, Damien C. |
| | Croteau-Chonka, Teresa Ferreira, Adam E. Locke, Reedik |
| | Mägi, Rona J. Strawbridge, Tune H. Pers, Krista Fischer, |
| | Anne E. Justice, Tsegaselassie Workalemahu, Joseph M. |
| | W. Wu, Panos Deloukas, ET AL |
| Correspondent's Email: | celi@well.ox.ac.uk; mohlke@med.unc.edu |

ABSTRACT

Body fat distribution is a heritable trait and a well-established predictor of adverse metabolic outcomes, independent of overall adiposity. To increase our understanding of the genetic basis of body fat distribution and its molecular links to cardiometabolic traits, here we conduct genome-wide association meta-analyses of traits related to waist and hip circumferences in up to 224,459 individuals. We identify 49 loci (33 new) associated with waist-to-hip ratio adjusted for body mass index (BMI), and an additional 19 loci newly associated with related waist and hip circumference measures (P < 5 x 10(-8)). In total, 20 of the 49 waist-to-hip ratio adjusted for BMI loci show significant sexual dimorphism, 19 of which display a stronger effect in women. The identified loci were enriched for genes expressed in adipose tissue and for putative regulatory elements in adipocytes. Pathway analyses implicated adipogenesis, angiogenesis, transcriptional regulation and insulin resistance as processes affecting fat distribution, providing insight into potential pathophysiological mechanisms.



| Research Title: | Novel nonsense mutation in the PTRF gene underlies |
|---------------------------|--|
| | congenital generalized lipodystrophy in a consanguineous |
| | Saudi family |
| | European Journal of Medical Genetics |
| Source: | Elsevier Science Bv |
| | Vol. 58, Issue 4, Page: 216-221 |
| ISSN: | 1878-0849 |
| Month and Year of | A DD 2015 |
| Publication: | APK 2015 |
| Impact Factor: | 1.486 |
| Affiliated Department(s): | Princess Al-Jawhara Albrahim Center of Excellence in |
| | Hereditary Disorders Research; Medical Genetics; |
| | Padiatrics |
| Author(s): | Musharraf Jelani, Saleem Ahmed, Mona Mohammad |
| | Almramhi, Hussein Sheikh Ali Mohamoud, Khadijah |
| | Bakur, Waseem Anshasi, Jun Wang, Jumana Yousuf Al- |
| | Aama |
| Correspondent's Email: | n/a |

ABSTRACT

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



| Research Title: | Pathological repeat variation at the SCA17/TBP gene in |
|-------------------------------|--|
| | south Indian Patients |
| | Journal of the Neurological Sciences |
| Source: | Elsevier B.V. |
| | Page: 1-16 |
| ISSN: | 0022-510X |
| Month and Year of | AUC 2015 |
| Publication: | AUG 2013 |
| Impact Factor: | 2.535 |
| Affiliated Department(s): | Princess Al-Jawhara Albrahim Center of Excellence in |
| | Hereditary Disorders Research |
| Author(s): | Waseem Gul Lone, Imran Ali Khan, Noor Ahmad Shaik, |
| | Angmuthu Kanikannan Meena, Kaipa Prabhakar Rao, |
| | Qurratulain Hasan |
| Correspondent's Email: | qhasan2000@yahoo.com |

ABSTRACT

Despite the intense debate around the repeat instability reported on the large group of neurological disorders caused by trinucleotide repeat expansions, little is known about the mutation process underlying alleles in the normal range, diseases range, large normal alleles (LNAs). In this study, we assessed the CAG repeats at SCA17 in 188 clinical SCA patients and 100 individuals without any neurological signs. This highly polymorphic population displayed high variability in the CAG repeats and ranged from 19-38 CAG repeats in patients with mode of 20 and 19-32 CAG repeats in controls with mode of 24. The triplet repeat expansion was not detected in any of the 188 patients, as per the reference pathogenic range (> 43 repeats); however, 2.7% of the patients had > 33 CAG repeats with a clinical phenotype close to what is expected of SCA 17 patients. The findings of this study implicate a more sophisticated interpretation of SCA17 gene and raise the question about the diagnostic thresh hold between normal and expanded repeats in our population.



| Research Title: | Peptidomics combined with cDNA library unravel the |
|--------------------------------------|--|
| | diversity of centipede venom |
| | Journal of Proteomics |
| Source: | Elsevier Science Bv |
| | Vol. 114, Page: 28-37 |
| ISSN: | 1876-7737 |
| Month and Year of | IAN 2015 |
| Publication: | JAN 2013 |
| Impact Factor | 3 888 |
| impact l'actor. | 5.000 |
| Affiliated Department(g): | Princess Al-Jawhara Albrahim Center of Excellence in |
| Affiliated Department(s): | Princess Al-Jawhara Albrahim Center of Excellence in Hereditary Disorders Research |
| Affiliated Department(s): | Princess Al-Jawhara Albrahim Center of Excellence in Hereditary Disorders Research Mingqiang Rong, Shilong Yang, Bo Wen, Guoxiang Mo, |
| Affiliated Department(s): | Princess Al-Jawhara Albrahim Center of Excellence in Hereditary Disorders Research Mingqiang Rong, Shilong Yang, Bo Wen, Guoxiang Mo, Di Kang, Jie Liu, Zhilong Lin, Wenbin Jiang, Bowen Li, |
| Affiliated Department(s): Author(s): | Princess Al-Jawhara Albrahim Center of Excellence in Hereditary Disorders Research Mingqiang Rong, Shilong Yang, Bo Wen, Guoxiang Mo, Di Kang, Jie Liu, Zhilong Lin, Wenbin Jiang, Bowen Li, Chaoqin Du, Shuanjuan Yang, Hui Jiang, Qiang Feng, |
| Affiliated Department(s): Author(s): | Princess Al-Jawhara Albrahim Center of Excellence in Hereditary Disorders Research Mingqiang Rong, Shilong Yang, Bo Wen, Guoxiang Mo, Di Kang, Jie Liu, Zhilong Lin, Wenbin Jiang, Bowen Li, Chaoqin Du, Shuanjuan Yang, Hui Jiang, Qiang Feng, Xun Xu, Jun Wang, Ren Lai |

ABSTRACT

Centipedes are one of the oldest venomous arthropods using toxin as their weapon to capture prey. But little attention was focused on them and only few centipede toxins were demonstrated with activity on ion channels. Therefore, more deep works are needed to understand the diversity of centipede venom. In the present study, we use peptidomics combined with cDNA library to uncover the diversity of centipede Scolopendra subspinipes mutilans L. Koch. 192 peptides were identified by LC-MS/MS and 79 precursors were deduced by cDNA library. Surprisingly, the signal peptides of centipede toxins were more complicated than any other animal toxins and even exhibited large differences in homologues. Meanwhile, a large number of variants generated by alternative cleavage sites were detected by mass spectra. Odd number of cystein (3, 5, 7) found in the mature peptides were seldom seen in peptide toxins. In additional, two novel cysteine frameworks (C-C-C-CCC, C-C-C-CCCC) were identified from 16 different cysteine frameworks from centipede peptides. Only 29 precursors have clear targets, while others may provide a potential diversity function for centipede. These findings highlight the extensive diversity of centipede toxins and provide powerful tools to understand the capture and defense weapon of centipede.

Biological significance

Peptide toxins from venomous animal have attracted increasing attentions due to their extraordinary chemical and pharmacological diversity. Centipedes are one of the most used Chinese traditional medicines, but little was known about the active components. The venom of Scolopendra subspinipes mutilans L. Koch is first deeply analyzed in this work and most of peptides were never discovered before. Interestingly, the number and arrangement of cysteine showed a larger different to known peptide toxins such spider or scorpion toxins. Moreover, only 29 peptides from this centipede venom were identified with known function. It suggested that our work not only important to understand the composition of centipede venom, but also provide many valuable peptides for potential biological functions.



| Research Title: | Phylogenomic analyses data of the avian phylogenomics |
|---------------------------|---|
| | project |
| Source: | Gigascience |
| | Biomed Central Ltd |
| | Vol. 4 |
| ISSN: | 2047-217X |
| Month and Year of | EED 2015 |
| Publication: | TEB 2013 |
| Impact Factor: | n/a |
| Affiliated Department(g): | Princess Al-Jawhara Albrahim Center of Excellence in |
| Annateu Department(s): | Hereditary Disorders Research |
| | Erich D Jarvis, Siavash Mirarab, Andre J Aberer, Bo Li, |
| Author(s): | Peter Houde, Cai Li, Simon Y W Ho, Brant C Faircloth, |
| | Benoit Nabholz, Jason T Howard, Alexander Suh, |
| | Claudia C Weber, Rute R da Fonseca, Alonzo Alfaro- |
| | Núñez, Nitish Narula, Liang Liu, Dave Burt, Hans |
| | Ellegren, Scott V Edwards, Alexandros Stamatakis, David |
| | P Mindell, Joel Cracraft, Edward L Braun, Tandy |
| | Warnow, Jun Wang, ET AL |
| Correspondent's Email: | jarvis@neuro.duke.edu; warnow@illinois.edu; |
| | wangj@genomics.org.cn; mtpgilbert@gmail.com; |
| | zhanggj@genomics.cn |

ABSTRACT

Major depressive disorder (MDD), one of the most frequently encountered forms ofmental illness and a leading cause of disability worldwide(1), poses a major challenge to genetic analysis. To date, no robustly replicated genetic loci have been identified(2), despite analysis of more than 9,000 cases(3). Here, using low-coverage whole-genome sequencing of 5,303 Chinese women with recurrent MDD selected to reduce phenotypic heterogeneity, and 5,337 controls screened to exclude MDD, we identified, and subsequently replicated in an independent sample, two loci contributing to risk of MDD on chromosome 10: one near the SIRT1 gene (P = $2.53 \times 10(-10)$), the other in an intron of the LHPP gene (P = $6.45 \times 10(-12)$). Analysis of 4,509 cases with a severe subtype of MDD, melancholia, yielded an increased genetic signal at the SIRT1 locus. We attribute our success to the recruitment of relatively homogeneous cases with severe illness.



| Research Title: | Review of literature: genes related to postaxial |
|---------------------------|--|
| | polydactyly |
| | Frontiers in Pediatrics |
| Source: | Frontiers Media |
| | Vol. 3, Issue 8, Page: 1-8 |
| ISSN: | 2296-2360 |
| Month and Year of | EED 2015 |
| Publication: | FEB 2013 |
| Impact Factor: | n/a |
| Affiliated Department(s): | Princess Al-Jawhara Albrahim Center of Excellence in |
| | Hereditary Disorders Research; Medical Genetics |
| Author(s): | Prashant Kumar Verma, Ashraf A El-Harouni |
| Correspondent's Email: | n/a |

ABSTRACT

Background: Postaxial polydactyly (PAP) is one of the commonest congenital malformations and usually is associated to several syndromes. There is no primary investigational strategy for PAP cases with single gene disorder in literature. PAP cases with single gene disorder can be classified according to common pathways and molecular basis. Molecular classification may help in diagnostic approach.

Materials and Methods: All single gene disorders associated with PAP reported on PubMed and OMIM are analyzed and classified according to molecular basis.

Results: Majority of genes related to cilia structure and functions are associated with PAP, so we classified them as ciliopathies and non-ciliopathies groups. Genes related to Shh–Gli3 pathway was the commonest group in non-ciliopathies.

Conclusion: Genes related to cilia are most commonly related to PAP due to their indirect relationship to Shh–Gli3 signaling pathway. Initially, PAP may be the only clinical finding with ciliopathies so those cases need follow up. Proper diagnosis is helpful for management and genetic counseling. Molecular approach may help to define pleiotropy.



| Research Title: | Sparse whole-genome sequencing identifies two loci for |
|--------------------------|--|
| | major depressive disorder |
| Source: | Nature |
| | Nature Publishing Group |
| | Vol. 523, Issue 7562, Page: 588 |
| ISSN: | 1476-4687 |
| Month and Year of | HH 2015 |
| Publication: | JUL 2015 |
| Impact Factor: | 41.456 |
| | Princess Al-Jawhara Albrahim Center of Excellence in |
| Affinated Department(s): | Hereditary Disorders Research |
| | Na Cai, Tim B Bigdeli, Warren Kretzschmar, Yihan Li, |
| | Jieqin Liang, Li Song, Jingchu Hu, Qibin Li, Wei Jin, |
| | Zhenfei Hu, Guangbiao Wang, Linmao Wang, Puyi Qian, |
| | Yuan Liu, Tao Jiang, Yao Lu, Xiuqing Zhang, Ye Yin, |
| | Yingrui Li, Xun Xu, Jingfang Gao, Mark Reimers, Todd |
| | Webb, Brien Riley, Silviu Bacanu, Roseann E Peterson, |
| Author(s): | Yiping Chen, Hui Zhong, Zhengrong Liu, Gang Wang, |
| | Jing Sun, Hong Sang, Guoqing Jiang, Xiaoyan Zhou, Yi |
| | Li, Yi Li, Wei Zhang, Xueyi Wang, Xiang Fang, Runde |
| | Pan, Guodong Miao, Qiwen Zhang, Jian Hu, Fengyu Yu, |
| | Bo Du, Wenhua Sang, Jun Wang, Kenneth S Kendler, |
| | Jonathan Flint, Converge Consortium, ET AL. |
| Correspondent's Email: | n/a |

ABSTRACT

Major depressive disorder (MDD), one of the most frequently encountered forms ofmental illness and a leading cause of disability worldwide(1), poses a major challenge to genetic analysis. To date, no robustly replicated genetic loci have been identified(2), despite analysis of more than 9,000 cases(3). Here, using low-coverage whole-genome sequencing of 5,303 Chinese women with recurrent MDD selected to reduce phenotypic heterogeneity, and 5,337 controls screened to exclude MDD, we identified, and subsequently replicated in an independent sample, two loci contributing to risk of MDD on chromosome 10: one near the SIRT1 gene (P = $2.53 \times 10(-10)$), the other in an intron of the LHPP gene (P = $6.45 \times 10(-12)$). Analysis of 4,509 cases with a severe subtype of MDD, melancholia, yielded an increased genetic signal at the SIRT1 locus. We attribute our success to the recruitment of relatively homogeneous cases with severe illness.



| Research Title: | Structural chromosomal abnormalities in couples with |
|---------------------------|--|
| | recurrent abortion in Egypt |
| Source: | Turkish Journal of Medical Sciences |
| | Tubitak Scientific & Technical Research Council Turkey |
| | Vol. 45, Issue 1, Page: 208-213 |
| ISSN: | 1303-6165 |
| Month and Year of | IAN 2015 |
| Publication: | JAN 2013 |
| Impact Factor: | 0.841 |
| Affiliated Department(s): | Princess Al-Jawhara Albrahim Center of Excellence in |
| | Hereditary Disorders Research; Medical Genetics |
| Author(s): | Nagwa EA Gaboon, Ahmed Ramy Mohamed, Solaf M |
| | Elsayed, Osama K Zaki, Mohamed A Elsayed |
| Correspondent's Email: | n/a |

ABSTRACT

Background/aim: To evaluate the incidence of chromosomal abnormalities in couples who experience recurrent abortion and identify additional factors that may be predictive of abortion, such as parental age and unfavorable obstetric or abnormal semen analysis.

Materials and methods: The present study examined 125 couples who had experienced recurrent abortion. All subjects provided a detailed personal medical history and ancestral history and underwent a physical examination. Women in the study group underwent biochemical testing and pelvic ultrasound examinations, and men underwent a semen analysis.

Results: Among the 125 couples tested, 8 couples (6.4%) displayed a balanced translocation, among which 7 (5.6%) showed a reciprocal translocation and 1 (0.8%) showed a Robertsonian translocation. All carriers of these translocations were aged < 35 years. A significant proportion of carriers reported a poor obstetric history and a past fetal malformation. All male carriers had a normal semen analysis.

Conclusion: Couples who experience ≥ 2 pregnancy losses of unknown origin should undergo a cytogenetic analysis, and findings showing a chromosomal abnormality in either parent must be followed by genetic counseling.



| Research Title: | Structural identification of putative USPs in Catharanthus |
|-------------------------------|--|
| | roseus |
| Source: | Comptes Rendus Biologies |
| | Elsevier B.V |
| ISSN: | 1631-0691 |
| Month and Year of | AUC 2015 |
| Publication: | AUG 2013 |
| Impact Factor: | 1.733 |
| Affiliated Department(s): | Princess Al-Jawhara Albrahim Center of Excellence in |
| | Hereditary Disorders Research |
| Author(s): | Ahmed Bahieldin, Ahmed Atef, Ahmed M Shokry, Saleh |
| | Al-Karim, Sanaa G Al Attas, Nour O Gadallah, Sherif |
| | Edris, Magdy A Al-Kordy, Abdulkader M Shaikh Omer, |
| | Jamal SM Sabir, Ahmed M Ramadan, Abdulrahman SM |
| | Al-Hajar, Rania M Makki, Sabah M Hassan, Fotouh M |
| | El-Domyati |
| Correspondent's Email: | n/a |

ABSTRACT

Nucleotide sequences of the C. roseus SRA database were assembled and translated in order to detect putative universal stress proteins (USPs). Based on the known conserved USPA domain, 24 Pfam putative USPA proteins in C. roseus were detected and arranged in six architectures. The USPA-like domain was detected in all architectures, while the protein kinase-like (or PK-like), tyrPK-like and/or U-box domains are shown downstream it. Three other domains were also shown to coexist with the USPA domain in C. roseus putative USPA sequences. These domains are tetratricopeptide repeat (or TPR), apolipophorin III (or apoLp-III) and Hsp90 co-chaperone Cdc37. Subsequent analysis divided USPA-like domains based on the ability to bind ATP. The multiple sequence alignment indicated the occurrence of eight C. roseus residues of known features of the bacterial 1MJH secondary structure. The data of the phylogenetic tree indicated several distinct groups of USPA-like domains confirming the presence of high level of sequence conservation between the plant and bacterial USPA-like sequences.



| Research Title: | The draft genome of Tibetan hulless barley reveals |
|--------------------------|---|
| | adaptive patterns to the high stressful Tibetan Plateau |
| | Proceedings of The National Academy of Sciences of The |
| | United States of America |
| Source: | Natl Acad Sciences |
| | Vol. 112, Issue 4, Page: 1095-1100 |
| ISSN: | 0027-8424 |
| Month and Year of | LAN 2015 |
| Publication: | JAN 2015 |
| Impact Factor: | 9.674 |
| Affiliated Department(g) | Princess Al-Jawhara Albrahim Center of Excellence in |
| Annated Department(s): | Hereditary Disorders Research |
| | Xingquan Zeng, Hai Long, Zhuo Wang, Shancen Zhao, |
| | Yawei Tang, Zhiyong Huang, Yulin Wang, Qijun Xu, |
| | Likai Mao, Guangbing Deng, Xiaoming Yao, Xiangfeng |
| | Li, Lijun Bai, Hongjun Yuan, Zhifen Pan, Renjian Liu, |
| | Xin Chen, QiMei WangMu, Ming Chen, Lili Yu, Junjun |
| Author(s): | Liang, DaWa DunZhu, Yuan Zheng, Shuiyang Yu, ZhaXi |
| | LuoBu, Xuanmin Guang, Jiang Li, Cao Deng, Wushu Hu, |
| | Chunhai Chen, XiongNu TaBa, Liyun Gao, Xiaodan Lv, |
| | Yuval Ben Abu, Xiaodong Fang, Eviatar Nevo, Maoqun |
| | Yu, Jun Wang, Nyima Tashi |
| Comesnondont's Emails | nevo@research.haifa.ac.il; yumaoqun@cib.ac.cn; |
| Correspondent's Email: | wangj@genomics.org.cn; nima_zhaxi@sina.com |

ABSTRACT

The Tibetan hulless barley (Hordeum vulgare L. var. nudum), also called "Qingke" in Chinese and "Ne" in Tibetan, is the staple food for Tibetans and an important livestock feed in the Tibetan Plateau. The diploid nature and adaptation to diverse environments of the highland give it unique resources for genetic research and crop improvement. Here we produced a 3.89-Gb draft assembly of Tibetan hulless barley with 36,151 predicted protein-coding genes. Comparative analyses revealed the divergence times and synteny between barley and other representative Poaceae genomes. The expansion of the gene family related to stress responses was found in Tibetan hulless barley. Resequencing of 10 barley accessions uncovered high levels of genetic variation in Tibetan wild barley and genetic divergence between Tibetan and non-Tibetan barley genomes. Selective sweep analyses demonstrate adaptive correlations of genes under selection with extensive environmental variables. Our results not only construct a genomic framework for crop improvement but also provide evolutionary insights of highland adaptation of Tibetan hulless barley.



| Research Title: | The oral and gut microbiomes are perturbed in |
|--------------------------|--|
| | rheumatoid arthritis and partly normalized after treatment |
| | Nature Medicine |
| Source: | Nature Publishing Group |
| | Vol. 21, Issue 8, Page: 895-905 |
| ISSN: | 1546-170X |
| Month and Year of | AUC 2015 |
| Publication: | AUG 2015 |
| Impact Factor: | 28.054 |
| | Princess Al-Jawhara Albrahim Center of Excellence in |
| Affinated Department(s): | Hereditary Disorders Research; Medical Genetics |
| | Xuan Zhang, Dongya Zhang, Huijue Jia, Qiang Feng, |
| | Donghui Wang, Di Liang, Xiangni Wu, Junhua Li, |
| | Longqing Tang, Yin Li, Zhou Lan, Bing Chen, Yanli Li, |
| | Huanzi Zhong, Hailiang Xie, Zhuye Jie, Weineng Chen, |
| | Shanmei Tang, Xiaoqiang Xu, Xiaokai Wang, Xianghang |
| | Cai, Sheng Liu, Yan Xia, Jiyang Li, Xingye Qiao, Jumana |
| Autnor(s): | Yousuf Al-Aama, Hua Chen, Li Wang, Qing-jun Wu, |
| | Fengchun Zhang, Wenjie Zheng, Yongzhe Li, Mingrong |
| | Zhang, Guangwen Luo, Wenbin Xue, Liang Xiao, Jun Li, |
| | Wanting Chen, Xun Xu, Ye Yin, Huanming Yang, Jian |
| | Wang, Karsten Kristiansen, Liang Liu, Ting Li, Qingchun |
| | Huang, Yingrui Li, Jun Wang |
| Correspondent's Email: | n/a |

ABSTRACT

We carried out metagenomic shotgun sequencing and a metagenome-wide association study (MGWAS) of fecal, dental and salivary samples from a cohort of individuals with rheumatoid arthritis (RA) and healthy controls. Concordance was observed between the gut and oral microbiomes, suggesting overlap in the abundance and function of species at different body sites. Dysbiosis was detected in the gut and oral microbiomes of RA patients, but it was partially resolved after RA treatment. Alterations in the gut, dental or saliva microbiome distinguished individuals with RA from healthy controls, were correlated with clinical measures and could be used to stratify individuals on the basis of their response to therapy. In particular, Haemophilus spp. were depleted in individuals with RA at all three sites and negatively correlated with levels of serum autoantibodies, whereas Lactobacillus salivarius was over-represented in individuals with RA at all three sites and was present in increased amounts in cases of very active RA. Functionally, the redox environment, transport and metabolism of iron, sulfur, zinc and arginine were altered in the microbiota of individuals with RA. Molecular mimicry of human antigens related to RA was also detectable. Our results establish specific alterations in the gut and oral microbiomes in individuals with RA and suggest potential ways of using microbiome composition for prognosis and diagnosis.



| Research Title: | The p.Ser267Phe Variant in SLC10A1 Is Associated With |
|---------------------------|--|
| | Resistance to Chronic Hepatitis B |
| Source: | Hepatology |
| | Wiley-Blackwell |
| | Vol. 61, Issue 4, Page: 1251-1260 |
| ISSN: | 1527-3350 |
| Month and Year of | ADD 2015 |
| Publication: | APK 2015 |
| Impact Factor: | 11.055 |
| Affiliated Department(s): | Princess Al-Jawhara Albrahim Center of Excellence in |
| | Hereditary Disorders Research |
| Author(s): | Liang Peng, Qiang Zhao, Qibin Li, Miaoxin Li, Caixia Li, |
| | Tingting Xu, Xiangyi Jing, Xiang Zhu, Ye Wang, |
| | Fucheng Li, Ruihong Liu, Cheng Zhong, Qihao Pan, |
| | Binghui Zeng, Qijun Liao, Bin Hu, Zhao-xia Hu, Yang-su |
| | Huang, Pak Sham, Jinsong Liu, Shuhua Xu, Jun Wang, |
| | Zhi-liang Gao, Yiming Wang |
| Conversion dentita Empile | wangj@genomics.org.cn; zhilianggao@21cn.com; |
| Correspondent's Email: | ywzhong@hotmail.com |

ABSTRACT

In the past 50 years there have been considerable efforts to identify the cellular receptor of hepatitis B virus (HBV). Recently, in vitro evidence from several groups has shown that the sodium-taurocholate cotransporting polypeptide (NTCP, which is encoded by SLC10A1 and transports bile acids into hepatic cells in enterohepatic recirculation) is a strong candidate. In particular, in vitro the p.Ser267Phe variation of SLC10A1 results in loss of HBV receptor function. We tested the role of NTCP as a receptor for HBV in chronic hepatitis B patients using a genetic association study. We selected SLC10A1 variants from 189 exomes. We used Sanger sequencing to follow up the association of the various SLC10A1 variants in a Han Chinese cohort of 1899 chronic hepatitis B patients and 1828 healthy controls. We further investigated the potential impact of the p.Ser267Phe variant on NTCP function using structural analysis. The p.Ser267Phe variant was associated with healthy status ($P=5.7 \times 10(.)(-23)$ odds ratio=0.36) irrespective of hepatitis B virus surface antibody status (P=6.2 x 10(-21) and 1.5 x 10(-10), respectively, when the cases were compared with hepatitis B virus surface antibodypositive and -negative controls). The variation was also associated with a lower incidence of acute-on-chronic liver failure (P=0.007). The estimated heritability explained by this single variation was approximate to 3.2%. The population prevented fraction was around 13.0% among the southern Chinese. Our structural modeling showed that the p.Ser267Phe variant might interfere with ligand binding, thereby preventing HBV from cellular entry. Conclusion: The p.Ser267Phe NTCP variant is significantly associated with resistance to chronic hepatitis B and a lower incidence of acute-on-chronic liver failure. Our results support that NTCP is a cellular receptor for HBV in human infection.



| Research Title: | The possible antianginal effect of allopurinol in |
|-------------------------------|--|
| | vasopressin-induced ischemic model in rats |
| Source: | Saudi Pharmaceutical Journal |
| | Elsevier Science Bv |
| | Vol. 23, Issue 5, Page: 487-498 |
| ISSN: | 2213-7475 |
| Month and Year of | OCT 2015 |
| Publication: | 0C1 2013 |
| Impact Factor: | 1.283 |
| Affiliated Department(s): | Princess Al-Jawhara Albrahim Center of Excellence in |
| | Hereditary Disorders Research; Pharmacology |
| Author(s): | Yahya A Al-Zahrani, Sameer E Al-Harthi, Lateef M |
| | Khan, Hani M El-Bassossy, Sherif M Edris, Mai A Alim |
| | A Sattar |
| Correspondent's Email: | salharthe@kau.edu.sa |

ABSTRACT

The anti-anginal effects of allopurinol were assessed in experimental model rats of angina and their effects were evaluated with amlodipine. In the vasopressin-induced angina model, oral administration of allopurinol in dose of 10 mg/kg revealed remarkably analogous effects in comparison with amlodipine such as dose-dependent suppression of vasopressin-triggered time, duration and severity of ST depression. In addition, allopurinol produced dose dependent suppression of plasma Malondialdehyde (MDA) level, systolic blood pressure, cardiac contractility and cardiac oxygen consumption; while in contrast, amlodipine minimally suppressed the elevation of plasma MDA level. Endothelial NO synthase (eNOS) expression, serum nitrate were strikingly increased, however lipid profile was significantly reduced. Seemingly, allopurinol was found to be more potent than amlodipine - a calcium channel antagonist. To conclude, it was explicitly observed and verified that on the ischemic electrocardiography (ECG) changes in angina pectoris model in rats, allopurinol exerts a significant protective effects, reminiscent of enhancement of vascular oxidative stress, function of endothelial cells, improved coronary blood flow in addition to the potential enhancement in myocardial stress. Moreover, our findings were in conformity with several human studies.



| Research Title: | The UK10K project identifies rare variants in health and |
|-------------------------------|--|
| | disease |
| Source: | Nature |
| | Nature Publishing Group |
| | Vol. 526, Issue 751, Page: 85 |
| ISSN: | 1476-4687 |
| Month and Year of | OCT 2015 |
| Publication: | 001 2015 |
| Impact Factor: | 41.456 |
| Affiliated Department(s): | Princess Al-Jawhara Albrahim Center of Excellence in |
| | Hereditary Disorders Research |
| Author(s): | Wang, Jun, ET AL. |
| | (Link: http://www.nature.com/nature/journal/v526/n7571/ |
| | /full/nature14962.html#group-1) |
| Correspondent's Email: | rd@sanger.ac.uk; ns6@sanger.ac.uk |

ABSTRACT

The contribution of rare and low-frequency variants to human traits is largely unexplored. Here we describe insights from sequencing whole genomes (low read depth, 7x) or exomes (high read depth, 80x) of nearly 10,000 individuals from population-based and disease collections. In extensively phenotyped cohorts we characterize over 24 million novel sequence variants, generate a highly accurate imputation reference panel and identify novel alleles associated with levels of triglycerides (APOB), adiponectin (ADIPOQ) and low-density lipoprotein cholesterol (LDLR and RGAG1) from single-marker and rare variant aggregation tests. We describe population structure and functional annotation of rare and low-frequency variants, use the data to estimate the benefits of sequencing for association studies, and summarize lessons from disease-specific collections. Finally, we make available an extensive resource, including individual-level genetic and phenotypic data and web-based tools to facilitate the exploration of association results.



| Research Title: | Transcriptome profiling of brown adipose tissue during |
|---------------------------|--|
| | cold exposure reveals extensive regulation of glucose |
| | metabolism |
| Source: | American Journal of Physiology-Endocrinology and |
| | Metabolism |
| | Amer Physiological Soc |
| | Vol. 308, Issue 5, Page: 380-392 |
| ISSN: | 1522-1555 |
| Month and Year of | MAD 2015 |
| Publication: | MAR 2013 |
| Impact Factor: | 3.785 |
| Affiliated Department(s): | Princess Al-Jawhara Albrahim Center of Excellence in |
| | Hereditary Disorders Research |
| Author(s): | Qin Hao, Rachita Yadav, Astrid L Basse, Sidsel Petersen, |
| | Si B Sonne, Simon Rasmussen, Qianhua Zhu, Zhike Lu, |
| | Jun Wang, Karine Audouze, Ramneek Gupta, Lise |
| | Madsen, Karsten Kristiansen, Jacob B Hansen |
| Correspondent's Email: | jacob.hansen@bio.ku.dk |

ABSTRACT

We applied digital gene expression profiling to determine the transcriptome of brown and white adipose tissues (BAT and WAT, respectively) during cold exposure. Male C57BL/6J mice were exposed to cold for 2 or 4 days. A notable induction of genes related to glucose uptake, glycolysis, glycogen metabolism, and the pentose phosphate pathway was observed in BAT from cold-exposed animals. In addition, glycerol-3phosphate dehydrogenase 1 expression was induced in BAT from cold-challenged mice, suggesting increased synthesis of glycerol from glucose. Similarly, expression of lactate dehydrogenases was induced by cold in BAT. Pyruvate dehydrogenase kinase 2 (Pdk2) and Pdk4 were expressed at significantly higher levels in BAT than in WAT, and Pdk2 was induced in BAT by cold. Of notice, only a subset of the changes detected in BAT was observed in WAT. Based on changes in gene expression during cold exposure, we propose a model for the intermediary glucose metabolism in activated BAT: 1) fluxes through glycolysis and the pentose phosphate pathway are induced, the latter providing reducing equivalents for de novo fatty acid synthesis; 2) glycerol synthesis from glucose is increased, facilitating triacylglycerol synthesis/fatty acid re-esterification; 3) glycogen turnover and lactate production are increased; and 4) entry of glucose carbon into the tricarboxylic acid cycle is restricted by PDK2 and PDK4. In summary, our results demonstrate extensive and diverse gene expression changes related to glucose handling in activated BAT.



| Research Title: | Truncating mutation in intracellular phospholipase A1 |
|---------------------------|---|
| | gene (DDHD2) in hereditary spastic paraplegia with |
| | intellectual disability (SPG54) |
| Source: | BMC Res Notes |
| | BioMed Central |
| | Vol. 8, Issue 1, Page: 1-5 |
| ISSN: | 1756-0500 |
| Month and Year of | JUN 2015 |
| Publication: | |
| Impact Factor: | n/a |
| Affiliated Department(s): | Princess Al-Jawhara Albrahim Center of Excellence in |
| | Hereditary Disorders Research; Medical Genetics |
| Author(s): | Nuha Alrayes, Hussein SA Mohamoud, Musharraf Jelani, |
| | Saleem Ahmad, Nirmal Vadgama, Khadijah Bakur, |
| | Michael Simpson, Jumana Y Al-Aama, Jamal Nasir |
| Correspondent's Email: | nuharayes@gmail.com |

ABSTRACT

Background: Hereditary spastic paraplegias (HSP), a group of genetically heterogeneous neurological disorders with more than 56 documented loci (SPG1-56), are described either as uncomplicated (or pure), or complicated where in addition to spasticity and weakness of lower extremeties, additional neurological symptoms are present, including dementia, loss of vision, epilepsy, mental retardation and ichthyosis. We identified a large consanguineous family of Indian descent with four affected members with childhood onset HSP (SPG54), presenting with upper and lower limb spasticity, mental retardation and agenesis of the corpus callosum.

Results: A common region of homozygosity on chromosome 8 spanning seven megabases (Mb) was identified in the affected individuals using the Illumina human cytoSNP-12 DNA Analysis BeadChip Kit. Exome sequencing identified a homozygous stop gain mutation (pR287X) in the phospholipase A1 gene DDHD2, in the affected individuals, resulting in a premature stop codon and a severely truncated protein lacking the SAM and DDHD domains crucial for phosphoinositide binding and phospholipase activity.

Conclusion: This mutation adds to the knowledge of HSP, suggests a possible founder effect for the pR287X mutation, and adds to the list of genes involved in lipid metabolism with a role in HSP and other neurodegenerative disorders.



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| Affiliated Department(s): | Princess Al-Jawhara Albrahim Center of Excellence in |
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| Author(s): | Yan-Bo Sun, Zi-Jun Xiong, Xue-Yan Xiang, Shi-Ping |
| | Liu, Wei-Wei Zhou, Xiao-Long Tu, Li Zhong, Lu Wang, |
| | Dong-Dong Wu, Bao-Lin Zhang, Chun-Ling Zhu, Min- |
| | Min Yang, Hong-Man Chen, Fang Li, Long Zhou, Shao- |
| | Hong Feng, Chao Huang, Guo-Jie Zhang, David Irwin, |
| | David M Hillis, Robert W Murphy, Huan-Ming Yang, |
| | Jing Che, Jun Wang, Ya-Ping Zhang |
| Correspondent's Email: | dhillis@austin.utexas.edu; chej@mail.kiz.ac.cn; |
| | wangjun30@gmail.com; zhangyp@mail.kiz.ac.cn |

ABSTRACT

The development of efficient sequencing techniques has resulted in large numbers of genomes being available for evolutionary studies. However, only one genome is available for all amphibians, that of Xenopus tropicalis, which is distantly related from the majority of frogs. More than 96% of frogs belong to the Neobatrachia, and no genome exists for this group. This dearth of amphibian genomes greatly restricts genomic studies of amphibians and, more generally, our understanding of tetrapod genome evolution. To fill this gap, we provide the de novo genome of a Tibetan Plateau frog, Nanorana parkeri, and compare it to that of X. tropicalis and other vertebrates. This genome encodes more than 20,000 protein-coding genes, a number similar to that of Xenopus. Although the genome size of Nanorana is considerably larger than that of Xenopus (2.3 vs. 1.5 Gb), most of the difference is due to the respective number of transposable elements in the two genomes. The two frogs exhibit considerable conserved whole-genome synteny despite having diverged approximately 266 Ma, indicating a slow rate of DNA structural evolution in anurans. Multigenome synteny blocks further show that amphibians have fewer interchromosomal rearrangements than mammals but have a comparable rate of intrachromosomal rearrangements. Our analysis also identifies 11 Mb of anuran-specific highly conserved elements that will be useful for comparative genomic analyses of frogs. The Nanorana genome offers an improved understanding of evolution of tetrapod genomes and also provides a genomic reference for other evolutionary studies.