FOREWORD

King Abdullah International Medical Research Center (KAIMRC), in collaboration with the Ministry of National Guard Health Affairs (M-NGHA) and King Saud bin Abdulaziz University for Health Sciences (KSAU-HS), is proud to present this book of publications for the year of 2014. It contains contributions from authors across the academic medical center.

For ease of use, the book is organized first by the name of the organization for the first author in the list, then by that author’s department, section or college - as provided in the affiliation statement - and finally, alphabetically by last name. There is an index at the end organized by the NGHA-affiliated authors’ last names.

We hope for this book to be a useful reference for future research. Accordingly, we welcome you to visit the “short links” at the bottom of each page to be directed to a downloadable PDF for that particular publication.

We look forward to your impactful biomedical research publications in the upcoming years. We will endeavor to optimize our research services across the organization as we continue to grow the number of publications and citations that reflect our high research standards.

Should you have additional questions, comments, or concerns, please contact KAIMRCPub@ngha.med.sa.
Our growth in research projects has led to a significant annual growth in publications, consistently increasing from 2011 – 2014, with international collaborations also on the rise. Additionally, the academic research center has also seen a dramatic increase in citations.
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**King Abdullah International Medical Research Center**

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MONOMERIC C-REACTIVE PROTEIN AND NOTCH-3
CO-OPERATIVELY INCREASE ANGIOGENESIS THROUGH
PI3K SIGNALING PATHWAY

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ABSTRACT:
C-reactive protein (CRP) is the most acute-phase reactant serum protein of inflammation and a strong predictor of cardiovascular disease. Its expression is associated with atherosclerotic plaque instability and the formation of immature micro-vessels. We have previously shown that CRP upregulates endothelial-derived Notch-3, a key receptor involved in vascular development, remodelling and maturation. In this study, we investigated the links between the bioactive monomeric CRP (mCRP) and Notch-3 signalling in angiogenesis. We used in vitro (cell counting, wound-healing and tubulogenesis assays) and in vivo (chorioallantoic membrane) angiogenic assays and Western blotting to study the angiogenic signalling pathways induced by mCRP and Notch-3 activator chimera protein (Notch-3/Fc). Our results showed an additive effect on angiogenesis of mCRP stimulatory effect combined with Notch-3/Fc promoting bovine aortic endothelial cell (BAEC) proliferation, migration, tube formation in Matrigel(TM) with up-regulation of phospho-Akt expression. The pharmacological blockade of PI3K/Akt survival pathway by LY294002 fully inhibited in vitro and in vivo angiogenesis induced by mCRP/Notch-3/Fc combination while blocking Notch signalling by gamma-secretase inhibitor (DAPT) partially inhibited mCRP/Notch-3/Fc-induced angiogenesis. Using a BAEC vascular smooth muscle cell co-culture sprouting angiogenesis assay and transmission electron microscopy, we showed that activation of both ... [Visit Link Below for More]
PROSPECTIVE STUDY OF INCIDENCE AND PREDICTORS OF PERIPHERAL INTRAVENOUS CATHETER-INDUCED COMPLICATIONS

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ABSTRACT:

Background: Although intravenous therapy is one of the most commonly performed procedures in hospitalized patients, it remains susceptible to infectious and noninfectious complications. Previous studies investigated peripheral intravenous catheter (PIVC) complications mainly in pediatrics, but apparently none were investigated among Saudi adult populations. The aim of this study was to assess the pattern and complications of PIVCs at King Abdulaziz Medical City (KAMC), Riyadh, Saudi Arabia.

Methods: An observational prospective cohort study investigated PIVCs pattern and complications among adults with PIVCs, admitted to various wards at KAMC. PIVCs-related clinical outcomes (pain, phlebitis, leaking, and others) were recorded in 12-hour intervals, using the Visual Inspection Phlebitis scale. Density incidence (DI) and cumulative incidence (CI) of complications and their relative risks (RRs) were calculated. Regression analyses were applied and significance limits were set at P<0.05.

Results: During the study period, 359 adults were included, mounting to 842 PIVCs and 2,505 catheter days. The majority of patients, 276 (76.9%), had medical, chief admission complaints, whereas 83 (23.1%) were trauma/surgical and infectious cases. Complicated catheters were found in 141 (39.3%) patients, with 273 complications (32.4/100 catheters), in 190 complicated catheters (CI =22.56/100 catheters and DI =75.84/1,000 catheter days). Phlebitis ranked first among complications, 148 (CI =17.6%), followed by pain 64 (CI =7.6%), leaking 33 (CI =3.9%), dislodgement 20 (CI =2.4%), and extravasations and occlusion 4 (CI =0.5% each). Phlebitis was predicted with female sex (P<0.001), insertion in fore/upper arm (P=0.024), and infusion of medication (P=0.02). Removal time for PIVCs insertion was not a significant predictor of...

[Visit Link Below for More]
STEM CELL RESEARCH AND REGENERATIVE MEDICINE AT KING ABDULLAH INTERNATIONAL MEDICAL RESEARCH CENTER

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ABSTRACT:
Translation of stem cell research from bench to bedside opens up exciting new therapeutic options for patients. Although stem cell research has progressed rapidly, its clinical applications have not kept pace. We report on the establishment of a stem cell research and regenerative medicine program at King Abdullah International Medical Research Center (KAIMRC). The purpose of this unit is to coordinate advanced stem cell research and translational outcomes with the goal of treating chronic human diseases, such as cancer, diabetes, cardiovascular, neurological, immunological, and liver diseases. Our first step in achieving this goal was to integrate the stem cells and regenerative medicine unit with our umbilical cord blood bank and bone marrow registry. This organizational structure will provide different sources for stem cells for research and clinical purposes, and facilitate our stem cell research and stem cell transplantation program. We are at an early and exciting stage in our program, but we believe that our progress to the international stage will be rapid and have a significant impact.

[Visit Link Below for More]

SHORTLINK: bit.ly/1ipyPfG
**IFPA MEETING 2013 WORKSHOP REPORT I: DIABETES IN PREGNANCY, MATERNAL DYSLIPIDEMIA IN PREGNANCY, OXYGEN IN PLACENTAL DEVELOPMENT, STEM CELLS AND PREGNANCY PATHOLOGY**

**AUTHOR(s):** ABUMAREE, M. H., ALAHARI, S., ALBRECHT, C., AYE, ILMH, BAINBRIDGE, S., ET AL.

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**ABSTRACT:**
Workshops are an important part of the IFPA annual meeting as they allow for discussion of specialized topics. At IFPA meeting 2013 there were twelve themed workshops, four of which are summarized in this report. These workshops related to various aspects of placental biology but collectively covered areas of pregnancy pathologies and placental metabolism: 1) diabetes in pregnancy; 2) lipids, fatty acids and the placenta; 3) oxygen in placental development and pathologies; 4) stem cells and pathologies.

[Visit Link Below for More]

**SHORTLINK:** bit.ly/1PW6AQ6
IFPA MEETING 2013 WORKSHOP REPORT III: MATERNAL PLACENTAL IMMUNOLOGICAL INTERACTIONS, NOVEL DETERMINANTS OF TROPHOBLAST CELL FATE, DUAL EX VIVO PERFUSION OF THE HUMAN PLACENTA

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ABSTRACT:
Workshops are an important part of the IFPA annual meeting as they allow for discussion of specialised topics. At IFPA meeting 2013 there were twelve themed workshops, three of which are summarized in this report. These workshops related to various aspects of placental biology but collectively covered areas of placental function, cell turnover and immunology: 1) immunology; 2) novel determinants of placental cell fate; 3) dual perfusion of human placental tissue... [Visit Link Below for More]

SHORTLINK: bit.ly/1JMbM7O
**Review: Where is the Maternofetal Interface?**

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**Abstract:**
Ask where the maternofetal interface is and placental biologists will tell you, the syncytiotrophoblast and extravillous cytotrophoblasts. While correct, this is not full extent of the maternofetal interface. Trophoblast debris that is extruded into the maternal blood in all pregnancies expands the maternofetal interface to sites remote from the uterus. Trophoblast debris ranges from multinucleated syncytial nuclear aggregates to subcellular micro- and nano-vesicles. The origins of trophoblast debris are not clear. Some propose trophoblast debris is the end of the life-cycle of the trophoblast and that it results from an apoptosis-like cell death, but this is not universally accepted. Knowing whether trophoblast debris results from an apoptosis-like cell death is important because the nature of cell death that produced trophoblast debris will influence the maternal responses to it. Trophoblast debris is challenging to isolate from maternal blood making it difficult to study. However, by culturing placental explants in Netwells™ we can readily harvest trophoblast from beneath the Netwells™ which is very similar to debris that has been isolated from pregnant women. We have found that trophoblast debris from normal placentae shows markers of apoptosis and is phagocytosed by macrophages or endothelial cells, producing a tolerant phenotype in the phagocyte. Whereas, when we culture normal placental explants with factors such as antiphospholipid antibodies (a strong maternal risk factor...[Visit Link Below for More]
A NOVEL COMBINATION OF HOMEobox GENES IS EXPRESSED IN MESENCHYMAL CHORIONIC STEM/STROMAL CELLS IN FIRST TRIMESTER AND TERM PREGNANCIES


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ABSTRACT:

Human chorionic mesenchymal stem/stromal cells (CMSCs) derived from the placenta are similar to adult tissue-derived MSCs. The aim of this study was to investigate the role of these cells in normal placental development. Transcription factors, particularly members of the homeobox gene family, play crucial roles in maintaining stem cell proliferation and lineage specification in embryonic tissues. In adult tissues and organs, stem cells proliferate at low levels in their niche until they receive cues from the microenvironment to differentiate. The homeobox genes that are expressed in the CMSC niche in placental tissues have not been identified. We used the novel strategy of laser capture microdissection to isolate the stromal component of first trimester villi and excluded the cytotrophoblast and syncytiotrophoblast layers that comprise the outer layer of the chorionic villi. Microarray analysis was then used to screen for homeobox genes in the microdissected tissue. Candidate homeobox genes were selected for further RNA analysis. Immunohistochemistry of candidate genes in first trimester placental villous stromal tissue revealed homeobox genes Meis1, myeloid ectropic viral...[Visit Link Below for More]
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**ABSTRACT:**
Homeobox genes are essential for both the development of the blood and lymphaticvascular systems, as well as for their maintenance in the adult. Homeobox genes comprise an important family of transcription factors, which are characterized by a well conservedDNA binding motif; the homeodomain. The specificity of the homeodomain allows the transcription factor to bind to the promoter regions of batteries of target genes and therebyregulates their expression. Target genes identified for homeodomain proteins have been shown to control fundamental cell processes such as proliferation, differentiation, and apoptosis. We and others have reported that homeobox genes are expressed in the placental vasculature, but our knowledge of their downstream target genes is limited. This review highlights the importance of studying the cellular and molecular mechanisms by which homeobox genes and their downstream targets may regulate important vascular cellular processes such as proliferation, migration, and endothelial tube formation, which are essential for placental vasculogenesis and angiogenesis. A better understanding of the molecular targets of homeobox genes may lead to new therapies for aberrant angiogenesis associated with clinically important pregnancy pathologies, including fetal growth restriction and preeclampsia...[Visit Link Below for More]
THE STATE OF HEALTH IN THE ARAB WORLD, 1990-2010: AN ANALYSIS OF THE BURDEN OF DISEASES, INJURIES, AND RISK FACTORS


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ABSTRACT:
Geographically, the Arab world comprises 22 countries from north Africa to western Asia—i.e., Algeria, Egypt, Bahrain, Comoros, Djibouti, Iraq, Jordan, Saudi Arabia, Kuwait, Lebanon, Libya, Mauritania, Morocco, Oman, occupied Palestinian territory, Qatar, Yemen, Somalia, Sudan (including South Sudan), Syria, Tunisia, and the United Arab Emirates. These countries are the members of the League of Arab States. Each country has a unique set of historical, geopolitical, social, cultural, and economic characteristics, which determine its public health systems and the burden of disease and injury. Countries bordering the Persian Gulf—e.g., Saudi Arabia and the United Arab Emirates—have a rising burden of occupational and road injuries because of the high number of expatriates who migrate for job opportunities. Noncommunicable diseases have increased substantially in the Arab world, with varying prevalence between different populations. Therefore, conclusions about the Arab world cannot be drawn from simple generalizations because they are likely to be misleading. The status of the health-care system in the Arab world has been reported previously. Public health systems are perceived as being non-productive and are low priority in national spending plans. Despite the resources in some Arab countries, the development and performance of their public health systems are lower than expected, with a continued focus on treatment rather than prevention. Progress in health care in the Arab world has been reported; however, it has been slow in some countries ...

SHORTLINK: bit.ly/1VZJbkU
GLOBAL, REGIONAL, AND NATIONAL PREVALENCE OF
OVERWEIGHT AND OBESITY IN CHILDREN AND ADULTS
DURING 1980-2013: A SYSTEMATIC ANALYSIS FOR
THE GLOBAL BURDEN OF DISEASE STUDY 2013

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ANTONIO, TX, USA; INSTITUTE OF COMMUNITY AND PUBLIC HEALTH, BIRZETI
UNIVERSITY, RAMALLAH, WEST BANK, OCCUPIED PALESTINIAN TERRITORY; KING
ABDULLAH INTERNATIONAL MEDICAL RESEARCH CENTER & KING SAUD BIN
ABDULAZIZ UNIVERSITY FOR HEALTH SCIENCES, RIYADH, SAUDI ARABIA; ET AL.

ABSTRACT:

Background: In 2010, overweight and obesity were estimated to cause 3·4 million
deaths, 3·9% of years of life lost, and 3·8% of disability-adjusted life-years (DALYs)
worldwide. The rise in obesity has led to widespread calls for regular monitoring of
changes in overweight and obesity prevalence in all populations. Comparable, up-to-date
information about levels and trends is essential to quantify population health effects and
to prompt decision makers to prioritise action. We estimate the global, regional, and

Methods: We systematically identified surveys, reports, and published studies (n=1769)
that included data for height and weight, both through physical measurements and self-
reports. We used mixed effects linear regression to correct for bias in self-reports. We
obtained data for prevalence of obesity and overweight by age, sex, country, and year
(n=19 244) with a spatiotemporal Gaussian process regression model to estimate
prevalence with 95% uncertainty intervals (UIs).

Findings: Worldwide, the proportion of adults with a body-mass index (BMI) of 25 kg/m2
or greater increased between 1980 and 2013 from 28·8...

SHORTLINK: bit.ly/1iscxK
**Abstract:**

This study investigated whether cyclophosphamide (CP) and ifosfamide (IFO) therapy alters the expression of the key genes engaged in long-chain fatty acid (LCFA) oxidation outside rat heart mitochondria, and if so, whether these alterations should be viewed as a mechanism during CP- and IFO-induced cardiotoxicity. Adult male Wistar albino rats were assigned to one of the six treatment groups: Rats in group 1 (control) and group 2 (L-carnitine) were injected intraperitoneal (i.p.) with normal saline and L-carnitine (200 mg/kg/day), respectively, for 10 successive days. Animals in group 3 (CP group) were injected i.p. with normal saline for 5 days before and 5 days after a single dose of CP (200 mg/kg, i.p.). Rats in group 4 (IFO group) received normal saline for 5 successive days followed by IFO (50 mg/kg/day, i.p.) for 5 successive days. Rats in group 5 (CP-carnitine supplemented) were given the same doses of L-carnitine as group 2 for 5 days before and 5 days after a single dose of CP as group 3. Rats in group 6 (IFO-carnitine supplemented) were given the same doses of L-carnitine as group 2 for 5 days before and 5 days concomitant with IFO as group 4. Immediately, after the last dose of the treatment protocol, blood samples were withdrawn and animals were killed for biochemical, histopathological and gene expression studies. Treatment with CP and IFO significantly decreased expression of heart fatty acid binding protein (H-FABP) and carnitine palmitoyltransferase I (CPT I) genes in cardiac tissues. Moreover, CP but not IFO significantly increased acetyl-CoA carboxylase2 mRNA expression. Conversely, IFO but not CP significantly decreased mRNA expression of malonyl-CoA decarboxylase. Both CP and IFO significantly increased serum lactate...[View Link Below for More].

**Shortlink:** bit.ly/1FMF9CU
Correlation between transient ischemic dilatation (TID) and coronary artery disease in Saudi male patients

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Abstract:

Objective: A high transient ischemic dilatation ratio (TID) for the left ventricle (LV) from a gated myocardial perfusion imaging (G-MPI) study is widely believed to be associated with significant coronary artery disease (CAD). We have investigated the relationship between TID and CAD for our male Saudi Arabian patient population.

Methods: In this retrospective study, all male Saudi Arabian patients who underwent a two-day G-MPI study using Tc99m MIBI during the year 2011 having a TID P 1.20 were included. Quantitative perfusion and gated parameters were obtained using Cedar Sinai’s AutoQuant software version 3.0, 2003, Means of summed stress scores, summed rest scores and summed difference scores (SSS, SRS, SDS, respectively), stress and rest ejection fraction (EF) were calculated. Visual interpretation was performed to classify the perfusion as normal, fixed, mixed (fixed and reversible defects), single reversible or multiple reversible defects. Coronary angiograms were assessed as normal with no CAD, single vessel, two-vessel or three-vessel disease. Correlations between the TID and other parameters were studied using analysis of variance (ANOVA) with IBM-SPSS version 20.

Results: A total of 52 male patients had a high TID of P1.20 (mean 1.30 ± 0.13). Ten patients had a SSS of 0–3 and 16 were classified as normal by visual assessment. Stress EF (mean 50.4 ± 12%) was lower than the rest EF (mean 56.6 ± 12.8%) with the difference being statistically significant (Students paired t-test, p = 0.001). Angiography results were available in 44 patients, 3 having a normal angiogram, 24... [Visit Link Below for More]
PREDICTING IN-HOSPITAL DEATH AMONG PATIENTS INJURED IN TRAFFIC CRASHES IN SAUDI ARABIA

AUTHOR(S): ALGHNAM, S., PALTA, M., HAMEDANI, A., ALKELYA, M., REMINGTON, P. L., ET AL.

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ABSTRACT:
Introduction: Traffic-related injuries are a major cause of premature death in developing countries. Saudi Arabia has struggled with high rates of traffic-related deaths for decades, yet little is known about health outcomes of motor vehicle victims seeking medical care. This study aims to develop and validate a model to predict in-hospital death among patients admitted to a large-urban trauma centre in Saudi Arabia for treatment following traffic-related crashes.

Methods: The analysis used data from King Abdulaziz Medical City (KAMC) in Riyadh, Saudi Arabia. During the study period 2001–2010, 5325 patients met the inclusion criteria of being injured in traffic crashes and seen in the Emergency Department (ED) and/or admitted to the hospital. Backward stepwise logistic regression, with in-hospital death as the outcome, was performed. Variables with p < 0.05 were included in the final model. The Bayesian Information Criterion (BIC) was employed to identify the most parsimonious model. Model discrimination was evaluated by the C-statistic and calibration by the Hosmer–Lemeshow Goodness of Fit statistic. Bootstrapping was used to assess overestimation of model performance and obtain a corrected C-statistic.

Results: 457 (8.5%) patients died at some time during their treatment in the ED or hospital. Older age, the Triage-Revised Trauma Scale (T-RTS), and Injury Severity Score were independent risk factors for inhospital death: T-RTS was best modelled with linear and quadratic terms to capture a flattening of the relationship to death in the more severe range. The model showed excellent discrimination (C-statistic = 0.96) and calibration (H–L statistic 4.29 [p > 0.05]). Internal bootstrap validation gave similar results (C-statistic = 0.96)... [Visit Link Below for More]
THE ASSOCIATION BETWEEN MOTOR VEHICLE INJURIES AND HEALTH-RELATED QUALITY OF LIFE: A LONGITUDINAL STUDY OF A POPULATION-BASED SAMPLE IN THE UNITED STATES

AUTHOR(S): ALGHNAM, S., PALTA, M., L. REMINGTON, P., MULLAHY, J., & S. DURKIN, M.

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ABSTRACT:

Purpose: As many as 3 million US residents are injured in traffic-related incidents every year leaving many victims with disabling conditions. To date, limited numbers of studies have examined the effects of traffic-related injuries on self-reported health. This study aims to examine the association between health-related quality of life (HRQOL) and traffic-related injuries longitudinally in a nationally representative sample of US adult population.

Methods/Approach: This is a longitudinal study of adult participants (age ≥18) from seven panels (2000–2007) of the Medical Expenditure Panel Survey. The dependent variables included the physical and mental components of the SF-12, a measure of self-reported health. The outcome was assessed twice during the follow-up period: round 2 (*4–5 months into the study) and round 4 (*18 months into the study) for 62,298 individuals. Two methods estimate the association between traffic-related injuries and HRQOL: a within person change using paired tests and a between person change using multivariable regression adjusting for age, sex, income and educational level.

Results: Nine hundred and ninety-three participants reported traffic-related injuries during the follow-up period. Compared to their pre-crash HRQOL, these participants lost 2.7 of the physical component score while their mental component did not change. Adjusted results showed significant deficits in the physical component (-2.84, p value = .001) but not the mental component (-0.07, p value = .83) of HRQOL after controlling for potential confounders. [Visit Link Below for More]
GALLERIA MELLONELLA INFECTION MODEL DEMONSTRATES HIGH LETHALITY OF ST69 AND ST127 UROPATHOGENIC E. COLI

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ABSTRACT:

Galleria mellonella larvae are an alternative in vivo model for investigating bacterial pathogenicity. Here, we examined the pathogenicity of 71 isolates from five leading uropathogenic E. coli (UPEC) lineages using G. mellonella larvae. Larvae were challenged with a range of inoculum doses to determine the 50% lethal dose (LD50) and for analysis of survival outcome using Kaplan-Meier plots. Virulence was correlated with carriage of a panel of 29 virulence factors (VF). Larvae inoculated with ST69 and ST127 isolates (10⁴ colony-forming units/larvae) showed significantly higher mortality rates than those infected with ST73, ST95 and ST131 isolates, killing 50% of the larvae within 24 hours. Interestingly, ST131 isolates were the least virulent. We observed that ST127 isolates are significantly associated with a higher VF-score than isolates of all other STs tested (P≤0.0001), including ST69 (P<0.02), but one ST127 isolate (strain EC18) was avirulent.

Comparative genomic analyses with virulent ST127 strains revealed an IS1 mediated deletion in the O-antigen cluster in strain EC18, which is likely to explain the lack of virulence in the larvae infection model. Virulence in the larvae was not correlated with serotype or phylogenetic group. This study illustrates that G. mellonella are an excellent tool for investigation of the virulence of UPEC strains. The findings also support our suggestion that the incidence of ST127 strains should be monitored, as these isolates have not yet been widely reported, but they clearly have... [View Link Below for More]
Knowledge and Attitude of Healthcare Professionals Toward Medication Pregnancy Category Systems in Saudi Hospitals

Author(s): Alshammari, T. M., Alrwan, A. A., Aljeraisy, M. I., Taher, K. W., Aliss, F. M., etc.

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Abstract:
Objective: To assess the knowledge and attitudes of healthcare professionals (HCPs) toward systems used in describing the safety of medications use during pregnancy.

Methods: A cross-sectional self-administered survey was conducted in 4 tertiary hospitals in Riyadh, Saudi Arabia between March and May 2012. The targeted HCPs were physicians and pharmacists. The survey was validated and contained 4 main sections. Descriptive statistics were used to report responses to the survey's questions.

Results: A total of 393 HCPs responded to the survey, with a response rate of 97%. Half of the respondents were physicians. Of the participants, 60% were males. Most respondents (66%) stated that they have prescribed/dispensed a drug that may cause teratogenicity. Moreover, 87% of the respondents (48% pharmacists and 39% physicians) were aware of the Food and Drug Administration (FDA) pregnancy category, and most (72%) found it helpful. Only 11% of the participants strongly agree to use the European Medicine Agency (EMA) system for pregnancy category system as their main reference.

Conclusion: In general, HCPs in Saudi Arabian hospitals have good knowledge of and attitudes toward pregnancy category systems, with more familiarity with the FDA system. The FDA system is preferred over the EMA system. [View Link Below for More]
Natalizumab Treatment for Multiple Sclerosis: Middle East and North Africa Regional Recommendations for Patient Selection and Monitoring


Affiliation: Amiri Hospital, Kuwait City, Kuwait; Dasman Diabetes Institute, Kuwait City, Kuwait; Ain Shams University, Cairo, Egypt; King Faisal Specialist Hospital and Research Centre, Riyadh, Saudi Arabia; Al Khalidi Hospital, Amman, Jordan; KAIMRC, King Saud Ben Abdulaziz University for Health Sciences, NGHA and MS Center; Et al.

Abstract:

Background: Natalizumab, a highly specific α4-integrin antagonist, has recently been registered across the Middle East and North Africa region. It improves clinical and magnetic resonance imaging (MRI) outcomes and reduces the rate of relapse and disability progression in relapsing-remitting multiple sclerosis (MS). Natalizumab is recommended for patients who fail first-line disease-modifying therapy or who have very active disease. Progressive multifocal leukoencephalopathy is a rare, serious adverse event associated with natalizumab.

We aim to develop regional recommendations for the selection and monitoring of MS patients to be treated with natalizumab in order to guide local neurological societies.

Methods: After a review of available literature, a group of neurologists with expertise in the management of MS met to discuss the evidence and develop regional recommendations to guide appropriate use of natalizumab in the region.

Results: Disease breakthrough is defined as either clinical (relapse or disability progression) or radiological activity (new T2 lesion or gadolinium-enhancing lesions on MRI), or a combination of both. Natalizumab is recommended as an escalation therapy in patients with breakthrough disease based on its established efficacy in Phase III studies. Several factors including prior immunosuppressant therapy, anti-John Cunningham virus (JCV) antibody status and patient choice will affect the selection of natalizumab. In highly active MS, natalizumab is considered as a... [View Link Below for More]

Shortlink: bit.ly/1Fv6KZp
THE METHODOLOGY OF POPULATION SURVEYS OF HEADACHE PREVALENCE, BURDEN AND COST: PRINCIPLES AND RECOMMENDATIONS FROM THE GLOBAL CAMPAIGN AGAINST HEADACHE

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ABSTRACT:
The global burden of headache is very large, but knowledge of it is far from complete and needs still to be gathered. Published population-based studies have used variable methodology, which has influenced findings and made comparisons difficult. Among the initiatives of the Global Campaign against Headache to improve and standardize methods in use for cross-sectional studies, the most important is the production of consensus-based methodological guidelines. This report describes the development of detailed principles and recommendations. For this purpose we brought together an expert consensus group to include experience and competence in headache epidemiology and/or epidemiology in general and drawn from all six WHO world regions. The recommendations presented are for anyone, of whatever background, with interests in designing, performing, understanding or assessing studies that measure or describe the burden of headache in populations. While aimed principally at researchers whose main interests are in the field of headache, they should also be useful, at least in parts, to those who are expert in public health or epidemiology and wish to extend their interest into the field of headache disorders. Most of all, these recommendations seek to encourage collaborations between specialists in headache disorders and epidemiologists. The focus is on migraine, tension-type headache and... [View Link Below for More]

SHORTLINK: bit.ly/1KfWRTs
THE IMPACT OF “ADMIT NO BED” AND LONG BOARDING TIMES IN THE EMERGENCY DEPARTMENT ON STROKE OUTCOME


AFFILIATION: Department of Medicine, King Saud Bin Abdulaziz University for Health Sciences/King Abdullah International Medical Research Center, National Guard Health Affairs, Riyadh, Kingdom of Saudi Arabia

ABSTRACT:
Objectives: To examine and test the possible association between boarding time and stroke patients’ outcome.

Methods: This study is a retrospective review of stroke patients presenting to the Emergency Department (ED) of King Abdulaziz Medical City, Riyadh, Kingdom of Saudi Arabia from 2007-2010. We excluded thrombolysis cases and those deemed critically ill. We collected time of stroke onset, ED arrival, decision to admit, and arrival to ward. Boarding time (BT) was defined as time of arrival to ward minus time of decision to admit. Primary outcome (PO) was defined as a composite of mortality, and/or any of post-stroke complications.

Results: We included 300 patients with a mean age ± standard deviation of 69 ± 12 years, and 66.3% were men. The PO occurred in 37.7%. There was no association between BT and PO (odds ratio [OR]=0.9, p=0.3), or any of the secondary outcomes, such as, death (OR=0.97, p=0.5), severe disability (OR=0.97, p=0.3), pneumonia (OR=1, p=0.9), urinary tract infection (OR=1, p=0.9), or neurological deterioration (OR=0.8, p=0.1). Multivariate analysis included gender, age, stroke severity, subtype, hypertension, diabetes, coronary disease, atrial fibrillation, heart failure (HF), onset to ED, BT and ED wait time; only moderate to severe stroke, HF, and previous stroke predicted poor outcome.

Conclusion: Although “admit no bed” was not associated with adverse effects, the results should be interpreted with caution, and early admission to the stroke unit should be encouraged...[View Link Below for More]
NEUROMYELITIS OPTICA AND NEUROMYELITIS OPTICA-IGG SEROPOSITIVITY IN SAUDIS WITH DEMYELINATING DISEASES OF THE CENTRAL NERVOUS SYSTEM

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ABSTRACT:
Background and Objective: Neuromyelitis optica (NMO) shares certain features with multiple sclerosis (MS). Similar phenotypes, wide spectrum and the differential prevalence of NMO among ethnic backgrounds pose diagnostic challenges. NMO-IgG antibodies are specific biomarker for NMO and facilitate its differentiation from other demyelinating diseases. This study aimed to assess the frequency of NMO and NMO-IgG seropositivity in Saudi patients with demyelinating diseases of the central nervous system.

Methods: One hundred and four patients from neurology database at King Abdulaziz Medical City, Riyadh underwent clinical and laboratory examination, neuroimaging and NMO-IgG antibodies screening.

Results: The mean age at presentation was 32 (±9) years and there was an excess of females (female:male – 3:1). The mean duration of illness was 4.6 (±3.2) years. During the illness, 48.1% of patients had clinical evidence of spinal cord involvement, 29.8% had optic neuritis and 14.4% had both features. A large majority (75.8%) of brain lesions fulfilled MRI criteria for MS and 17% had lesions extending over ≥3 vertebral segments. NMO-IgG antibodies were present in only one patient – a frequency of 0.96% in our study cohort.

Conclusion: Prevalence of NMO and NMO-IgG seropositivity is rare in Saudis with demyelinating diseases of the central nervous system. Hence, routine NMO-IgG testing is likely to have a low diagnostic yield...

[View Link Below for More]
PRACTICAL GUIDANCE FOR THE USE OF A PATTERN-MATCHING TECHNIQUE IN CASE-STUDY RESEARCH: A CASE PRESENTATION

AUTHOR(S): ALMUTAIRI A.F., GARDNER G.E., MCCARTHY A.

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ABSTRACT:
This paper reports on a study that demonstrates how to apply pattern matching as an analytical method in case-study research. Case-study design is appropriate for the investigation of highly-contextualized phenomena that occur within the social world. Case-study design is considered a pragmatic approach that permits employment of multiple methods and data sources in order to attain a rich understanding of the phenomenon under investigation. The findings from such multiple methods can be reconciled in case-study analysis, specifically through a pattern-matching technique. Although this technique is theoretically explained in the literature, there is scant guidance on how to apply the method practically when analyzing data. This paper demonstrates the steps taken during pattern matching in a completed case-study project that investigated the influence of cultural diversity in a multicultural nursing workforce on the quality and safety of patient care. The example highlighted in this paper contributes to the practical understanding of the pattern-matching process, and can also make a substantial contribution to case-study methods. [View Link Below for More]
NEUROFIBROMATOSIS INDUCED HIP ARTHRITIS. AN UNUSUAL PRESENTATION

AUTHOR(s): Alrumaih, H., Ilyas, I., & Kashif, S.

AFFILIATION: King Faisal Specialist Hospital and Research Center, Riyadh, Saudi Arabia; Alfaisal University; College of Medicine, Orthopaedic Consultant King Faisal Specialist Hospital and Research Center, Riyadh, Saudi Arabia; National Guard Health Affairs, King Abdullah International Medical City; King Abdullah International Medical Research Center, Riyadh, Saudi Arabia

ABSTRACT:

Background: Neurofibromatosis type 1 is a disease known for orthopedic manifestations such as spine deformities, congenital pseudarthrosis of the tibia and other bony dysplasias; joint dislocations are rare. Joint arthritis caused by neurofibromatosis, with a stable hip, has never been reported in the English literature before.

Case Report: A 43-year-old man diagnosed with neurofibromatosis type 1 (NF-1) presented with hip pain of 5 years duration, with no history of trauma and no clinical or radiological signs of dislocation. He had classical clinical and radiological signs of hip arthritis, with acetabular erosions and femoral head arthritis. The patient was treated with total hip arthroplasty metal-on-metal (MoM).

Conclusions: Hip arthritis alone without subluxation or dislocation due to NF-1 is an extremely rare presentation. This is the first reported presentation and provisional treatment with total hip arthroplasty...[View Link Below for More]
ISLAMIC VIEWS ON ARTIFICIAL NUTRITION AND HYDRATION IN TERMINALLY ILL PATIENTS

AUTHOR(s): ALSOLAMY, S

AFFILIATION: KING ABDULLAH INTERNATIONAL MEDICAL RESEARCH CENTER, RIYADH, SAUDI ARABIA & KING SAUD BIN ABDULAZIZ UNIVERSITY FOR HEALTH SCIENCES, KING ABDULAZIZ MEDICAL CITY

ABSTRACT:
Withholding and withdrawing artificial nutrition and hydration from terminally ill patients poses many ethical challenges. The literature provides little information about the Islamic beliefs, attitudes, and laws related to these challenges. Artificial nutrition and hydration may be futile and reduce quality of life. They can also harm the terminally ill patient because of complications such as aspiration pneumonia, dyspnea, nausea, diarrhea, and hypervolemia. From the perspective of Islam, rules governing the care of terminally ill patients are derived from the principle that injury and harm should be prevented or avoided. The hastening of death by the withdrawal of food and drink is forbidden, but Islamic law permits the withdrawal of futile, death-delivering treatment, including life support. Nutritional support is considered basic care and not medical treatment, and there is an obligation to provide nutrition and hydration for the dying person unless it shortens life, causes more harm than benefit, or is contrary to an advance directive that is consistent with Islamic law. The decision about withholding or withdrawing artificial nutrition and hydration from the terminally ill Muslim patient is made with informed consent, considering the clinical context of minimizing harm to the patient, with input from the patient, family members, health care providers, and religious scholars.... [View Link Below for More]
A BSTRACT:

Background: Early recognition of severe sepsis and septic shock is challenging. The aim of this study was to determine the diagnostic accuracy of an electronic alert system in detecting severe sepsis or septic shock among emergency department (ED) patients.

Methods: An electronic sepsis alert system was developed as a part of a quality-improvement project for severe sepsis and septic shock. The system screened all adult ED patients for a combination of systemic inflammatory response syndrome and organ dysfunction criteria (hypotension, hypoxemia or lactic acidosis). This study included all patients older than 14 years who presented to the ED of a tertiary care academic medical center from Oct. 1, 2012 to Jan. 31, 2013. As a comparator, emergency medicine physicians or the critical care physician identified the patients with severe sepsis or septic shock. In the ED, vital signs were manually entered into the hospital electronic health record every hour in the critical care area and every two hours in other areas. We also calculated the time from the alert to the intensive care unit (ICU) referral.

Results: Of the 49,838 patients who presented to the ED, 222 (0.4%) were identified to have severe sepsis or septic shock. The electronic sepsis alert had a sensitivity of 93.18% (95% CI, 88.78% - 96.00%), specificity of 98.44 (95% CI, 98.33% – 98.55%), positive predictive value of 20.98% (95% CI, 18.50% – 23.70%) and negative predictive value of 99.97% (95% CI, 99.95% – 99.98%) for severe sepsis and septic shock. The alert preceded ICU referral by a median of 4.02 hours (Q1 - Q3: 1.25–8.55). Conclusions: Our study shows that electronic sepsis alert tool has high sensitivity and specificity in recognizing severe sepsis and septic shock, which may improve early recognition and management...
GENETIC DIVERSITY OF OXA-51-LIKE GENES AMONG MULTIDRUG-RESISTANT ACINETOBACTER BAUMANNII IN RIYADH, SAUDI ARABIA


Affiliation: King Abdullah International Medical Research Centre; King Faisal Specialist Hospital & Research Centre; King Saud bin Abdulaziz University for Health Sciences; WHO CC and GCC Center for Infection Control; Department of Pathology, King Abdulaziz Medical City, King Abdulaziz City for Science and Technology; Department of Pathology, King Abdulaziz Medical City; King Abdullah International Medical Research Centre; King Saud bin Abdulaziz University for Health Sciences, WHO CC and GCC Center for Infection ControlDepartment of Infection Prevention and Control, King Abdulaziz Medical City

Abstract:
We explore the genetic diversity of class D oxacillinases, including OXA-23, -24 (-40), -58 and, particularly, the intrinsic OXA-51-like genes, among multidrug-resistant (MDR) Acinetobacter baumannii strains from inpatients at a tertiary care hospital in Riyadh, Saudi Arabia. Sequence-based typing (SBT) of the OXA-51-like gene was carried out on 253 isolates. Selected isolates (n = 66) were subjected to multilocus sequence typing (MLST). The polymerase chain reaction (PCR) typing results showed that all isolates (n = 253) contained the OXA-51-like and OXA-23 genes. However, the OXA-58 gene was detected in five isolates. Further, none of the isolates had the OXA-40 (identical to the OXA-24) gene. SBT revealed a high OXA-51-like genotypic diversity and showed that all isolates were clustered into four main groups: OXA-66 (62.3 %), followed by OXA-69 (19.1 %), OXA-132 (7.6 %) and other OXA-51-like genes (10.3 %), including OXA-79, -82, -92, -131 and -197. MLST revealed four main sequence types (STs), 2, 19, 20 and 25, among the isolates, in addition to six isolates with newly designated ST194–ST197 singletons. Further, a high prevalence (81.4 %) of OXA-66 and OXA-69-like genes in A. baumannii was identified. More studies are essential in order to explore the molecular mechanisms that confer carbapenem-resistant phenotypes for A. baumannii isolates and to investigate the genetic diversity of other OXA-D gene. [View Link Below for More]

Shortlink: bit.ly/1EMuqh0
IMPROVING THE CARE OF SEPSIS: BETWEEN SYSTEM REDESIGN AND PROFESSIONAL RESPONSIBILITY: A ROUNDTABLE DISCUSSION IN THE WORLD SEPSIS DAY, SEPTEMBER 25, 2013, RIYADH, SAUDI ARABIA

AUTHOR(S): Arabi, Y., Alamry, A., Levy, M. M., Taher, S., & Marini, A. M.

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ABSTRACT:
This paper summarizes the roundtable discussion in September 25, 2013, Riyadh, Saudi Arabia as part of the World Sepsis Day held in King Abdulaziz Medical City, Riyadh. The objectives of the roundtable discussion were to (1) review the chasm between the current management of sepsis and best practice, (2) discuss system redesign and role of the microsystem in sepsis management, (3) emphasize the multidisciplinary nature of the care of sepsis and that improvement of the care of sepsis is the responsibility of all, (4) discuss the bundle concept in sepsis management, and (5) reflect on the individual responsibility of the health care team toward sepsis with a focus on accountability and the moral agent.

More than 2,400 healthcare institutions in over 40 countries around the world held the World Sepsis Day in September 2013 to draw attention to this deadly disease, its impact on human life, and share progress in therapies. [1] King Abdulaziz Medical City (KAMC), Riyadh, Saudi Arabia has launched a sepsis improvement project and as part of this initiative, the World Sepsis Day was held on September 25, 2013 to raise awareness of sepsis among its healthcare professionals, to highlight... [View Link Below for More]

SHORTLINK: bit.ly/1MakPmv
Clinical course and outcomes of critically ill patients with Middle East respiratory syndrome coronavirus infection


Affiliation: King Abdullah International Medical Research Center & Department of Clinical Nursing and the Infection Prevention and Control Program, King Abdulaziz Medical City, Riyadh, Saudi Arabia, King Saud bin Abdulaziz University for Health Sciences, Riyadh: Division of Microbiology, Pathology & Laboratory Medicine, Department of Cardiac Sciences; Ghassan A. Al-Ghamdi, MD, Intensive Care Department and Assistant Professor, College of Medicine; Intensive Care Department; Emergency Medicine; Respiratory Services. King Abdulaziz Hospital, Al-Ahsa: Department of Medicine, Pulmonary & Intensive Care Imam Abdulrahman Bin Faisal Hospital, Dammam: Infection Prevention and Control Program.

Abstract:
Background: Since September 2012, 170 confirmed infections with Middle East respiratory syndrome coronavirus (MERS-CoV) have been reported to the World Health Organization, including 72 deaths. Data on critically ill patients with MERS-CoV infection are limited.

Objective: To describe the critical illness associated with MERS-CoV.

Design: Case series.

Setting: 3 intensive care units (ICUs) at 2 tertiary care hospitals in Saudi Arabia.

Patients: 12 patients with confirmed or probable MERS-CoV infection

Measurements: Presenting symptoms, comorbid conditions, pulmonary and extrapulmonary manifestations, measures of severity of illness and organ failure, ICU course, and outcome are described, as are the results of surveillance of health care workers (HCWs) and patients with potential exposure... [View Link Below for More]

Shortlink: bit.ly/1NoWMAD
COST-EFFECTIVENESS OF DALTEPARIN VS UNFRACTIONATED HEPARIN FOR THE PREVENTION OF VENOUS THROMBOEMBOLISM IN CRITICALLY ILL PATIENTS


AFFILIATION: Sunnybrook Health Sciences Centre, University of Toronto, Toronto, Ontario, Canada; Health Outcomes and Pharmacoeconomic (HOPE) Research Centre, Sunnybrook Health Sciences Centre, Toronto, Ontario, Canada; Department of Pharmacology, University of Toronto, Toronto, Ontario, Canada; Department of Medicine, University of Toronto, Toronto, Ontario, Canada; Department of Clinical Epidemiology & Biostatistics, McMaster University, Hamilton, Ontario, Canada; Department of Research and Evaluation, Kaiser Permanente Southern California, Pasadena, California; King Saud Bin Abdulaziz University for Health Sciences and King Abdullah International Medical Research Center, Riyadh, Saudi Arabia; et al.

ABSTRACT:
Importance: Venous thromboembolism (VTE) is a common complication of acute illness, and its prevention is a ubiquitous aspect of inpatient care. A multicenter blinded, randomized trial compared the effectiveness of the most common phamacoprevision strategies, unfractionated heparin (UFH) and the low-molecular-weight heparin (LMWH) dalteparin, finding no difference in the primary end point of leg deep-vein thrombosis but a reduced rate of pulmonary embolus and heparin-induced thrombocytopenia among critically ill medical-surgical patients who received dalteparin.

Objective: To evaluate the comparative cost-effectiveness of LMWH vs UFH for prophylaxis against VTE in critically ill patients.

Design, Setting, and Participants: Prospective economic evaluation concurrent with the Prophylaxis for Thromboembolism in Critical Care Randomized Trial (May 2006 to June 2010). The economic evaluation adopted a health care [View Link Below for More]

SHORTLINK: bit.ly/10MlcNj
NON-PULMONARY INFECTIONS BUT NOT SPECIFIC PATHOGENS ARE ASSOCIATED WITH INCREASED RISK OF AKI IN SEPTIC SHOCK


AFFILIATION: Section of Nephrology, University of Ottawa, Ottawa, Canada; Section of Critical Care Medicine, University of Toronto, Toronto, Canada; Section of Nephrology, University of Manitoba, Winnipeg, Canada; Richmond General Hospital, Richmond, Canada; King Saud Bin Abdulaziz University for Health Sciences, Riyadh, Saudi Arabia; Royal Columbian Hospital, New Westminster, Canada; Laurentian University, Sudbury, Canada

ABSTRACT:
Little is known regarding the relationship between the anatomic infection site and etiologic pathogen with the occurrence of acute kidney injury (AKI) in severe infections. We set out to determine the association between the site of infection, type of pathogen in septic shock and occurrence of AKI. [View Link Below for More]
INTERACTION BETWEEN FLUIDS AND VASOACTIVE AGENTS ON MORTALITY IN SEPTIC SHOCK: A MULTICENTER, OBSERVATIONAL STUDY

Author(s): Waechter, J., Kumar, A., Lapinsky, S. E., Marshall, J., Dodek, P., Arabi, Y., et al.

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Abstract:
Objective: Fluids and vasoactive agents are both used to treat septic shock, but little is known about how they interact or the optimal way to administer them. We sought to determine how hospital mortality was influenced by combined use of these two treatments. Design: Retrospective evaluation using multivariable logistic regression to evaluate the association between hospital mortality and categorical variables representing initiation of vasoactive agents and volumes of IV fluids given 0–1, 1–6, and 6–24 hours after onset, including interactions and adjusting for potential confounders.

Setting: ICUs of 24 hospitals in 3 countries.

Patients: Two thousand eight hundred forty-nine patients who survived more than 24 hours after onset of septic shock, admitted between 1989 and 2007.

Interventions: None.

Measurements and Main Results: Fluids and vasoactive agents had strong, interacting associations with mortality (p < 0.0001). Mortality was lowest when vasoactive agents were begun 1–6 hours after onset, with more than 1L of fluids in the initial hour after shock onset, more than 2.4L from hours 1–6, and 1.6–3.5L from 6 to 24 hours. The lowest mortality rates were associated with starting vasoactive...

Shortlink: bit.ly/1QhHFXj
INTEGRATED EXON LEVEL EXPRESSION ANALYSIS OF DRIVER GENES EXPLAIN THEIR ROLE IN COLORECTAL CANCER

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ABSTRACT:
Integrated analysis of genomic and transcriptomic level changes holds promise for a better understanding of colorectal cancer (CRC) biology. There is a pertinent need to explain the functional effect of genome level changes by integrating the information at the transcript level. Using high resolution cytogenetics array, we had earlier identified driver genes by ‘Genomic Identification of Significant Targets In Cancer (GISTIC)’ analysis of paired tumour-normal samples from colorectal cancer patients. In this study, we analyze these driver genes at three levels using exon array data – gene, exon and network. Gene level analysis revealed a small subset to experience differential expression. These results were reinforced by carrying out separate differential expression analyses (SAM and LIMMA). ATP8B1 was found to be the novel gene associated with CRC that shows changes at cytogenetic, gene and exon levels. Splice index of 29 exons corresponding to 13 genes was found to be significantly altered in tumour samples. Driver genes were used to construct regulatory networks for tumour and normal groups. There were rearrangements in transcription factor genes suggesting the presence of regulatory switching. The regulatory pattern of AHR gene was found to have the most significant alteration. Our results integrate data with focus on driver genes resulting in highly enriched novel molecules that need further studies to establish their role in CRC...

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Drug-resistant ventilator associated pneumonia in a tertiary care hospital in Saudi Arabia

Author(s): Balkhy, H. H., El-Saed, A., Maghraby, R., Al-Dorzi, H. M., Khan, R., et al.

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Abstract:
Background: There is a wide geographic and temporal variability of bacterial resistance among microbial causes of ventilator-associated pneumonia (VAP). The contribution of multi-drug resistant (MDR) pathogens to the VAP etiology in Saudi Arabia was never studied. We sought to examine the extent of multiple-drug resistance among common microbial causes of VAP.

Materials and Methods: We conducted a retrospective susceptibility study in the adult intensive care unit (ICU) of King Abdulaziz Medical City, Riyadh, Saudi Arabia. Susceptibility results of isolates from patients diagnosed with VAP between October 2004 and June 2009 were examined. The US National Healthcare Safety Network definition of MDR was adopted.

Results: A total of 248 isolates including 9 different pathogens were included. Acinetobacter spp. was highly (60-89%) resistant to all tested antimicrobials, including carbapenems (three- and four-class MDR prevalence were 86% and 69%, respectively). Pseudomonas aeruginosa was moderately (13-31%)...

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COMPLIANCE WITH POSTEXPOSURE SCREENING AND TREATMENT OF LATENT TUBERCULOSIS INFECTION AMONG HEALTHCARE WORKERS IN A TERTIARY CARE HOSPITAL IN SAUDI ARABIA


AFFILIATION: King Abdullah International Medical Research Center, Infection Prevention and Control Department, King Saud bin Abdulaziz University for Health Sciences, Riyadh, Saudi Arabia.

ABSTRACT:

Background: Controlling tuberculosis (TB) infection among occupationally exposed healthcare workers (HCWs) may be challenging.

Methods: We retroactively reviewed clinical records of HCWs who were exposed to patients diagnosed with infectious TB at King Abdulaziz Medical City, Riyadh, Saudi Arabia, between 2008 and 2010. The collected data included baseline tuberculin skin test (TST) status, potential predictors of TST positivity, postexposure diagnosis of latent TB infection (LTBI), and postexposure compliance with LTBI therapy.

Results: Thirteen patients were diagnosed with infectious pulmonary TB during the study period. A total of 298 HCWs met our definition for exposure. Exposed HCWs tended to be female (62.9%), non-Saudi (83.9%), nurses (68.6%), or respiratory therapists (24.0%) working in critical care locations (72.8%). Baseline (preemployment) TST documentation existed for 41.3% (123/298). Among those with documented baseline TSTs, 51.2% (63/123) were positive, representing 21.1% (63/298) of all HCWs. Only 48.9% (115/235) of exposed HCWs who had negative or unknown preexposure TST status had their TST tested after exposure. Approximately 46.1% (53/115) of them were diagnosed with postexposure LTBI, and 92.5% (49/53) of them were prescribed LTBI therapy. Among those, 93.9% (46/49) started LTBI therapy; however, 82.6% (38/46) failed to complete the recommended course.

Conclusions: We found low rates of baseline TST documentation and postexposure screening among exposed HCWs. Compliance with initiating postexposure isoniazid prophylaxis among HCWs was fair, but only a small fraction of those who started prophylaxis completed the recommended course of ... [View Link Below for More]
UPDATE ON INFECTION CONTROL CHALLENGES IN SPECIAL PEDIATRIC POPULATIONS

AUTHOR(S): Balkhy, H. H., & Zingg, W.

AFFILIATION: King Abdullah International Medical Research Center & Department of Infection Prevention and Control, King Abdulaziz Medical City, King Saud bin Abdulaziz University for Health Sciences; WHO Collaborating Centre for Infection Control, Riyadh, Kingdom of Saudi Arabia: Infection Control Program, Faculty of Medicine, WHO Collaborating Centre on Patient Safety, University of Geneva Hospitals, Geneva, Switzerland

ABSTRACT:

Purpose of Review: Compared with adults, neonatal and pediatric populations are especially vulnerable patients who have specific diagnostic and therapeutic differences; therefore, the standard infection control practices designed for adults are sometimes not effective or need modifications to work. This review focuses on the recent literature addressing the challenges and successes in preventing healthcare-associated infections (HAIs) in children.

Recent Findings: Improving the implementation of pediatric versions of preventive bundles focusing on proper catheter insertion and maintenance, mainly as a part of a larger multimodal strategy, is effective in reducing the central-line-associated bloodstream infections in neonatal and pediatric populations including oncology patients. Appropriate feeding, antimicrobial stewardship, and infection control measures should be combined in reducing necrotizing enterocolitis in preterm neonates. Implementing a multimodal bundle strategy adapted for pediatric population is successful in preventing ventilator-associated pneumonia. Appropriate use of antimicrobial prophylaxis remains the cornerstone for preventing surgical-site infections irrespective of age, with few additional effective adjuvant preventive practices in specific pediatric patients.

Summary: Several evidence-based practices are effective in reducing the incidence and the impact of HAIs in children; however, proper implementation remains a challenge. Additionally, several adult preventive practices are still unestablished in children and need further thorough examination. [View Link Below for More]
SPREAD, CIRCULATION, AND EVOLUTION OF THE MIDDLE EAST RESPIRATORY SYNDROME CORONAVIRUS

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ABSTRACT:
The Middle East respiratory syndrome coronavirus (MERS-CoV) was first documented in the Kingdom of Saudi Arabia (KSA) in 2012 and, to date, has been identified in 180 cases with 43% mortality. In this study, we have determined the MERS-CoV evolutionary rate, documented genetic variants of the virus and their distribution throughout the Arabian peninsula, and identified the genome positions under positive selection, important features for monitoring adaptation of MERS-CoV to human transmission and for identifying the source of infections. Respiratory samples from confirmed KSA MERS cases from May to September 2013 were subjected to whole-genome deep sequencing, and 32 complete or partial sequences (20 were ≥99% complete, 7 were 50 to 94% complete, and 5 were 27 to 50% complete) were obtained, bringing the total available MERS-CoV genomic sequences to 65. An evolutionary rate of $1.12 \times 10^{-3}$ substitutions per site per year (95% credible interval [95% CI], $8.76 \times 10^{-4}$; $1.37 \times 10^{-3}$) was estimated, bringing the time to most recent common ancestor to March 2012... [View Link Below for More]
SCREENING FOR MIDDLE EAST RESPIRATORY SYNDROME CORONAVIRUS INFECTION IN HOSPITAL PATIENTS AND THEIR HEALTHCARE WORKER AND FAMILY CONTACTS: A PROSPECTIVE DESCRIPTIVE STUDY


AFFILIATION: Global Centre for Mass Gatherings Medicine (GCMGM), Ministry of Health, Riyadh; Saudi Aramco Medical Services Organization, Saudi Aramco, Dhahran, Saudi Arabia; Indiana University School of Medicine, Indianapolis, IN, USA; Jeddah Regional Laboratory, Ministry of Health, Jeddah; King Faisal Specialist Hospital; Prince Sultan Military Medical City; Alhada Military Hospital; King Abdullah International Medical Research Center & Department of Infection Prevention and Control, King Abdulaziz Medical City, King Saud bin Abdulaziz University for Health Sciences; et al.

ABSTRACT:
The Saudi Arabian Ministry of Health implemented a pro-active surveillance programme for Middle East respiratory syndrome (MERS) coronavirus (MERS-CoV). We report MERS-CoV data from 5065 Kingdom of Saudi Arabia individuals who were screened for MERS-CoV over a 12-month period. From 1 October 2012 to 30 September 2013, demographic and clinical data were prospectively collected from all laboratory forms received at the Saudi Arabian Virology reference laboratory. Data were analysed by referral type, age, gender, and MERS-CoV real-time PCR test results. Five thousand and 65 individuals were screened for MER-CoV: hospitalized patients with suspected MERS-CoV infection (n = 2908, 57.4%), healthcare worker (HCW) contacts (n = 1695; 33.5%), and family contacts of laboratory confirmed MERS cases (n = 462; 9.1%). Eleven per cent of persons tested were children (<17 years of age). There were 108 cases (99 adults and nine children) of MERS-CoV infection detected during the 12-month period (108/5065, 2% case detection rate). Of 108 cases, 45 were females (six children and 39 adults) and 63 were males (three children and 60 adults). Of the 99 adults with ...

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INTERNATIONAL NOSOCOMIAL INFECTION CONTROL CONSORTIUM (INICC) REPORT, DATA SUMMARY OF 43 COUNTRIES FOR 2007-2012. DEVICE-ASSOCIATED MODULE


AFFILIATION: International Nosocomial Infection Control Consortium, Buenos Aires, Argentina; University of Wisconsin, Madison, WI; Medanta The Medicity, New Delhi, India; Ondokuz Mayis University, Samsun, Turkey; Ministry of Health, Riyadh, Kingdom of Saudi Arabia; Ministry of Health, City of Kuwait, Kuwait; King Abdullah International Medical Research Center & Department of Infection Prevention and Control, King Abdulaziz Medical City, King Saud bin Abdulaziz University for Health Sciences; et al.

ABSTRACT:
This report is a summary of device-associated (DA) module data collected by hospitals participating in the International Nosocomial Infection Control Consortium (INICC) for events occurring from January 2007-December 2012 and reported to the INICC by December 31, 2013. This report updates previously published DA module data from the INICC and provides contemporary, comparative rates.1-5 The INICC is an international nonprofit, open, multicenter, collaborative healthcare-associated infection control program with a surveillance system based on that of the U.S. Center for Diseases Control and Prevention’s (CDC) National Healthcare Safety Network (NHSN). Founded in Argentina in 1998, the INICC is the first multinational surveillance and research network established to measure, control, and reduce healthcare-associated infections (HAIs) through the analysis of data collected on a voluntary basis by a pool of hospitals worldwide. The INICC has the following goals: to create a dynamic global network of hospitals worldwide, which conduct surveillance on HAIs using standardized definitions and established methodologies, promote implementation of evidence-based infection control practices, and carry out applied infection control research; to provide training and surveillance tools to individual hospitals, which can allow them to conduct outcome and process surveillance of HAIs, measure their consequences, and assess the impact of infection control practices6-22...

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HEALTH IMPACT OF FASTING IN SAUDI ARABIA DURING RAMADAN: ASSOCIATION WITH DISTURBED CIRCADIAN RHYTHM AND METABOLIC AND SLEEPING PATTERNS

AUTHOR(S): AJABNOOR, G. M., BAHJRI, S., BORAI, A., ABDULKHALIQ, A. A., AL-AAMA, J. Y., ET AL.

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ABSTRACT:
Background: Muslims go through strict Ramadan fasting from dawn till sunset for one month yearly. These practices are associated with disturbed feeding and sleep patterns. We recently demonstrated that, during Ramadan, circadian cortisol rhythm of Saudis is abolished, exposing these subjects to continuously increased cortisol levels.

Hypothesis: Secretory patterns of other hormones and metabolic parameters associated with cortisol, and insulin resistance, might be affected during Ramadan.

Protocol: Ramadan practitioners (18 males, 5 females; mean age ±SEM = 23.16±1.2 years) were evaluated before and two weeks into Ramadan. Blood was collected for measurements of endocrine and metabolic parameters at 9 am (±1 hour) and again twelve hours later.

Results: In Ramadan, glucose concentration was kept within normal range, with a significant increase in the morning. Mean morning concentration of leptin was significantly higher than pre-Ramadan values (p = 0.001), in contrast to that of adiponectin, which was significantly lower (p<0.001). These changes were associated with increased insulin resistance in morning and evening. Concentrations of hsCRP were lower during Ramadan than those during regular living... [View Link Below for More]
DELTA INSULIN-LIKE GROWTH FACTOR BINDING PROTEIN-1 (DELTA IGFBP-1): A MARKER OF HEPATIC INSULIN RESISTANCE?

AUTHOR(S): BORAI, A., LIVINGSTONE, C., HEALD, A. H., OYINDAMOLA, Y., & FERNS, G

AFFILIATION: DEPARTMENT OF PATHOLOGY, KING ABDULAZIZ MEDICAL CITY, JEDDAH, SAUDI ARABIA; KING ABDULLAH INTERNATIONAL MEDICAL RESEARCH CENTER, JEDDAH, SAUDI ARABIA; FACULTY OF HEALTH & MEDICAL SCIENCES, UNIVERSITY OF SURREY, GUILDFORD, UK; DEPARTMENT OF CLINICAL BIOCHEMISTRY, ROYAL SURREY COUNTY HOSPITAL NHS TRUST, GUILDFORD, UK; DEPARTMENT OF DIABETES AND ENDOCRINOLOGY, SALFORD ROYAL HOSPITALS NHS TRUST, MANCHESTER, UK; DIVISION OF MEDICAL EDUCATION, BRIGHTON AND SUSSEX MEDICAL SCHOOL, BRIGHTON, UK

ABSTRACT:

Background: Insulin-like growth factor binding protein-1 (IGFBP-1) is a hepatically synthesised protein which can be used as a marker of insulin resistance. We hypothesised that the fall in serum IGFBP-1 at 2 h following a glucose load (ΔIGFBP-10-2h) would be a more robust measure of hepatic insulin resistance than a fasting level alone.

Methods: All subjects had a standard 75 g oral GTT including IGFBP-1 and insulin measurement to enable calculation of ΔIGFBP-10-2h, ΔInsulin0-2h, and insulin sensitivity indices. At a second visit, subjects had a frequently sampled intravenous glucose tolerance test (FSIVGTT) in order to determine the insulin sensitivity index, Si.

Results: Twenty-two individuals had normal glucose tolerance (NGT) and 9 impaired fasting glucose (IFG). ΔIGFBP-10-2h correlated with Si in total subjects (r = 0.49, p = 0.005) and NGT subjects (r = 0.50, p = 0.02) but not in IFG subjects (r = 0.43, p = 0.24). ΔInsulin0-2h/ΔIGFBP-10-2h correlated significantly with Si in total subjects (r = -0.68, p < 0.001) and in NGT subjects (r = -0.57, p = 0.005). Multivariate analysis was fitted using different models while keeping other explanatory variables constant. The fasting IGFBP-1 model was a better predictor of Si (β = 0.431, p < 0.0001) than the ΔInsulin0-2h/ΔIGFBP10-2h model (β = -0.185, p = 0.004).... [View Link Below for More]
INSULIN-LIKE GROWTH FACTOR-II: ITS ROLE IN METABOLIC AND ENDOCRINE DISEASE

AUTHOR(S): Livingstone, C., & Borai, A.

AFFILIATION: Peptide Hormones Supraregional Assay Service (SAS), Department of Clinical Biochemistry, Royal Surrey County Hospital NHS Trust, Guildford, UK; Faculty of Health and Medical Sciences, University of Surrey, Guildford, UK; Department of Pathology, Clinical Biochemistry, King Abdulaziz Medical City, Jeddah, Saudi Arabia; King Abdullah International Medical Research Center (KAIMRC); College of Medicine, King Saud Bin Abdulaziz University for Health Sciences (KSAU-HS), Jeddah, Saudi Arabia

ABSTRACT:
Insulin-like growth factor-II (IGF-II) is a widely expressed 7·5 kDa mitogenic peptide hormone. Although it is abundant in serum, understanding of its physiological role is limited compared with that of IGF-I. IGF-II regulates foetal development and differentiation, but its role in adults is less well understood. Evidence suggests roles in a number of tissues including skeletal muscle, adipose tissue, bone and ovary. Altered IGF-II expression has been observed in metabolic conditions, notably obesity, diabetes and the polycystic ovary syndrome. This article summarizes what is known about the actions of IGF-II and its dysregulation in metabolic and endocrine diseases. The possible causes and consequences of dysregulation are discussed along with the implications for diagnostic tests and future research.... [View Link Below for More]
**ABSTRACT:**
Recent analyses in flies, mice, zebrafish, and humans showed that mutations in prickle orthologs result in epileptic phenotypes, although the mechanism responsible for generating the seizures was unknown. Here, we show that Prickle organizes microtubule polarity and affects their growth dynamics in axons of Drosophila neurons, which in turn influences both anterograde and retrograde vesicle transport. We also show that enhancement of the anterograde transport mechanism is the cause of the seizure phenotype in flies, which can be suppressed by reducing the level of either of two Kinesin motor proteins responsible for anterograde vesicle transport. Additionally, we show that seizure-prone prickle mutant flies have electrophysiological defects similar to other fly mutants used to study seizures, and that merely altering the balance of the two adult prickle isoforms in neurons can predispose flies to seizures. These data reveal a previously unidentified pathway in the pathophysiology of seizure disorders and provide evidence for a more generalized cellular mechanism whereby Prickle mediates polarity by influencing microtubule-mediated transport. [View Link Below for More]
Poisoning is a medical emergency that represents a major health problem all over the world. Studies on drug overdose and chemical poisoning are very limited in Saudi Arabia (SA). We aimed to describe the current pattern and assess risk factors of drug overdose and chemical poisoning in King Khalid National Guard hospital, Jeddah, SA. Medical records of patients attended emergency department in King Khalid National Guard hospital during the period from January 2008 to December 2012 due to drug overdose and chemical poisoning were reviewed. A total of 129 cases were included in the study. The majority of the population was Saudi (97.7 %), and almost half of them were females (54.3 %). Children under 12 years were the most affected age group (44.2 %). Drug overdose was the most common cause of poisoning (92.2 %). Analgesics and non-steroidal anti-inflammatory drugs represented the highest percentage of used medications (20.4 %). The most commonly reported symptoms were symptoms of the central nervous system (57.4 %) followed by GIT symptoms (41.9 %). Intentional poisoning was reported in 34 cases (26.4 %). Female patients were significantly more likely to attempt suicide than male patients (OR = 7.22, 95 % CI = 1.70, 30.62). Children continue to be at high risk for medication and chemical poisoning. Implementing methods to raise public awareness and minimize children access to medications would significantly contribute to reducing burden of this problem on the community.... [View Link Below for More]
SEQUENTIAL BLOOD FILTRATION FOR EXTRACORPOREAL CIRCULATION: INITIAL RESULTS FROM A PROOF-OF-CONCEPT PROTOTYPE

**AUTHOR(S):** Herbst, D. P

**AFFILIATION:** King Abdullah International Medical Research Center, King Saud bin Abdulaziz University for Health Sciences, King Abdullah Cardiac Center, Cardiac Science Department, Riyadh, Kingdom of Saudi Arabia.

**ABSTRACT:**
Improvements in micropore arterial line filter designs used for extracorporeal circulation are still needed because microbubbles larger than the rated pore sizes are being detected beyond the filter outlet. Linked to principles governing the function of micropore filters, fluid pressures contained in extracorporeal circuits also influence the behavior of gas bubbles and the extent to which they are carried in a fluid flow. To better understand the relationship between pressure and microbubble behavior, two ex vivo test circuits with and without inline resistance were designed to assess changes in microbubble load with changes in pressure. Ultrasound Doppler probes were used to measure and compare the quality and quantity of microbubbles generated in each test circuit. Analysis of microbubble load was separated into two distinct phases, the time periods during and immediately after bubble generation. Although microbubble number decreased similarly in both test circuits, changes in microbubble volume were significant only in the test circuit with inline resistance. The test circuit with inline resistance also showed a decrease in the rate of volume transferred across each ultrasound Doppler probe and the microbubble number and size range measured in the postbubble generation period. The present research proposes that fluid pressures contained in extracorporeal circuits may be used to affect gases in solution as a possible method to improve microbubble filtration during extracorporeal circulation. [View Link Below for More]

**SHORTLINK:** 1.usa.gov/1PHD305
IMPROVING CORD BLOOD UNIT QUANTITY AND QUALITY AT KING ABDULLAH INTERNATIONAL MEDICAL RESEARCH CENTER CORD BLOOD BANK

AUTHOR(S): Jawdat, D., Arab, S., Thahery, H., Almashaqbeh, W., Alaskar, A. et al

AFFILIATION: Cord Blood Bank, King Abdullah International Medical Research Center, Riyadh, Saudi Arabia; College of Medicine, King Saud bin Abdulaziz University for Health Sciences, Riyadh, Saudi Arabia

ABSTRACT:

Background: Public cord blood banks (CBBs) store cord blood unit (CBU) donations for anyone in need. However, strict regulations need to be followed to build up high-quality bank products that can be used worldwide. We established a public CBB at a tertiary hospital in Saudi Arabia. Here, we investigated the reasons behind rejecting or not collecting CBUs over 2 years (2011-2012) and which steps were implemented to improve the number and quality of storable units.

Study Design and Methods: A total of 2891 mothers were evaluated. Reasons for rejecting donors, not collecting, and rejecting units before or after collection were analyzed and compared for the years 2011 and 2012.

Results: A total of 1157 (40%) CBUs were not collected, mainly due to staff availability, and 564 (20%) CBUs were rejected. The main reason for rejecting donations was the mother’s or neonate’s health. Rejecting CBUs after collection was due to low volume. A total of 1170 (40%) CBUs were successfully collected for potential banking and sent for processing; however, 58% were rejected in the laboratory due to low total nucleated cell counts. Several changes were implemented during the 2 years including physician education and awareness, in utero collection, cesarean collection, and staff recruitment. These changes positively affected the numbers of our collected units. Out of the initially eligible mothers in 2011, only 17% were banked; this was increased to 33% in 2012.

Conclusions: We identified the problems with collecting CBUs for banking and will keep improving our selection process of recruiting more CBUs of high quality...

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HLA-B50 POLYMORPHISM IN THE SAUDI POPULATION

AUTHOR(S): Jawdat, D., Al-Hamad, B., Al-Jumah, M., & Hajeer, A.

AFFILIATION: King Abdullah International Medical Research Center, King Saud bin Abdulaziz University for Health Sciences, Riyadh, Saudi Arabia; College of Medicine, King Saud bin Abdulaziz University for Health Sciences, Riyadh, Saudi Arabia; Department of Neurology, King Abdulaziz Medical City, Riyadh, Saudi Arabia; Department of Pathology and Laboratory Medicine, King Abdulaziz Medical City, Riyadh, Saudi Arabia

ABSTRACT:
The HLA-B50 serologic family is very frequent in people of Arabic origin. In Saudi Arabia, HLA-B50 is the most frequent HLA-B allele. The aim of this study was to investigate the distribution of HLA-B50 alleles in healthy Saudi individuals. A total of 162 healthy Saudi individuals were selected based on low-resolution HLA typing. DNA samples were typed by sequence-based typing method for exons 2, 3 and 4 of the HLA-B locus (Genome Diagnostics B.V.). The HLA-B*50 alleles were analysed using SBT engine software. HLA-B*50:01:01 was found in 161 of 162 individuals (99.4%), while HLA-B*50:09 was found in one individual (0.6%). HLA-B*50:01:01 is the most common HLA-B50 allele in Saudi Arabia.... [View Link Below for More]
A NEED TO ADOPT NEW STRATEGIES FOR ORGAN DONATION IN SAUDI ARABIA


AFFILIATION: King Abdullah International Medical Research Center; College of Medicine, King Saud Bin Abdulaziz University for Health Sciences; King Abdulaziz Medical City, Riyadh, Saudi Arabia College of Medicine, King Saud Bin Abdulaziz University for Health Sciences King Abdulaziz Medical City, Riyadh, Saudi Arabia

ABSTRACT:

Background: HLA matching in kidney transplantation is a major factor in long-term survival of the graft. In Saudi Arabia, most deceased donors are non-Saudi, making it difficult to achieve minimal HLA mismatches between donor and recipient.

Objective: To analyze HLA types of 200 deceased donors and compare them with the Saudi population’s HLA types.

Materials and Methods: In a retrospective study analyzing HLA types of the last 398 deceased donors processed in a tertiary hospital in Riyadh, Saudi Arabia, HLA types of all donors were compared with HLA types from a control group of healthy Saudi persons.

Results: HLA types were significantly different between the deceased donor group and the Saudi population. In all deceased donors, zero mismatches was never achieved. The major differences in HLA types were in HLA-A\*02, HLA-B\*15, B\*40, B\*50, HLA-DRB1\*14, DRB1\*15, and DRB1\*04.

Conclusions: As most of our deceased donors are non-Saudis, it is difficult to match for HLA-A, HLA-B, and HLA-DR. HLA matching should be attempted nationwide by adopting different strategies, including typing donors centrally and distributing results to all centers, agreeing on a national point system for allocating organs from deceased donors, and making HLA matching a priority, especially for highly sensitized patients... [View Link Below for More]
PHASE II CLINICAL TRIAL OF Gefitinib FOR THE TREATMENT OF CHEMONAÏVE PATIENTS WITH ADVANCED NON-SMALL CELL LUNG CANCER WITH POOR PERFORMANCE STATUS


AFFILIATION: University of Cincinnati, Cincinnati, OH, USA; University of Illinois at Urbana-Champaign, IL, USA; Cleveland Clinic Foundation, Cleveland, OH, USA; University of Tennessee Cancer Institute, Memphis, TN, USA; King Saud Bin Abdul-Aziz University for Health Sciences, King Abdullah International Medical Research Center, Riyadh, Kingdom of Saudi Arabia

ABSTRACT:

**Background:** Patients with advanced non-small cell lung cancer (NSCLC) have no curative treatment options; therefore, improving their quality of life (QOL) is an important goal. Gefitinib, an epidermal growth factor receptor (EGFR) inhibitor, is a safe oral agent that may be of benefit to a specific population of NSCLC.

**Patients and Methods:** A Phase II clinical trial included chemonaïve patients with advanced NSCLC and poor performance status (PS). Response rate, progression-free survival, overall survival, QOL using the Functional Assessment of Cancer Therapy – Lung (FACT-L) questionnaire, and Trial Outcome Index (TOI) were evaluated.

**Results:** Twelve out of 19 enrolled patients were evaluable. The median age for the evaluable patients was 68.8 years (59.7–74.6). Out of all the patients, 7 (58.3%) had adenocarcinoma and 5 (41.7%) had squamous cell carcinoma. The median duration of treatment was 62.5 days (26.5–115.0) in the evaluable patients. Grade 3/4 toxicities included fatigue, rash, diarrhea, and nausea. One patient had partial response, eight patients had stable disease (SD), and three patients progressed. The median overall survival for the evaluable population was 4.9 months (2.3–16). The median progression-free survival was 3.7 months (1.9–6.6). TOI was marginally associated with the overall survival, with a hazard ratio of 0.92 (95% confidence interval: 0.84, 1.0) (P = 0.061). FACT-L score and the TOI were highly correlated (r = 0.96, P < 0.0001). TOI scores were higher in African Americans compared to Caucasians and increased with age.... [View Link Below for More]
**InP/ZnS Nanocrystals as Fluorescent Probes for the Detection of ATP**

**Author(s):** Massadeh, S., & Nann, T.

**Affiliation:** King Abdullah International Medical Research Centre, National Guard Health Affairs, King Abdulaziz Medical City, Riyadh, Kingdom of Saudi Arabia; Ian Wark Research Institute, University of South Australia, Mawson Lakes Blvd, Adelaide, Australia

**Abstract:**
This article reports on a study on fluorescence adenosine triphosphate (ATP) detection by InP/ZnS quantum dots (QDs). We present a spectroscopic analysis displaying the effect of enzymatic reactions of glucose oxidase (GOX) and hexokinase (HEX) on the InP/ZnS quantum dots at physiological pH. The InP/ZnS quantum dots act as glucose sensors in the presence of GOX, Glu and ATP, and their luminescence quenches during the release of hydrogen peroxide from the reaction. However, in the presence of adenosine 5’ triphosphate, glucose, and HEX, a significant photobrightening of the InP/ZnS QDs is recorded. This is dependent on the concentration of ATP in the sample. The relationship between the ATP and the emission intensity of InP/ZnS nanocrystals is linear. The present results are the first to report the effect of different by-products released by these enzymatic reactions on the fluorescence of the InP/ZnS QDs.... [View Link Below for More]

**Shortlink:** bit.ly/1KjH1UV

**Year of Publication:** 2014

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DEFICIENCY IN EITHER 4E-BP1 OR 4E-BP2 AUGMENTS INNATE ANTIVIRAL IMMUNE RESPONSES

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ABSTRACT:
Genetic deletion of both 4E-BP1 and 4E-BP2 was found to protect cells against viral infections. Here we demonstrate that the individual loss of either 4E-BP1 or 4E-BP2 in mouse embryonic fibroblasts (MEFs) is sufficient to confer viral resistance. shRNA-mediated silencing of 4E-BP1 or 4E-BP2 renders MEFs resistant to viruses, and compared to wild type cells, MEFs knockout for either 4E-BP1 or 4E-BP2 exhibit enhanced translation of Irf-7 and consequently increased innate immune response to viruses. Accordingly, the replication of vesicular stomatitis virus, encephalomyocarditis virus, influenza virus and Sindbis virus is markedly suppressed in these cells. Importantly, expression of either 4E-BP1 or 4E-BP2 in double knockout or respective single knockout cells diminishes their resistance to viral infection. Our data show that loss of 4E-BP1 or 4E-BP2 potentiates innate antiviral immunity. These results provide further evidence for translational control of innate immunity and support targeting translational effectors as an antiviral strategy... [View Link Below for More]

SHORTLINK: bit.ly/1VZQJ2W
SYNTHESIS AND BIOLOGICAL EVALUATION OF NEW PYRIDONE-ANNELATED ISOINDIGOS AS ANTI-PROLIFERATIVE AGENTS


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ABSTRACT:
A selected set of substituted pyridone-annelated isoindigos 3a-f has been synthesized via interaction of 5- and 6-substituted oxindoles 2a-f with 6-ethyl-1,2,9-trioxopyrrolo[3,2-f]quinoline-8-carboxylic acid (1) in acetic acid at reflux. Among these isoindigos, the 5'-chloro and 5'-bromo derivatives 3b and 3d show strong and selective antiproliferative activities against a panel of human hematological and solid tumor cell-lines, but not against noncancerous cells, suggesting their potential use as anticancer agents. In all the tested cell lines, compound 3b was a 25%-50% more potent inhibitor of cell growth than 3d, suggesting the critical role of the substitution at 5'-position of the benzo-ring E. The IC50 values after 48 hours incubation with the 5'-chloro compound 3b were 6.60 µM in K562, 8.21 µM in THP-1, 8.97 µM in HepG2, 11.94 µM in MCF-7 and 14.59 µM in Caco-2 cancer cells, while the IC50 values in noncancerous HEK-293 and L-929 were 30.65 µM and 40.40 µM, respectively. In addition, compound 3b induced higher levels apoptosis in K562 cells than 3d, as determined by annexin V/7-AAD flowcytometry analysis. Therefore, further characterization of the antitproliferative mechanisms of compounds 3b and 3d may provide a novel chemotherapeutic agents.... [View Link Below for More]
IN VITRO CYTOTOXICITY OF ARTEMISIA VULGARIS L. ESSENTIAL OIL IS MEDIATED BY A MITOCHONDRIA-DEPENDENT APOPTOSIS IN HL-60 LEUKEMIC CELL LINE

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ABSTRACT:

Background: The essential oil (EO) of Artemisia vulgaris L. has been traditionally used worldwide for treating a large number of diseases. Although major components in A. vulgaris EO have been shown to inhibit growth of different cancer cells, as pure compounds or part of other plants extracted oil, no information is known about its anti-proliferative activities. Therefore, the current investigation has evaluated the toxicity of the plant extracted oil from buds (AVO-b) and leaves (AVO-l) and characterized their growth inhibitory effects on cancer cells.

Methods: AVO-b and AVO-l from A. vulgaris L. were extracted by hydrodistillation, and their effect on the viability of human HL-60 promyelocytic leukemia and various other cancer cell lines was tested using MTT assay. Flow cytometric analysis of apoptosis, DNA fragmentation assay, caspases enzymatic activities and Western blotting were used to determine the apoptotic pathway triggered by their action on HL-60 cells.

Results: Low concentrations of AVO-b and AVO-l inhibited the growth of HL-60 cells in a dose- and time-dependent manner. Employing flow cytometric, DNA fragmentation and caspase activation analyses, demonstrated that the cytotoxic effect of the oils is mediated by a caspase-dependent apoptosis. Kinetic studies in the presence and absence specific caspase inhibitors showed that activation of caspase-8 was dependent and subsequent to the activation of caspases-9 and −3. In addition, the essential oil caused a disruption of the mitochondrial transmembrane potential (ΔΨm), increased the release of cytochrome c to the cytosol, and altered the expression of certain members of Bcl-2 family (Bcl-2, Bax and Bid), Apaf-1 and XIAP. Interestingly, low doses of AVO-b and AVO-1 also induced apoptosis in various cancer cell ... [View Link Below for More]

SHORTLINK: bit.ly/1iO5ueY
CHARACTERIZATION OF THE OPTICALLY STIMULATED LUMINESCENCE NANODOT FOR CT DOSIMETRY

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ABSTRACT:

To characterize point dose response of optically stimulated luminescence (OSL) nanoDot detector (OSLD) for computed tomography (CT) dosimetry and compare it with the data obtained with various ionization chambers. The OSLD was calibrated at 125 kVp and 15 mAs. A point dose measurement was performed on a custom-made-cylindrical-water phantom (20 cm diameter and 46 cm length) with scan length from 5 to 40 cm range using OSLD. The OSLD was characterized in terms of linearity, re-readability, signal fading, angular dependence, surface dose profile etc. The relative response of OSLD was compared with three PTW ionization chambers; Semiflex 0.125 cm3, Farmer 0.6 cm3 and Pencil 3.14 cm3. The OSLD calibration was achieved to be 52.83±7 counts/mRad. The OSLD were reasonably linear with R2 of 0.9989. The average variation OSLD response during rereadability test was ±1.38%. Negligible variation has been seen after 30minutes resting. The maximum angular dependence was 2%. The variations between the PTW ionization chambers and OSLD for a scanning length of 5-10 cm and 15-40 cm were 8% and 0.5%, respectively... [View Link Below for More]
MINISTRY OF NATIONAL GUARD, HEALTH AFFAIRS, KING ABDULAZIZ MEDICAL CITY
INITIAL PAIN MANAGEMENT PLANS IN RESPONSE TO SEVERE PAIN INDICATORS ON ONCOLOGY CLINIC PREVISIT QUESTIONNAIRES

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ABSTRACT:

Background: The issue of how to address patient pain in the outpatient setting remains challenging. At the London Regional Cancer Program (London, Ontario), patients complete the Edmonton Symptom Assessment System (ESAS) before most visits.

Objective: To perform a chart review assessing the frequency and, if applicable, the type of a clinical care plan that was developed if a patient indicated pain ≥7 on a 10-point scale.

Methods: The charts of 100 eligible sequential outpatient visits were reviewed and the initial pain management approaches were documented.

Results: Between December 2011 and May 2012, visits by 7265 unique patients included 100 eligible visits (pain ≥7 of 10). In 83 cases, active pain management plans, ranging from counselling to hospital admission, were proposed. Active pain management plans were more likely if the cause was believed to be cancer/treatment related: 63 of 65 (96.9%) versus 20 of 35 (57.1%, noncancer/unknown pain cause); P<0.001. There were no differences depending on cancer treatment intent or medical service.

Conclusions: Active pain management plans were documented in 83% of visits. However, patients who reported severe pain that was assessed as benign or unknown in etiology received intervention less frequently, perhaps indicating that oncologists either consider themselves less responsible for noncancer pain, or believe that pain chronicity may lead to a higher ESAS pain score without indicating a need for acute intervention. Further study is needed to determine the subsequent effect of the care plans on patient-reported ... [View Link Below for More]

SHORTLINK: bit.ly/1FfbqaP
MULTIPLE AORTIC ANEURYSMS IN A 6-WEEK-OLD BABY POST-ARTERIAL SWITCH OPERATION

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ABSTRACT:
The arterial switch operation (ASO) is the procedure of choice today for simple transposition of great arteries. This procedure results in anatomical correction of the defect and long-term complications are infrequent. We present what may be the first report of multiple aortic aneurysms in a 6-week-old baby boy 4 weeks post-ASO. Initial diagnosis was made by transthoracic echocardiography, which was confirmed by computed tomographic angiography and surgical inspection. The aneurysms were repaired surgically with two aortic homograft patches without complications. [View Link Below for More]
SCIMITAR SYNDROME: RESTORATION OF NATIVE PULMONARY VEINOUS CONNECTION

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ABSTRACT:
We report a case of a 10-year-old girl with a typical scimitar syndrome. As the patient had dilated inferior vena cava along with an associated atrial septal defect, the surgical management consisted of intra-caval/intra-atrial baffle to direct the scimitar vein blood flow into the left atrium through the atrial septal defect. What is atypical is that at the 6-month follow-up, the echocardiography showed mild gradient in the baffle of 3 mmHg with normal right ventricular systolic pressure and at 1 year no flow in the baffle with normal native right-sided pulmonary venous flow, which was never detected before. The cardiac catheterization showed complete obstruction of the baffle and of scimitar vein and, to our pleasant surprise, complete restoration of the native right-sided pulmonary venous connection and normal pulmonary pressure... [View Link Below for More]
INFLUENCE OF THE LENGTH OF CORONARY ARTERY LESIONS ON FRACTIONAL FLOW RESERVE ACROSS INTERMEDIATE CORONARY OBSTRUCTION

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ABSTRACT:
The aim of the study was to assess the effect of coronary lesion length (LL) on fractional flow reserve (FFR) in coronary arteries with intermediate diameter stenosis (DS; 30–60%). Eighty-three patients (89 lesions) with coronary artery disease underwent FFR measurement using a Radi or Volcano pressure wire. Diameter stenosis and LL were determined by quantitative coronary angiography, and the relationship between DS, LL, and FFR was assessed by regression analysis. Seventy-nine lesions had DS between 30 and 60% and were entered into the retrospective analysis. Mean DS and LL were 41.6 (+6.77%) and 9.2 (+6 mm), respectively. Fractional flow reserve ranged from 0.5 to 1.0. Pearson correlation coefficient for FFR vs. LL was 0.42 (P < 0.001). Using FFR = 0.8 as a cut-off point, there was no difference in mean DS between the two subgroups (42 vs. 41.5%, P = NS), while there was a significant difference in the LL (12.39 vs. 7.83 mm, P < 0.002). In intermediate coronary artery lesion, there is a strong inverse correlation between FFR and LL... [View Link Below for More]
Retrograde Iatrogenic Left Main Dissection

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Abstract:
Dissection of the Left Main Coronary Artery (LMCA) is a rare complication during PCI. This report summarizes successful management of retrograde dissection of the LMCA by percutaneous coronary intervention (PCI).... [View Link Below for More]
CARDIAC CATHETERIZATION LABORATORY, ORGANIZATION, AND METRICS

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ABSTRACT:
The cardiac catheterization laboratory (cathlab) at King Abdulaziz Cardiac Center is a tertiary facility with the staff and technology to support advanced coronary, valvular, and structural heart disease therapies. The latest interventional devices and supporting diagnostic tools are in routine use... [View Link Below for More]

SHORTLINK: bit.ly/1Nxgol6
POSITIVE VASODILATOR STRESS ELECTROCARDIOGRAM DOES NOT ALWAYS INDICATE OBSTRUCTIVE CORONARY ARTERY DISEASE, THE ROLE OF NON-INVASIVE MYOCARDIAL FLOW RESERVE

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**Abstract:**

The presence of transient ischemic dilatation (TID) and positive vasodilator stress electrocardiographic (ECG) changes on SPECT is often associated with multi-vessel coronary artery disease. PET allows for evaluation of myocardial blood flow and myocardial flow reserve both of which have incremental diagnostic and prognostic perspective. We are reporting a case with significant vasodilator stress ECG abnormalities and TID with normal myocardial blood flow and flow reserve that had normal coronary arteries on invasive angiography. This case suggests that normal myocardial blood flow and flow reserve in conjunction with normal perfusion can rule out significant CAD regardless of vasodilator-induced ECG changes and TID... [View Link Below for More]
AUTHOR(S): Al-Mallah, M. H., Alizeeri, A., Alhaththi, M., & Alsailleek, A.

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ABSTRACT:
Introduction: Recent advances in coronary computed tomography angiography (CCTA) allow for the performance of CCTA with very low radiation doses. The aim of this analysis is to determine the impact of adopting new dose reducing techniques on overall radiation exposure in consecutive patients without known CAD undergoing CCTA to rule out coronary disease.

Methods: We included 839 consecutive patients without known CAD who underwent CCTA to rule out coronary disease between January 2007 and June 2012. New dose reducing techniques were adopted in June 2010. These included High Pitch Dual Source Scanning (FLASH) and Iterative Reconstruction (IR). The total radiation dose was calculated for each scan from the Dose Length Product multiplied by conversion factor (0.014). The annual median radiation doses were compared over the study period.

Results: After the adoption of the new scanning techniques (n = 578), 56% of the scans were done with High Pitch Scanning, 41% with Prospective Gating (36% of which were done with IR) and 3% with retrospective gating and dose modulation. This was associated with more than 80% reduction in the radiation doses with a median radiation dose of 2.7, 1.5 and 1.8 mSv in 2010, 2011 and 2012 (first 6 months) respectively. There was no difference in the frequency of non-diagnostic studies or imaging quality before and after 2010. A total of 11% and 63% of the scans had a radiation dose less than 1 and 2 mSv respectively.

Conclusions: Our analysis demonstrates that in the current era, low radiation CCTA can be routinely done in daily clinical practice.... [View Link Below for More]
Does coronary CT angiography improve risk stratification over coronary calcium scoring in symptomatic patients with suspected coronary artery disease? Results from the prospective multicenter international CONFIRM registry

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**Abstract:**

The prognostic value of coronary artery calcium (CAC) scoring is well established and has been suggested for use to exclude significant coronary artery disease (CAD) for symptomatic individuals with CAD. Contrast-enhanced coronary computed tomographic angiography (CCTA) is an alternative modality that enables direct visualization of coronary stenosis severity, extent, and distribution. Whether CCTA findings of CAD add an incremental prognostic value over CAC in symptomatic individuals has not been extensively studied.

We prospectively identified symptomatic patients with suspected but without known CAD who underwent both CAC and CCTA. Symptoms were defined by the presence of chest pain or dyspnoea, and pre-test likelihood of obstructive CAD was assessed by the method of Diamond and Forrester (D-F)...

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**Shortlink:** bit.ly/1K6aDtb
LONG TERM PROGNOSTIC VALUE OF CORONARY COMPUTED TOMOGRAPHY ANGIOGRAPHY IN SUSPECTED CORONARY ARTERY DISEASE: A 62 MONTH MEDIAN FOLLOW-UP STUDY

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ABSTRACT:
Background: Coronary Computed Tomography Angiography (CCTA) has emerged as a new tool for non-invasive detection of coronary artery disease (CAD) with excellent short and intermediate term prognosis. The aim of this analysis is to determine the long term prognostic value of CCTA in predicting major adverse cardiac events (MACE).

Methods: The study population consisted of 454 consecutive patients who underwent CCTA (64-multidetector row scanner) at a single tertiary care center. Patients were followed up for a median follow-up duration of 62 months to determine the rate of MACE (all-cause mortality, myocardial infarction, late revascularization more than 90 days post CCTA).

Results: A total of 194 (42%), 197 (44%) and 63 (14%) had normal, non-obstructive and obstructive CAD on CCTA respectively. At a median followup duration of 62 months, 38 (8.4%) patients experienced MACE. The annual event rate for patients with normal coronaries, non-obstructive CAD and obstructive CAD were 0.9%, 1.7% and 3.7% respectively (p=0.002). In multivariable Cox proportional hazard models, the presence of obstructive coronary disease (HR 3.0, 95% CI 1.1 - 7.7, p=0.026) as well as measures of disease severity (Segment Stenosis Score HR 1.08 (1.03 - 1.13), p=0.002) were independently associated with worse outcomes obstructive CAD.

Conclusions: Our analysis extends the warranty period of a normal CCTA up to five years. Obstructive CAD on CCTA is associated with worse long term prognosis... [View Link Below for More]
Organization and Metrics of the Division of Advanced Cardiac Imaging, King Abdulaziz Cardiac Center

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Abstract:
Non-invasive cardiac imaging (including nuclear cardiology, cardiac computed tomography, and cardiac magnetic resonance imaging) developed rapidly over the past few years. The leadership of King Abdulaziz Cardiac Center (KACC) adopted the concept of multimodality imaging cardiologist and developed in the year 2000 a strategic plan to invest in this new branch of cardiology. A new cardiac imaging center is currently under construction with the aim to be the hub for large enterprise of clinical, research, and educational activities. Awaiting the completion of the new imaging center, the division has been active in supporting a busy clinical service in temporary locations that allow access to all imaging modalities. Of note, the first 82-Rubidium cardiac PET MPI in the Middle East was performed at KACC in 2011. In addition, the imaging division plays an important role in the teaching and training of medical and paramedical students as well as community cardiologists and radiologist instructing them on the best practices in advanced cardiac imaging. Moreover, research is going to be an integral part of the division mission with .10 research protocols currently being active in the division. Thus, the advanced cardiac imaging division at KACC performs high-quality clinical work, educates and teaches local and regional physicians, and performs research. In short, it is a Saudi cardiac imaging service that operates on high-quality academic standards... [View Link Below for More]

Shortlink: bit.ly/1Fveg6l
Atrial tachycardia resistant to conventional management may respond to ivabradine. Two cases of resistant tachycardia are presented that responded to ivabradine. Both cases were later successfully ablated and both maintained sinus rhythm and are symptom free 2 years post procedure. The physiological mechanism for this is also briefly discussed… [View Link Below for More]
ACUTE CORONARY SYNDROME OR MYOCARDITIS? THE ROLE OF MULTIMODALITY IMAGING

AUTHOR(S): ALSAILEEK, A., NASIM, M., ALJIZEERI, A., ALHARTHI, M., & AL-MALLAH, M. H.

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ABSTRACT:
The presentation of acute myocarditis varies. In some cases it mimics acute coronary syndrome. In this case we demonstrated the potential role of multi-modality cardiac imaging to quickly exclude coronary artery disease and confirm the diagnosis of myocarditis.

Diagnosis of myocarditis is not an easy one, particularly in the busy emergency room where patients often undergo unnecessary coronary angiography as they are misdiagnosed to have an acute coronary syndrome. This can be avoided by a combination of non-invasive multimodality imaging... [View Link Below for More]
THE ROLE OF DELAYED CONTRAST-ENHANCED CARDIAC MAGNETIC RESONANCE IN DIFFERENTIATING MYOCARDITIS FROM MYOCARDIAL INFARCTION

AUTHOR(s): ALSAILEEK, A., NASIM, M., ALJIZEERI, A., ALHARTHI, M., & AL-MALLAH, M. H.

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ABSTRACT:

A number of different conditions can present with symptoms that mimics acute coronary syndrome (ACS). Even after performing coronary angiography, diagnosis can still be challenging. The aim of this study was to evaluate the utility of contrast-enhanced cardiac magnetic resonance (CMR) to differentiate between myocarditis and myocardial infarction (MI) in patients presenting with acute chest pain syndrome, elevated cardiac markers, and unobstructed coronary arteries. We studied 26 consecutive patients (mean age 32.4±11.3 years, 80.1% males) presenting with acute symptoms, elevated cardiac markers, unobstructed coronary arteries, and referred for Gadolinium-enhanced CMR examinations. Myocarditis was ascertained by the presence of myocardial edema and/or epicardial or scattered intra-myocardial late gadolinium enhancement (LGE). Myocardial infarction was diagnosed if there was territorial subendocardial LGE with variable degrees of transmural involvement. In patients with no LGE, the diagnosis was uncertain. Of 26 patients, 15 (57.7%) were initially diagnosed with ACS, the majority (8 patients, 53.3%) had LGE pattern of myocarditis, 4 (26.7%) had LGE pattern of MI. The remaining 11 patients had suspected myocarditis, 2 (18.2%) had LGE pattern of MI, and 7 (63.6%) had LGE pattern of myocarditis. Five (19.2%) patients had no LGE and diagnosis was unclear. Cardiac magnetic resonance helped to reclassify more than half of our patients (57.7%). We demonstrated that contrast-enhanced CMR allows differentiation between MI and myocarditis in patients presenting with possible ACS and unobstructed coronary arteries. This, in turn, helps with planning long-term therapeutic strategies and redefines the patient’s future risk... [View Link Below for More]
EVALUATION OF CARDIOVASCULAR ANOMALIES IN CONJOINED TWINS: A SINGLE-CENTER EXPERIENCE FROM KING ABDULAZIZ CARDIAC CENTER

AUTHOR(S): ALSAYAD, A., ALKHATABI, A., ALGHAMD, M. H., AL RABEEAH, A., ALHABSHAN, F., ET AL

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ABSTRACT:
The aim of the study is to describe varieties of congenital heart disease (CHD) in different types of conjoined twins (ConTw). This is a retrospective (from 1997 to 2014) analysis of 42 sets of ConTw with different levels of body and/or organ fusion, referred to our center for cardiac evaluation prior to separation. Conjoined twins were classified into Classes 1, 2, and 3 according to heart abnormalities and further subclasses of a, b, and c according to minor or major heart disease. Of the 42 sets, there were 35 sets of twins (83.3%) who were symmetrical including 3 craniopagus, 3 pygopagus, 14 thoracopagus, 11 omphalopagus, 3 ischiopagus, and 1 parapagus. Seven sets of twins (16.7%) were asymmetrical with a variable degree of thoraco-omphalo-ischiopagus fusion. Twenty-six of 40 sets (65%) were female. Overall incidence rate of cardiac abnormalities was 76.2%. Major cardiac abnormalities were common in thoracopagus twins (14 sets). Two sets (14%) shared the pericardium, whereas three sets (21.5%) were fused at atrial level, two sets (14%) at ventricle level, and seven sets (50%) had a severely malformed single heart with fusion at both the atrial and ventricular level. Conjoined twins have a high incidence of CHD... [View Link Below for More]

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KING ABDULLAH INTERNATIONAL MEDICAL RESEARCH CENTER ANNUAL PUBLICATION BOOK 2014
PREVALENCE AND IMPACT OF CAROTID DISEASE IN ADULT SAUDI PATIENTS UNDERGOING ISOLATED CORONARY ARTERY BYPASS SURGERY ON EARLY POSTOPERATIVE OUTCOME

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ABSTRACT:
The aim of the study is to assess the prevalence of carotid disease in our Saudi population undergoing coronary artery bypass surgery and to determine its impact on stroke and early postoperative outcome. A total of 3197 consecutive adult patients underwent major cardiac surgery in our center between January 2002 and December 2012. Of these, 3150 had preoperative duplex scanning, and out of these, 210 patients (6.6%) had significant carotid artery disease defined as ≥75% stenosis (Group A), whereas 2940 (94.4%) were free from carotid artery disease (Group B). Both groups were compared for the presence of preoperative risk factors and for occurrence of adverse events within 30 days, postoperative period. In univariate analysis, preoperative risk factors for the presence of carotid artery stenosis were diabetes mellitus (P < 0.0001); hypertension (P < 0.0001); past cerebrovascular accident (CVA) (P < 0.0001), and peripheral vascular disease (PVD; P < 0.0001). All-cause-in-hospital mortality was higher in Group A in comparison with Group B (3.8 vs. 1.56%; P = 0.004). The morbidity was also high in Group A compared with Group B in terms of stroke (4.3 vs. 1.6%; P = 0.0014), nosocomial pneumonia (16.4 vs. 8.9%; P < 0.0015), leg wound infection (14.2 vs. 6%; P < 0.0001), septicaemia (9.3 vs. 4.8%; P < 0.013), acute limb ischaemia (1.1 vs. 0.4%; P < 0.034), new onset atrial fibrillation (AFIB) (26.8 vs. 16.3%; P < 0.0005), ventricular fibrillation (4.9 vs. 1.5%; P < 0.0035), and renal dysfunction (11 vs. 4.9%; P < 0.0017). The presence of carotid artery disease in Saudi patients undergoing cardiac surgery is associated with increased prevalence of diabetes, hypertension, CVA, and PVD. It is also a major determinant of adverse outcome after coronary surgery. [View Link Below for More]

SHORTLINK: bit.ly/1XJJDpa
INCIDENTAL FINDING OF CARDIAC PAPILLARY FIBROELASTOMA OF THE LEFT VENTRICULAR OUTFLOW TRACT, ASSOCIATED WITH RHEUMATIC MITRAL AND TRICUSPID STENOSIS

AUTHOR(S): ARIFI, A. A., MOHAMED, A. A., & NAJM, H. K.

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ABSTRACT:
Objective: To compare sedation outcomes for chloral hydrate (CH) and midazolam (MD) as sedative agents for diagnostic procedures in children.

Methods: A prospective, randomized, double-blinded study conducted between July 2005 and October 2006, at the Pediatric Day Care Unit (DCU), King Abdulaziz Medical City, Riyadh, Saudi Arabia. After meeting the inclusion criteria and getting informed consent, patients were randomized, given the study drug, and monitored for sedation outcomes.

Results: Two hundred and seventy-five patients who had 292 sedation sessions for diagnostic procedures were included in the study. Due to missing data, 286 sedations were included in the final analysis; 144 in the CH and 142 in the MD group. Both groups were comparable with respect to demographic and baseline characteristics. The CH compared to MD group, had a higher sedation success rate, shorter time to achieve sedation, shorter length of stay in DCU, and longer sedation duration. In both study groups, patients who required a second dose tended to be older and heavier. No major side effects were encountered. The CH group had a significantly higher mean sedation scores at 15, 30, 45, and 60 minutes.

Conclusion: Chloral hydrate compared to MD, had a shorter time to achieve sedation, a higher success rate, less need for a second dose, and decreased the time spent in the DCU. Older and heavier patients are more likely to require a second dose of the study drug to be sedated... [View Link Below for More]
THE NEW ESSENTIAL SKILL IN PEDIATRIC CARDIAC INTENSIVE CARE UNIT (PCICU)

AUTHOR(s): Elbarbary, M., Ismail, S., Shaath, G., Jieh, A. R., & Kabbani, M. S.

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ABSTRACT:
With the recent introduction of a high-quality, reasonably priced, and completely portable pediatric/neonatal ultrasound (US) machines, a new philosophy of US imaging emerged which is the ‘critical ultrasound’. This is a paradigm shift from being organ-based, systematic, comprehensive diagnostic exam done by radiologists to a new concept of problem-based, goal-directed, focused multi-organ, time-dependent, exam done by the treating intensivist. Based on this concept, the US exam is not done for an organ (e.g. US for abdomen or chest) but rather done to enhance the management of a problem (US for hypotension, US for hypoxia, US for sepsis, etc.). Certain problem-based US exams can involve scanning of multiple organs to enhance the management of certain patient’s problem. The US within this concept is not considered just as diagnostic tool but rather as an integral part of pediatric cardiac intensive care (PCICU) management that involves diagnosis, tailored treatment, monitoring effects, goal-directed therapy, ruling out possible complications, and to guide most of PCICU procedures. This article describes some of the applications of this innovative program over a 6-year period in a PCICU and its impact on patient care... [View Link Below for More]
Heart rate (HR) at rest is associated with adverse cardiovascular events; however, the biologic mechanism for the relation is unclear. We hypothesized a strong association between HR at rest and subclinical inflammation, given their common interrelation with the autonomic nervous system. HR at rest was recorded at baseline in the Multi-Ethnic Study of Atherosclerosis, a cohort of 4 racial or ethnic groups without cardiovascular disease at baseline and then divided into quintiles. Subclinical inflammation was measured using high-sensitivity C-reactive protein, interleukin-6, and fibrinogen. We used progressively adjusted regression models with terms for physical activity and atrioventricular nodal blocking agents in the fully adjusted models. We examined...
ASSOCIATION BETWEEN RESTING HEART RATE AND INFLAMMATORY BIOMARKERS (HIGH-SENSITIVITY C-REACTIVE PROTEIN, INTERLEUKIN-6, AND FIBRINOGEN) (FROM THE MULTI-ETHNIC STUDY OF ATHEROSCLEROSIS)

**AUTHOR(s):** Welton, S. P., Narla, V., Blaha, M. J., Nasir, K., Blumenthal, R. S., Almallah, M., et al.

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**ABSTRACT:**
Heart rate (HR) at rest is associated with adverse cardiovascular events; however, the biologic mechanism for the relation is unclear. We hypothesized a strong association between HR at rest and subclinical inflammation, given their common interrelation with the autonomic nervous system. HR at rest was recorded at baseline in the Multi-Ethnic Study of Atherosclerosis, a cohort of 4 racial or ethnic groups without cardiovascular disease at baseline and then divided into quintiles. Subclinical inflammation was measured using high-sensitivity C-reactive protein, interleukin-6, and fibrinogen. We used progressively adjusted regression models with terms for physical activity and atrioventricular nodal blocking agents in the fully adjusted models. We examined ...

**SHORTLINK:** bit.ly/1iOUY7l
**KING ABDULAZIZ CARDIAC INFORMATICS PROGRAM: AN OVERVIEW**

**AUTHOR(S):** AL ZAIBAG, M., & FRANKE, J. G.

**AFFILIATION:** KING ABDULAZIZ CARDIAC CENTER, KING ABDULAZIZ MEDICAL CITY, MINISTRY OF NATIONAL GUARD—HEALTH AFFAIRS, RIYADH, KINGDOM OF SAUDI ARABIA; KING SAUD BIN ABDULAZIZ UNIVERSITY FOR HEALTH SCIENCES, RIYADH, KINGDOM OF SAUDI ARABIA

**ABSTRACT:**
Unified informations systems that can support clinical care, quality improvement, operations and research are very challenging to develop. This brief paper is a report on the progress King Abulaziz Cardiac Center is making towards achieving this important goal... [View Link Below for More]

**SHORTLINK:** bit.ly/1UPbxMj
Prevalence of anginal symptoms and myocardial ischemia and their effect on clinical outcomes in outpatients with stable coronary artery disease data from the international observational CLARIFY registry

**Author(s):** Steg, P. G., Greenlaw, N., Tendera, M., Tardif, J. C., Ferrari, AlzaiBag, M., et al.

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**Abstract:**

**Importance:** In the era of widespread revascularization and effective antianginals, the prevalence and prognostic effect of anginal symptoms and myocardial ischemia among patients with stable coronary artery disease (CAD) are unknown.

**Objective:** To describe the current clinical patterns among patients with stable CAD and the association of anginal symptoms or myocardial ischemia with clinical outcomes.

**Design, Setting, and Participants:** The Prospective Observational Longitudinal Registry of Patients With Stable Coronary Artery Disease (CLARIFY) registry enrolled outpatients in 45 countries with stable CAD in 2009 to 2010...

**Shortlink:** bit.ly/1NCR4v0
MANAGING CARDIOVASCULAR DISEASE: MODEL OF CARE IN SAUDI ARABIA

AUTHOR(S): Bdeir, B., Farah, I., & Conboy, T.

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ABSTRACT:
As the burden of cardiovascular disease escalates in the developing world there is an increasing need for systematic, evidence based, comprehensive care. Due to the complexity of the disease the traditional physician based clinics and emergency services are unable to cope with this flood of patients. There is a growing body of evidence supporting a multidiscipline approach to care. This brief article describes a model of cardiovascular disease management developed in Saudi Arabia... [View Link Below for More]
RECOVERY OF VENTRICULAR FUNCTION FOLLOWING ENROLMENT IN A HEART FAILURE DISEASE MANAGEMENT PROGRAM

AUTHOR(S): Bdeir, B., Farah, I., & Conboy, T

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ABSTRACT:
Adherence to medical therapy remains a challenge. In the setting of heart failure, adherence can be a life and death matter. The case presented is a 29 year old male with decompensated heart failure who suffered repeated exacerbations due to lack of adherence. Intensive education and comprehensive follow-up in a cardiovascular disease management program gradually helped him to improve his adherence and self care. The patient's ventricular function and symptoms have dramatically improved allowing him to have a normal family life... [View Link Below for More]
CRITICAL CARE AND PERIOPERATIVE MONITORING

AUTHOR(S): Karakitsos, D., El Barbary, M., Gillman, L. M., Papalois, A., & Shiloh, A.

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ABSTRACT:
Advances in perioperative and critical care monitoring have greatly improved the standard of care during the last decades. However, no monitoring tool, no matter how accurate, by itself has improved critical care patients outcome [1]. Moreover, aside from lung-protective mechanical ventilation there has really been no consistent intervention that has individually resulted in improved outcomes. The purpose of a monitoring system is not to treat but to provide clinical information that may impact medical decision-making. Various techniques have been implemented in the pre-, intra-, and postoperative monitoring of surgical patients. Invasive and noninvasive methods facilitate the monitoring of nervous, cardiovascular, respiratory, renal, and hematologic systems as well as of metabolic status. While monitoring will not prevent all adverse incidents in the perioperative period, it reduces the risks of accidents by permitting the continuous recording of core data such as heart rate, blood pressure, and peripheral oxygen saturation. Monitoring facilitates the detection of the consequences of human errors, while alerting physicians that a patient’s condition is deteriorating for other reasons....

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PREDICTED AND OBSERVED MORTALITY IN ADULT CARDIAC SURGERY IN THE KING ABDULAZIZ CARDIAC CENTER: APPLICATION OF EUROSCORE I AND EUROSCORE II

AUTHOR(S): Hussain, A., Arifi, A. A., & Najm, H. K.

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ABSTRACT:
This paper was designed to review the risk for and the actual mortality rate of patients subjected to cardiac surgery at the King Abdulaziz Cardiac Center (KACC). The European System for Cardiac Operative Risk Evaluation (EuroSCORE I and EuroSCORE II) was used to assess the expected and observed operative risk of all (1176) patients undergoing cardiac surgery at the KACC from 2010 to 2012. The overall predicted mortality was 4.48% (SD 5.29) while the observed mortality was 1.27% (30 days 0.42% and 30 days 0.85%). For all coronary artery bypass grafting (CABG), the EuroSCORE I over estimated mortality (3.8% predicted vs. 0.97% observed). The same was found to be true for isolated CABG (3.8% predicted vs. 0.38% observed) and for CABG plus valve cases (predicted 8.34% vs. 3.4% observed) or isolated valvular surgery (5% predicted vs. 2.9% observed). EuroSCORE II also showed the same trend as EuroSCORE I in a smaller group of patients of 411 (3.08% predicted vs. 0.731% observed mortality). EuroSCORE I and EuroSCORE II overestimated the predicted mortality in our cardiac surgery patients...

SHORTLINK: bit.ly/1UMzQ2B
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ABSTRACT:
Adult Cardiac Critical Cardiac Care division at the King Abdulaziz Cardiac Center – Riyadh, Saudi Arabia, was created in 2011 to address the critical care needs of cardiac surgery and adult cardiology patients that were beyond the scope of their specialties. The division offers its services in two semi-closed intensive care units consisting of 17 beds of Level 3 care. The concept and rationale behind this relatively new subspecialty and its organization in our center are presented in this brief report... [View Link Below for More]
APPLICATION OF STRAIN TO ASSESS MYOCARDIAL FUNCTION IN SEPTIC CARDIOMYOPATHY

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ABSTRACT:
Myocardial dysfunction associated with sepsis, also called septic cardiomyopathy, can be severe, but it has a typical pattern of reversibility over 7 to 10 days. Echocardiography is an important tool that can help recognize and distinguish it from other causes of myocardial dysfunction. With the new technology of strain, it may be possible to detect such dysfunction early, quantify it objectively, and monitor the progression of disease with proper therapy. We present the following case to illustrate the application of strain in septic cardiomyopathy... [View Link Below for More]

SHORTLINK: bit.ly/1K7C18N
PEDIATRIC CARDIAC INTENSIVE CARE AT THE KING ABDULAZIZ CARDIAC CENTER

AUTHOR(S): KABBANI, M. S., HIJAZI, O., ELBARBARY, M., ISMAIL, S., SHAATH, G., ET AL

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ABSTRACT:
Pediatric cardiac intensive care is a subspecialty area that has evolved to address the special need for expert in post-operative care of children requiring heart surgery and interventions. Many hospitals have dedicated units to manage these patients. The ideal model for this care is a subject of debate. This brief paper describes evolution of this program at King AbdulAziz Medical City over the last 12 years... [View Link Below for More]
Unusual delayed presentation of life-threatening complete heart block after ventricular septal defect (VSD) closure with Amplatzer device

Author(s): Kabbani, M. S., Munshi, F., Alhabshan, F., Al Mutairi, M., & Alghamdi, A. A.

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Abstract:
An Amplatzer device can be used for peri-membranous ventricular septal defect (VSD) closure. Late complication presenting after device closure is rare and its management is subject of debate. In this report, we describe a child who underwent Amplatzer device occlusion of peri-membranous VSD with late development of life-threatening complete heart block presenting many days post-procedure. We discuss the case and summarize our successful surgical management with review of different approaches reported in the literature...

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CHARACTERISTICS, TREATMENT, AND OUTCOME OF PATIENTS WITH ACUTE CORONARY SYNDROME PRESENTING AT KING ABDULAZIZ CARDIAC CENTER COMPARED WITH THE EUROPEAN PATIENTS

AUTHOR(S): KHAN, W., ELHERIF, Z., DAOUD, Y., MUKHTAR, A., OMER, H., SAEED, B., ET AL.

AFFILIATION: DIVISION OF ADULT CARDIOLOGY, KING ABDULAZIZ CARDIAC CENTER, KING ABDULAZIZ MEDICAL CITY, MINISTRY OF NATIONAL GUARD HEALTH AFFAIRS

ABSTRACT:
The aim of this study was to examine the management of acute coronary syndrome (ACS) at King Abdul Aziz Cardiac Center (KACC) and to compare our practice with that of the European population of Euro Heart Survey—2009 (EHS 2009). This is a study of 3233 consecutive ACS patients who presented to KACC from January 2010 to December 2013. The data describing baseline characteristics, treatment, and outcome were collected and compared with that of EHS-2009 population. The diagnosis of ST elevation myocardial infarction (STEMI) and non-STEMI at KACC compared with EHS 2009 was 30 vs. 70% and 60.5 vs. 39.5%, respectively. Our population was younger with more male patients. Smoking, obesity, hypertension, hyperlipidaemia, diabetes, and renal failure were more common in the KACC population. More echocardiograms were performed at KACC, while the diagnostic angiograms performed were comparable in the two populations. More PCI procedures were performed for non-STEMI at KACC, while similar number of primary PCI was performed in two populations of STEMI. The adherence to the recommended medical therapy was more frequent in KACC population. Despite high burden of risk factors, the in-hospital mortality trend was lower at KACC compared with EHS-2009 population. KACC population was younger, with more risk factors for coronary artery disease and better adherence to guidelines recommended medical treatment. More PCI were performed at KACC for non-STEMI patients. The in-hospital mortality was lower at KACC compared with EHS-2009 population... [View Link Below for More]

SHORTLINK: bit.ly/1LUNadH
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**ABSTRACT:**
This is the first reported case of transcatheter aortic valve implantation (TAVI) valve in valve in a centenarian. The management of patients with severe aortic calcification using either surgical or TAVI approach is challenging. The case presented discusses a patient who required a second valve implant during a TAVI procedure due to failure of the first valve to completely deploy. The first valve developed Aortic Incompetence (AI) after an attempt to dilate. The second valve was successfully deployed with good result... [View Link Below for More]
VENTILATOR-ASSOCIATED PNEUMONIA IN CHILDREN AFTER CARDIAC SURGERY

AUTHOR(S): SHAATH, G. A., JIJEH, A., FARUQUI, F., BULLARD, L., MEHOOD, A., ET AL.

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ABSTRACT:
Ventilator-associated pneumonia (VAP) is a nosocomially acquired infection that has a significant burden on intensive care units (ICUs). We investigated the incidence of VAP in children after cardiac surgery and its impact on morbidity and mortality. A prospective cross-sectional review was performed in the postoperative cardiac patients in pediatric cardiac intensive care unit (PCICU) patients from March 2010 until the end of September 2010. The patients were divided into two groups: the VAP group and the non-VAP group. Demographic data and perioperative risk variables were collected for all patients. One hundred thirty-seven patients were recruited, 65 (48 %) female and 72 (52 %) male. VAP occurred in 9 patients (6.6 %). Average body weights in the VAP and non-VAP groups were 5.9 ± 1.24 and 7.3 ± 0.52 kg, respectively. In our PCICU, the mechanical ventilation (MV) use ratio was 26 % with a VAP-density rate of 29/1000 ventilator days. Univariate analyses showed that the risk variables to develop VAP are as follows: prolonged cardiopulmonary bypass (CPB) time, use of total parenteral nutrition (TPN), and prolonged ICU stay (p < 0.002 for all). Thirty-three percent of VAP patients had Gram-negative bacilli (GNB). VAP Patients require more MV hours, longer stay, and more inhaled nitric oxide. Mortality in the VAP group was 11 % and in the non-VAP group was 0.7 % (p = 0.28). VAP incidence is high in children after cardiac surgery mainly by GNB. VAP increases with longer CPB time, administration of TPN, and longer PCICU stay. VAP increases morbidity in postoperative cardiac patients... [View Link Below for More]
MODERN ORGANIZATION OF AN ECHOCARDIOGRAPHIC LABORATORY: THE EXPERIENCE OF THE KING ABDULAZIZ CARDIAC CENTER (KACC) IN RIYADH

AUTHOR(S): Warsame, T. A., Al Ghamdi, M., & Omran, A. S.

AFFILIATION: Non-invasive Cardiac Laboratory, King Abdulaziz Cardiac Center, King Abdulaziz Medical City, Ministry of National Guard - Health Affairs, Riyadh, Kingdom of Saudi Arabia; King Saud bin Abdulaziz University for Health Sciences, Riyadh, Kingdom of Saudi Arabia

ABSTRACT:
Today, echocardiography is a key diagnostic procedure in clinical and interventional cardiology with expanding indications and applications. It is based on a number of established and rapidly evolving techniques, which make cardiac ultrasound a complex and very specialized activity. High-volume and high-level echocardiographic laboratories are performing standard and advanced transthoracic, transoesophageal and stress-echo procedures as well as intraoperative and emergency examinations. These modalities require a high level of organization in order to guarantee adequate standards in terms of appropriateness, accuracy, reproducibility, timing and safety of all procedures, as well as in terms of education and research activity. We describe the organization of the Adult Echocardiography Laboratory at the King Abdulaziz Cardiac Center (KACC) in Riyadh, one of the greatest centers in Saudi Arabia... [View Link Below for More]

SHORTLINK: bit.ly/1YcdczN
ORAL LICHEN PLANUS IN ARAB COUNTRIES: A REVIEW

AUTHOR(S): AL-NASSER, L., & EL-METWALLY, A.

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ABSTRACT:

Oral lichen planus (OLP) is a chronic mucocutaneous inflammatory disease of unknown etiology with a potential for malignant transformation. Little is known about the epidemiology of this condition in the Arab world. A computer-based literature search was conducted using relevant keywords to retrieve studies conducted in Arab world pertaining to OLP, 28 articles were identified initially. After screening for exclusion criteria/retrieving full texts, a total of 15 articles were used for this review. Three studies were cross-sectional and found a prevalence ranging from 0.35% to 1.7%. Studies about risk factors and prognostic markers were conducted in clinical settings, using a case-control design mostly (n = 9), cohort (n = 2), and clinical trial (n = 1). Genetic expressions of various proteins (e.g., BCL family), cultural determinants (Deram chewing), bacterial and viral infections [Helicobacter pylori and Hepatitis C virus (HCV)] were among factors investigated. Evidence extracted from these studies shows a possible link between OLP and Deram use, H. pylori and HCV Infections with a prevalence of the latter infection ranging from 14.7% to 26.3% in patients with OLP. However, paucity of population-based studies limits generalizability of such evidence. Future studies in the Arab world should focus upon surveying the extent of OLP, identifying cultural risk factors, utilization of OLP genetic markers in diagnostic, and prognostic applications... [View Link Below for More]
EVALUATION OF ADJUNCTIVE SYSTEMIC DOXYCYCLINE WITH NON-SURGICAL PERIODONTAL THERAPY WITHIN TYPE 2 DIABETIC PATIENTS

AUTHOR(S): AL-NOWAISER, A. M., AL-ZOMAN, H., BASKARADOSS, J. K., ROBERT, A. A., AL-ZOMAN, K. H., ALSUWYED, A., ET AL.

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ABSTRACT:

Objectives: To evaluate the effects of systemic doxycycline on clinical and microbiological parameters of diabetic subjects with chronic periodontitis.

Methods: This 9-month multi-center, randomized, parallel, single-blinded study was conducted from different hospitals in Riyadh, Saudi Arabia between April 2010 and December 2010. A total of 76 diabetic subjects with chronic periodontitis were randomized into 2 groups: control group (CG) received only scaling and root planing (SRP), and the treatment group (TG) receiving systemic doxycycline during the reevaluation visit 45 days after the completion of SRP. Probing pocket depth, clinical attachment level, gingival index, plaque index, and bleeding on probing were collected at baseline, 45 days after SRP, and one, 3, and 6 months after the use of systemic doxycycline. Microbiological analysis comprised the detection of Tannerella forsythia (Tf), Aggregatibacter actinomycetemcomitans (Aa), Porphyromonas gingivalis (Pg), and Prevotella intermedia (Pi) by polymerase chain reaction method.

Results: Sixty-eight (33 CG and 35 TG) subjects completed the study. Greater reduction in the population of Tf, Pg, and Pi were observed in TG compared with CG in the first month after the administration of systemic doxycycline. The TG showed a significant improvement in gingival index scores compared with the CG (p<0.05) by the end of the first and 6 months after the administration of doxycycline...

[View Link Below for More]
TIMING OF DENTAL DEVELOPMENT IN SAUDI CLEFT LIP AND PALATE PATIENTS

AUTHOR(s): Bindayel, N. A., Alsultan, M. A., & ElHayek, S. O.

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ABSTRACT:

Objective: To assess the timing of dental development in Saudi patients affected with non-syndromic cleft lip and palate (CLP), and further investigate patients' demographics.

Methods: The panoramic radiographs of 51 Saudi subjects (5-14 years) with CLP were assessed cross-sectionally in January 2012. The data were collected at King Abdulaziz Medical City, Riyadh, Saudi Arabia, and the study was completed in February 2013. Demirjian's method was used to evaluate the crown and root developmental stages of mandibular permanent teeth to quantify the dental age. Patients' medical records were used to specify the chronological age, and utilized to divide all participating subjects into 3 groups. All data were collected by one investigator, and the intra-class correlation coefficient test showed a good reliability (0.984). The mean dental and chronological ages were then compared using paired t-test.

Results: Dental age was found to be delayed when compared with chronological age by 8.4 months (p=0.002) for the studied sample. Both gender groups expressed such delay (p=0.022 [male], p=0.020 [female]). The age subgroup 8-11 years displayed a significantly (p=0.002) delayed dental development when compared with younger and older age groups. The present findings are consistent with previous reports in the literature.

Conclusion: Compared with their chronological age, Saudi patients with CLP have delayed dental development as defined by dental age using Demirjian's method... [View Link Below for More]

SHORTLINK: bit.ly/1Q0LwrE
STROKE IN SOUTH ASIAN COUNTRIES

AUTHOR(S): WASAY, M., KHATRI, I. A., & KAUL, S.


ABSTRACT:
Three of the world’s top 10 most populous countries are located in South Asia. The healthcare problems of this region are different from those in the developed world, and the rapidly changing socioeconomic scenario, fast-increasing urbanization and longevity, changes in dietary patterns, and decrease in mortality from infectious diseases has made chronic illnesses of old age, such as coronary artery disease and stroke, an important area of focus. This article reviews stroke epidemiology and management issues in four South Asian countries: India, Pakistan, Sri Lanka and Bangladesh. The available literature is limited and mostly hospital-based, and differing study methodologies make direct comparisons difficult. The high prevalence of traditional risk factors, including hypertension, diabetes, dyslipidaemia and smoking, in these countries is alarming, and several nontraditional risk factors, such as water-pipe use, desi ghee, chewable tobacco, and infectious causes of stroke, are understudied. Access to tertiary stroke care is limited, and the use of tissue plasminogen activator is scarce. In addition, public and caregiver awareness of stroke risk factors and management is disappointing, and the interest of governments and policy makers in stroke is suboptimal. Interventions to reduce stroke burden and stroke-related mortality in South Asia should have a substantial impact at the global level... [View Link Below for More]

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POSTERIOR REVERSIBLE ENCEPHALOPATHY SYNDROME WITH TACTILE HALLUCINATIONS SECONDARY TO DIALYSIS DISEQUILIBRIUM SYNDROME

AUTHOR(S): SOOMRO, A., AL BAHRI, R., ALHASSAN, N., HEJAILI, F. F., & AL SAYYARI, A. A.

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ABSTRACT:
We report what we believe is the first case of posterior reversible encephalopathy syndrome (PRES) secondary to dialysis disequilibrium syndrome (DDS) in patients in whom all other possible causes of PRES were excluded and in whom a transient episode of tactile hallucination also occurred. We believe that this case of DDS was particularly severe, leading to PRES because of the late institution of dialysis therapy and the concomitant severe degree of metabolic acidosis on presentation... [View Link Below for More]
POINT-OF-CARE ULTRASONOGRAPHY FOR THE DIAGNOSIS OF ACUTE CARDIOGENIC PULMONARY EDEMA IN PATIENTS PRESENTING WITH ACUTE DYSPNEA: A SYSTEMATIC REVIEW AND META-ANALYSIS

AUTHOR(S): Al Deeb, M., Barbic, S., Featherstone, R., Dankoff, J., Barbic, D.

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ABSTRACT:

Objectives: Acute dyspnea is a common presenting complaint to the emergency department (ED), and point-of-care (POC) lung ultrasound (US) has shown promise as a diagnostic tool in this setting. The primary objective of this systematic review was to determine the sensitivity and specificity of US using B-lines in diagnosing acute cardiogenic pulmonary edema (ACPE) in patients presenting to the ED with acute dyspnea.

Methods: A systematic review protocol adhering to Cochrane Handbook guidelines was created to guide the search and analysis, and we searched the following databases: PubMed, EMBASE, Ovid MEDLINE, Ovid MEDLINE In-Process & Other Non-Indexed Citations, and the Cochrane Database of Systematic Reviews. [View Link Below for More]
AUTHOR(S): LIU, Y. T., ALSAAWI, A., & BJORNSSON, H. M.

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ABSTRACT:

Objective: To systematically review the current literature on the effect of using ultrasound (US) guidance for the placement of peripheral intravenous (PIV) catheters in patients with difficult access.

Materials and Methods: A systematic search was performed for the keywords ultrasonography, catheterization, and peripheral vein. A systematic review was performed on randomized-controlled studies comparing the use of dynamic US guidance with the conventional landmark technique. The primary outcome was the success rate of PIV placement and the secondary outcomes included the number of attempts and time to successful PIV placement.

Results: A total of 1778 titles were identified from the search and the review identified 50 potentially relevant studies that were reviewed comprehensively; six articles were included in the final review. The six studies enrolled a total of 316 patients, 153 in the control group and 163 in the US group. Two of the studies reported a significantly higher success rate for US on the basis of initial success or the overall success rate. The two pediatric studies found that time to successful cannulation was shorter and fewer attempts were required to achieve success for patients randomized to US compared with the traditional method. The six studies included were found to vary significantly in the definition of difficult venous access, recording of procedure time, definition of success rate, and other important factors, making a meta-analysis inappropriate...

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HEALTHY LIFESTYLE AMONG PRIMARY HEALTH CARE PROFESSIONALS

AUTHOR(S): AlAteeq, M. A., & AlArawi, S. M.

AFFILIATION: Department of Family Medicine and Primary Health Care, King Abdulaziz Medical City, National Guard Health Affairs, Riyadh, Kingdom of Saudi Arabia

ABSTRACT:
Objectives: To assess 4 main determinants of healthy lifestyle (smoking, diet, physical activity, and body mass index) among primary health care professionals.

Methods: A cross-sectional study was carried out between December 2012 and February 2013 where participants were selected using a stratified-random sampling method from 4 primary care centers in King Abdulaziz Medical City, National Guard Health Affairs, Riyadh, Kingdom of Saudi Arabia. A trained nurse used an approved questionnaire for data collection.

Results: The study included 322 participants from different health professions in 4 family medicine centers. The prevalence of smoking was 8.4%. Most of the participants (75.1%) scored more than 50% for healthy diet. Only 38.8% of the participants have normal body mass index, and 21.1% were physically active.

Conclusion: Our primary health care professionals are not up to the expected level of healthy lifestyle parameters. Health care professionals in the primary care setting and in other health facilities need to be targeted by health promotion programs for their own health benefits, and better role modeling for their patients... [View Link Below for More]
CARDIOMETABOLIC RISK AMONG SAUDI CHILDREN AND ADOLESCENTS: SAUDI CHILDREN'S OVERWEIGHT, OBESITY, AND LIFESTYLES (S.C.H.O.O.Ls) STUDY

AUTHOR(s): Al-Hussein, F. A., Tamimi, W., Al-Banyan, E., Al-Twaijri, Y. A., & Tamim, H.

AFFILIATION: Department of Family and Community Medicine, Department of Pathology and Laboratory Medicine, Department of Pediatrics Infectious Diseases, King Abdulaziz Medical City, National Guard Health Affairs, Riyadh, Saudi Arabia; BESC, Research Centre, King Faisal Specialist Hospital and Research Centre, Riyadh, Saudi Arabia

ABSTRACT:

Background and Objectives: Diabetes and atherosclerotic cardiovascular disease are major contributors to the global burden of disease, with a high reported prevalence of risk factors among different populations. Early and efficient assessment of cardiometabolic risk is important to identify target groups for preventive interventions. The aims of Saudi children’s overweight, obesity, and lifestyles study were to estimate the prevalence of the metabolic syndrome and to compare the different paradigms of assessing such risk among children and adolescents. The study was funded by National Guard Health Affairs and approved by the ethics committee.

Design and Settings: A cross-sectional study of students from primary, middle, and secondary schools located in the residential areas for the Saudi National Guard employees in Riyadh.

Methods: A random sample of 2149 students, clustered by school and stratified by grade, was selected from a sampling frame of 16 812 students from 10 schools in the residential areas for Saudi National Guard employees. Informed consent was taken from children and parents. Blood pressure, height, weight, waist circumference, and hip circumference were documented. Fasting blood samples were taken for blood glucose and lipid profile.

Results: The prevalence of metabolic syndrome ranged from 2% to 18%, according to the sensitivity of the 6 different definitions... [View Link Below for More]
ADULT DEPRESSION SCREENING IN SAUDI PRIMARY CARE: PREVALENCE, INSTRUMENT AND COST

AUTHOR(S): Al-Qadhi, W., Rahman, S. U., Ferwana, M. S., & Abdulmajeed, I. A.

AFFILIATION: Family Medicine Department, King Abdulaziz Medical City-National Guard, Riyadh, Saudi Arabia.

ABSTRACT:
Background: By the year 2020 depression would be the second major cause of disability adjusted life years lost, as reported by the World Health Organization. Depression is a mental illness which causes persistent low mood, a sense of despair, and has multiple risk factors. Its prevalence in primary care varies between 15.3-22%, with global prevalence up to 13% and between 17-46% in Saudi Arabia. Despite several studies that have shown benefit of early diagnosis and cost-savings of up to 80%, physicians in primary care setting continue to miss out on 30-50% of depressed patients in their practices.

Methods: A cross sectional study was conducted at three large primary care centers in Riyadh, Saudi Arabia aiming at estimating point prevalence of depression and screening cost among primary care adult patients, and comparing Patient Health Questionnaires PHQ-2 with PHQ-9. Adult individuals were screened using Arabic version of PHQ-2 and PHQ-9. PHQ-2 scores were correlated with PHQ-9 scores using linear regression. A limited cost analysis and cost saving estimates of depression screening was done using the Human Capital approach.

Results: Patients included in the survey analysis were 477, of whom 66.2% were females, 77.4% were married, and nearly 20% were illiterate. Patients exhibiting depressive symptoms on the basis of PHQ9 were 49.9%, of which 31% were mild, 13.4% moderate, 4.4% moderate-severe and 1.0% severe cases. Depression scores were significantly associated with female gender (p-value 0.049), and higher educational level (p-value 0.002). Regression analysis showed that PHQ-2 & PHQ-9 were strongly correlated R = 0.79, and R2 = 0.62. The cost-analysis showed savings of up to 500 SAR ($133) per adult patient screened once a year... [View Link Below for More]

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CESAREAN SECTION IN A HIGH-PARITY COMMUNITY IN SAUDI ARABIA: CLINICAL INDICATIONS AND OBSTETRIC OUTCOMES

AUTHOR(S): Al Rowaily, M. A., Alsalem, F. A., & Abolfotouh, M. A.

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ABSTRACT:

Background: The study of the indications for cesarean section (CS) and its outcomes are useful for hospitals, clinicians, and researchers in determining strategies to lower the primary and repeat CS rate. The aim of this study was to identify the indications for CS and the incidence of adverse maternal/fetal outcomes in a tertiary care setting.

Methods: A retrospective cohort study of women (n = 4305) who gave birth by CS at King Abdulaziz Medical City (KAMC), Riyadh, Saudi Arabia (June 2008 to February 2011), was performed. All of the women’s medical records were reviewed by two consulting physicians to obtain the primary indications for CS and determine the maternal characteristics, type of CS (emergency or elective), and birth weight. All adverse maternal and fetal outcomes were recorded. The point and interval estimates of the odds ratios were calculated using a logistic regression model to identify the significant predictors of adverse maternal and/or fetal outcomes.

Results: Of a total of 22,595 deliveries from 2008 to 2011, 4,305 deliveries were CS deliveries (19.05%). Two-thirds (67%) of all CS deliveries were emergency CSs, and the remaining deliveries were elective CSs (33%). Difficult labor (35.9%), fetal distress (21.9%) and breech presentation (11.6%) were the most frequent indications of emergency CS, while previous CS (54.3%), breech presentation (20.4%) and maternal request (10.1%) ranked first for elective CS. Adverse maternal and fetal outcomes were...

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POOR VITAMIN D SUPPLEMENTATION IN INFANTS CROSS-SECTIONAL STUDY OF MATERNAL PRACTICES AND AWARENESS OF VITAMIN D SUPPLEMENTATION IN INFANTS IN AL-AHSA, EASTERN SAUDI ARABIA

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ABSTRACT:

Objective: To describe the maternal practices and awareness of vitamin D supplementation in infants, and factors affecting these practices in Eastern Saudi Arabia.

Methods: A cross-sectional study was conducted with 606 mothers attending community-based primary health centers in Al-Ahsa, Eastern Saudi Arabia between March and April 2012. A 22-item questionnaire was used to assess the socio-demographic data of both infants and mothers, feeding methods, nursing practices including vitamin D supplementation, and mothers’ awareness regarding vitamin D supplementation in infants by face-to-face interview. Chi-squared test was used to assess significant differences among these practices. Significant variables were subjected to multiple logistic regression. A p-value of 0.05 was used to indicate statistical significance.

Results: The response was 91%. Forty percent of mothers were not giving their infants vitamin D at the time of contact. More than 40% of the mothers were not aware of, and they were not offered advice on the need to give vitamin D to their infants. Lack of physician advice (odds ratio 42), and poor maternal awareness of the necessity to give vitamin D to their infants (odds ratio - 2.676) are the most significant factors related to the absence of vitamin D supplementation in infants (p<0.05).

Conclusion: Vitamin D supplementation during the first year of infancy is low. This is most likely due to the lack of maternal awareness and physician neglect in providing advice to mothers regarding vitamin D supplementation in infants... [View Link Below for More]
MULTIDIMENSIONAL MODEL TO ASSESS THE READINESS OF SAUDI ARABIA TO IMPLEMENT EVIDENCE BASED CHILD MALTREATMENT PREVENTION PROGRAMS AT A LARGE SCALE

AUTHOR(S): ALMUNEEF, M. A., QAYAD, M., NOOR, I. K., AL-EISSA, M. A., ALBUHAIRAN, F. S., ET AL

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ABSTRACT:
There has been increased awareness of child maltreatment in Saudi Arabia recently. This study assessed the readiness for implementing large-scale evidence-based child maltreatment prevention programs in Saudi Arabia. Key informants, who were key decision makers and senior managers in the field of child maltreatment, were invited to participate in the study. A multidimensional tool, developed by WHO and collaborators from several middle and low income countries, was used to assess 10 dimensions of readiness. A group of experts also gave an objective assessment of the 10 dimensions and key informants' and experts' scores were compared. On a scale of 100, the key informants gave a readiness score of 43% for Saudi Arabia to implement large-scale, evidence-based CM prevention programs, and experts gave an overall readiness score of 40%. Both the key informants and experts agreed that 4 of the dimensions (attitudes toward child maltreatment prevention, institutional links and resources, material resources, and human and technical resources) had low readiness scores (<5) each and three dimensions (knowledge of child maltreatment prevention, scientific data on child maltreatment prevention, and will to address child maltreatment problem) had high readiness scores (≥5) each. There was significant disagreement between key informants and experts on the remaining 3 dimensions. Overall, Saudi Arabia has a moderate/fair...
Adverse childhood experiences (ACEs) have been linked with risky health behaviors and the development of chronic diseases in adulthood. This study examined associations between ACEs, chronic diseases, and risky behaviors in adults living in Riyadh, Saudi Arabia in 2012 using the ACE International Questionnaire (ACE-IQ). A cross-sectional design was used, and adults who were at least 18 years of age were eligible to participate. ACEs event scores were measured for neglect, household dysfunction, abuse (physical, sexual, and emotional), and peer and community violence. The ACE-IQ was supplemented with questions on risky health behaviors, chronic diseases, and mood. A total of 931 subjects completed the questionnaire (a completion rate of 88%); 57% of the sample was female, 90% was younger than 45 years, 86% had at least a college education, 80% were Saudi nationals, and 58% were married. One-third of the participants (32%) had been exposed to 4 or more ACEs, and 10%, 17%, and 23% had been exposed to 3, 2, or 1 ACEs respectively. Only 18% did not have an ACE. The prevalence of risky health behaviors ranged between 4% and 22%. The prevalence of self-reported chronic diseases ranged between 6% and 17%. Being exposed to 4 or more ACEs increased the risk of having chronic diseases by 2-11 fold, and increased risky health behaviors by 8-21 fold. The findings of this study will contribute to the planning and development of programs to prevent child maltreatment and to alleviate the burden of chronic diseases in adults... [View Link Below for More]
BLEPHARO-CHEILO-DONTIC (BCD) SYNDROME: EXPANDING THE PHENOTYPE, CASE REPORT AND REVIEW OF LITERATURE

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AFFILIATION: Division of Genetics, Department of Pediatrics, King Abdul Aziz Medical City for National Guard, Riyadh, Saudi Arabia

ABSTRACT:
The combination of lagophthalmia, euryblepharon, ectropion of lower eyelids, distichiasis, bilateral cleft lip and palate, and oligodontia comprises the blepharo-cheilo-dontic (BCD) syndrome. This combination has been found sporadically or with positive family history and inherited as an autosomal dominant condition with variable expression.

We described a Saudi boy with the cardinal signs consistent with the BCD syndrome. In addition to the common components of BCD syndrome that involve eyelids, lip, and teeth abnormalities, this patient is the third reported BCD case with imperforate anus, the second with thyroid agenesis, and the first with lumbosacral meningomyelocele management of HBV... [View Link Below for More]

SHORTLINK: bit.ly/1JLuZG8
SASLT PRACTICE GUIDELINES FOR THE MANAGEMENT OF HEPATITIS B VIRUS

AUTHOR(s): ABAALKHAIL, F., ELSIESY, H., ALOMAIR, A., ALGHAMDI, M. Y., ALALWAN, ET AL.

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ABSTRACT:

The Saudi Association for the Study of Liver diseases and Transplantation (SASLT) has formed a working group to develop hepatitis B virus (HBV) practice guidelines in the Kingdom of Saudi Arabia. This working group was organized and then started during the second quarter of 2012. The methodology used to develop these guidelines was based on reviewing the available evidence, local data, and major international practice guidelines on the management of HBV. These practice guidelines have been developed to assist healthcare providers in the management of HBV in Saudi Arabia. Additionally, the guidelines summarize the major studies performed on HBV epidemiology in Saudi Arabia to emphasize the major change in the prevalence of this virus in the region. The grading of our summary of recommendations was based on the best available evidence that is applicable to Saudi patients, and this system was adopted from major international practice guidelines on the management of HBV... [View Link Below for More]

SHORTLINK: bit.ly/1iReF39
Salvaging of Severely Ruptured Living-Related Renal Allograft Secondary to Acute Antibody Mediated Rejection

Author(s): Almarastani, M., Aloudah, N., Hamshow, M., Hegab, B., & Alsaad, K. O.

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Abstract:

Introduction: Spontaneous renal allograft rupture (RAR) is a serious and potentially life-threatening complication of kidney transplantation. Debate on the management of RAR has focused on graft nephrectomy versus salvaging in cases where: the allograft rupture site is surgically manageable; the bleeding can be controlled; and/or leaving the renal allograft in situ does not compromise patient survival.

Presentation of Case: A 45-year-old, living-related, female, kidney allograft recipient experienced RAR on the fourth day post transplantation. Surgical exploration showed 12 cm laceration along the convex border of the graft. Histologically the graft demonstrated mild acute kidney injury and linear deposition of C4d along the cortical peritubular capillaries; morphological features for violent humoral or cellular rejection were not identified. The graft was surgically salvaged with excellent clinical and biochemical improvement.

Discussion: Observations arising from this case are: (1) RAR caused by rejection is still encountered in clinical practice despite effective immunosuppressive management; (2) the severity of the histopathological features of rejection does not necessarily correlate with the extent of graft rupture; and (3) salvaging the graft should be attempted whenever possible as current immunosuppression and advances in surgical techniques may have an impact on long-term graft function and survival, differing from those previously published... [View Link Below for More]
ASSOCIATION BETWEEN HLA VARIATIONS AND CHRONIC HEPATITIS B VIRUS INFECTION IN SAUDI ARABIAN PATIENTS

AUTHOR(S): AL-QAHTANI, A. A., AL-ANAZI, M. R., ABDO, A. A., SANAI, F. M., AL-HAMOUDI, W., ET AL.


ABSTRACT:
Hepatitis B virus (HBV) infection is a leading cause of liver diseases including cirrhosis and hepatocellular carcinoma. Human leukocyte antigens (HLAs) play an important role in the regulation of immune response against infectious organisms, including HBV. Recently, several genome-wide association (GWAS) studies have shown that genetic variations in HLA genes influence disease progression in HBV infection. The aim of this study was to investigate the role of HLA genetic polymorphisms and their possible role in HBV infection in Saudi Arabian patients. Variations in HLA genes were screened in 1672 subjects who were divided according to their clinical status into six categories as follows; clearance group, inactive carriers, active carriers, cirrhosis, hepatocellular carcinoma (HCC) patients and uninfected healthy controls. Three single nucleotide polymorphisms (SNPs) belonged to HLA-DQ region (rs2856718, rs7453920 and rs9275572) and two SNPs belonged to HLA-DP (rs3077 and rs9277535) were studied. The SNPs were genotyped by PCR-based DNA sequencing (rs2856718) and allele specific TaqMan genotyping assays (rs3077, rs7453920, rs9277535 and rs9275572). The results showed that rs2856718, rs3077, rs9277535 and rs9275572 were associated with HBV infection (p = 0.0003, OR = ... [View Link Below for More]

SHORTLINK: bit.ly/1inb3RA
GENETIC VARIATION IN INTERLEUKIN 28B AND CORRELATION WITH CHRONIC HEPATITIS B VIRUS INFECTION IN SAUDI ARABIAN PATIENTS


AFFILIATION: DEPARTMENT OF INFECTION AND IMMUNITY, RESEARCH CENTER, KING FAISAL SPECIALIST HOSPITAL & RESEARCH CENTER, RIYADH, SAUDI ARABIA; SECTION OF GASTROENTEROLOGY, DEPARTMENT OF MEDICINE, COLLEGE OF MEDICINE, KING SAUD UNIVERSITY, RIYADH, SAUDI ARABIA; HEPATOBLIARY SCIENCES AND LIVER TRANSPLANTATION, KING ABDULAZIZ MEDICAL CITY, RIYADH, SAUDI ARABIA; GASTROENTEROLOGY UNIT, DEPARTMENT OF MEDICINE, COLLEGE OF MEDICINE, KING SAUD UNIVERSITY, RIYADH, SAUDI ARABIA; LIVER DISEASE RESEARCH CENTER, KING SAUD UNIVERSITY, RIYADH, SAUDI ARABIA

ABSTRACT:

Background & Aims: Several genome-wide association studies have shown that genetic variations in the chromosomal region containing interleukin-28B (IL28B) gene are associated with response to treatment in hepatitis C virus (HCV) infection. This study was conducted to examine the role of genetic variations in IL28B on disease progression in Saudi Arabian patients chronically infected with hepatitis B virus (HBV).

Methods: The study included 1128 subjects divided into four categories; 304 clearance subjects, 518 inactive carriers, 212 active carriers and 94 cirrhosis/HCC.

Results: Three single nucleotide polymorphisms (SNPs), rs12979860 (OR = 1.307; 95% CI 1.046–1.634, v2 = 5.57 and P = 0.0183), rs12980275 (OR = 0.642; CI 0.517–0.798, v2 = 16.17 and P = 0.0001) and rs8105790 (OR = 0.746; CI 0.592–0.941, v2 = 6.12 and P = 0.0133), were found to be strongly associated with HBV clearance. The frequency of the G allele of rs12980275 and the C allele of rs8105790 were found to be more in clearance group than in patients and could contribute to protection against the disease. On the other hand, only rs12979860 showed significant difference in distribution when inactive group was compared to other groups (OR = 1.285; CI 1.030–1.603, v2 = 4.95, P = 0.0261). No significant ...

[View Link Below for More]
THE ASSOCIATION OF TOLL-LIKE RECEPTOR 4 POLYMORPHISM WITH HEPATITIS C VIRUS INFECTION IN SAUDI ARABIAN PATIENTS


AFFILIATION: DEPARTMENT OF INFECTION AND IMMUNITY, RESEARCH CENTER, KING FAISAL SPECIALIST HOSPITAL & RESEARCH CENTER, RIYADH, SAUDI ARABIA; DEPARTMENT OF MICROBIOLOGY AND IMMUNOLOGY, ALFAISAL UNIVERSITY SCHOOL OF MEDICINE, RIYADH, SAUDI ARABIA; LIVER DISEASE RESEARCH CENTER, KING SAUD UNIVERSITY, RIYADH, SAUDI ARABIA; DEPARTMENT OF MEDICINE, COLLEGE OF MEDICINE, KING SAUD UNIVERSITY, RIYADH, SAUDI ARABIA; LIVER DISEASE RESEARCH CENTER, KING FAISAL SPECIALIST HOSPITAL & RESEARCH CENTER, RIYADH, SAUDI ARABIA; DEPARTMENT OF MEDICINE, COLLEGE OF MEDICINE, KING SAUD UNIVERSITY, RIYADH, SAUDI ARABIA; HEPATOBILIARY SCIENCES AND LIVER TRANSPLANTATION, KING ABDULAZIZ MEDICAL CITY, RIYADH, SAUDI ARABIA; ET AL.

ABSTRACT:
Hepatitis C virus (HCV) is a single stranded RNA virus. It affects millions of people worldwide and is considered as a leading cause of liver diseases including cirrhosis and hepatocellular carcinoma. A recent study reported that TLR4 gene polymorphisms are good prognostic predictors and are associated with protection from liver fibrosis among Caucasians. This study aims to investigate the implication of genetic polymorphisms of TLR4 gene on the HCV infection in Saudi Arabian patients. Two SNPs in the TLR4 gene, rs4986790 (A/G) and rs4986791 (C/T), were genotyped in 450 HCV patients and 600 uninfected controls. The association analysis confirmed that both SNPs showed a significant difference in their distribution between HCV-infected patients and uninfected control subjects ( < 0.0001;OR = 0.404,95%CI = 0.281–0.581) and (< 0.0001;OR = 0.298,95%CI = 0.201–0.443), respectively. More importantly, haplotype analysis revealed that four haplotypes, AC, GT, GC, and AT (rs4986790, rs4986791), were significantly associated with HCV infection when compared with control subjects. One haplotype AC was more prominently found when chronic HCV-infected patients were compared with cirrhosis/HCC patients (frequency = 94.7% and=0.04). Both TLR4 SNPs under investigation were found to be significantly implicated with HCV-infection among Saudi Arabian population. ... [View Link Below for More]
PEDIATRIC CARDIOLOGY DIVISION, METRICS, AND ORGANIZATION

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AFFILIATION: DIVISION OF PEDIATRIC CARDIOLOGY, KING ABDULAZIZ CARDIAC CENTER, KING ABDULAZIZ MEDICAL CITY, MINISTRY OF NATIONAL GUARD–HEALTH AFFAIRS, RIYADH, KINGDOM OF SAUDI ARABIA; KING SAUD BIN ABDULAZIZ UNIVERSITY FOR HEALTH SCIENCES, RIYADH, KINGDOM OF SAUDI ARABIA; PEDIATRIC AND FETAL ECHOCARDIOGRAPHY LABORATORY, KING FAHAD CARDIAC CENTER, KING SAUD UNIVERSITY, RIYADH, KINGDOM OF SAUDI ARABIA

ABSTRACT:
The pediatric cardiology division at the King Abdulaziz Cardiac center is a unit that provides a tertiary level of care for children with complex congenital and acquired heart diseases from all around Saudi Arabia. Further, we are also involved in training and research programs, both at national and international levels. This paper describes the organization and metrics of our section as well as our teaching and research activities. Besides our Pediatric Cardiology Fellowship Program, the following additional topics are outlined in detail: outpatient services, echocardiography, advanced cardiac imaging, cardiac catheterization, pediatric electrophysiology, pulmonary hypertension program, data collection, and academic activities.... [View Link Below for More]

SHORTLINK: bit.ly/1LsZWxd
HEPATITIS C VIRUS GENOTYPE 1: HOW GENETIC VARIABILITY OF THE CORE PROTEIN AFFECTS THE RESPONSE TO PEGYLATED-INTERFERON AND RIBAVIRIN THERAPY


AFFILIATION: Department of Infection and Immunity, King Faisal Specialist Hospital and Research Center, Riyadh, Saudi Arabia; Department of Pathology and Laboratory Medicine, King Faisal Specialist Hospital and Research Center, Riyadh, Saudi Arabia; Liver Disease Research Center, King Saud University, Riyadh, Saudi Arabia; Section of Gastroenterology, Department of Medicine, College of Medicine, King Saud University, Riyadh, Saudi Arabia; Hepatobiliary Sciences and Liver Transplantation, King Abdulaziz Medical City, Riyadh, Saudi Arabia; Et al.

ABSTRACT:
Hepatitis C virus Subgenotypes 1a and 1b are found worldwide and cause 60% of all hepatitis C cases. It has been recently reported that viral genetic variations have a critical impact on the patient treatment outcome. In particular, polymorphisms of the HCV core protein have been linked to poor treatment response. However, most of these studies were conducted on Asian populations, Japanese in particular who are infected with HCV subgenotype 1b. Hence, we aimed in this study to examine the core protein polymorphisms in Saudi patients who are infected with chronic HCV genotype 1 (1a and 1b subtypes) and its association with treatment outcome. Direct sequencing of full-length core protein and data mining analyses were utilized. Our results have shown that the response to treatment is dependent on subgenotypes. Indeed, HCV-1b showed different point mutations that are associated with treatment outcome where the point mutations at positions 70 (Arg70Gln) and 75 (Thr75Ala) in HCV-1b are significantly associated with PEG-IFN/RBV treatment response. In contrast, HCV-1a showed no significant association between core protein mutations and response to treatment...

SHORTLINK: bit.ly/1Nj5Ln2
GENETIC VARIABILITY OF THE CORE PROTEIN IN HEPATITIS C VIRUS GENOTYPE 4 IN SAUDI ARABIAN PATIENTS AND ITS IMPLICATION ON PEGYLATED INTERFERON AND RIBAVIRIN THERAPY


AFFILIATION: Department of Infection and Immunity, King Faisal Specialist Hospital and Research Center Riyadh, Saudi Arabia; Department of Pathology and Laboratory Medicine, King Faisal Specialist Hospital and Research Center, Riyadh, Saudi Arabia; Department of Microbiology and Immunology, College of Medicine, Alfaisal University, Riyadh, Saudi Arabia; Liver Disease Research Center, King Saud University, Riyadh, Saudi Arabia; Department of Medicine, Section of Gastroenterology, College of Medicine, King Saud University, Riyadh, Saudi Arabia; Hepatobiliary Sciences and Liver Transplantation, King Abdullah Medical City, Riyadh, Saudi Arabia; Et Al.

ABSTRACT:

Background: Hepatitis C virus (HCV) shows a remarkable genetic diversity, contributing to its high persistence and varied susceptibilities to antiviral treatment. Previous studies have reported that the substitution of amino acids in the HCV subgenotype 1b core protein in infected patients is associated with a poor response to pegylated interferon and ribavirin (PEG-IFN/RBV) combined therapy.

Objectives: Because the role of the core protein in HCV genotype 4 infections is unclear, we aimed in this study to compare the full-length core protein sequences of HCV genotype 4 between Saudi patients who responded (SVR) and did not respond (non-SVR) to PEG-IFN/RBV therapy.

Study Design: Direct sequencing of the full-length core protein and bioinformatics sequence analysis were utilized... [View Link Below for More]
OUTCOME OF DUCT-TO-DUCT VS. ROUX-EN-Y HEPATICOJEJUNOSTOMY BILIARY ANASTOMOSES IN BELOW 15-KG PEDIATRIC LIVER TRANSPLANT RECIPIENTS

AUTHOR(s): SHAHEEN, M. F., ALABDULKARIM, M. S., HAMSHOW, M. M., ABDULLAH, K. O., & O'HALI, W. A.

AFFILIATION: DEPARTMENT OF HEPATOBILIARY SURGERY AND TRANSPLANTATION, KING ABDULAZIZ MEDICAL CITY, RIYADH, SAUDI ARABIA

ABSTRACT:
The best type of biliary anastomosis to use in lower weight pediatric liver transplant recipients is debatable. In this study, we share a single center’s experience comparing the rate of anastomotic biliary complications based on the type of biliary anastomosis performed in this population of patients. A retrospective review of pediatric liver transplants for recipients weighing... [View Link Below for More]

SHORTLINK: bit.ly/1ivviN5
ASSOCIATION OF COMPLIANCE OF VENTILATOR BUNDLE WITH INCIDENCE OF VENTILATOR-ASSOCIATED PNEUMONIA AND VENTILATOR UTILIZATION AMONG CRITICAL PATIENTS OVER 4 YEARS

AUTHOR(S): Al-Thaqafi, M. S., El-Saed, A., Arabi, Y. M., & Balkhy, H. H.

AFFILIATION: Infection Prevention and Control Department, King Abdulaziz Medical City, Jeddah and Riyadh, Saudi Arabia; Community Medicine Department, Faculty of Medicine, Mansoura University, Egypt; Intensive Care Department, King Abdulaziz Medical City, Riyadh, Saudi Arabia

ABSTRACT:

Background: Several studies showed that the implementation of the Institute for Healthcare Improvement (IHI) ventilator bundle alone or with other preventive measures are associated with reducing Ventilator-Associated Pneumonia (VAP) rates. However, the association with ventilator utilization was rarely examined and the findings were conflicting. The objectives were to validate the bundle association with VAP rate in a traditionally high VAP environment and to examine its association with ventilator utilization.

Materials and Methods: The study was conducted at the adult medical-surgical intensive care unit (ICU) at King Abdulaziz Medical City, Saudi Arabia, between 2010 and 2013. VAP data were collected by a prospective targeted surveillance as per Centers for Disease Control and Prevention (CDC)/National Healthcare Safety Network (NHSN) methodology while bundle data were collected by a cross-sectional design as per IHI methodology.

Results: Ventilator bundle compliance significantly increased from 90% in 2010 to 97% in 2013 ($P$ for trend < 0.001). On the other hand, VAP rate decreased from 3.6 (per 1000 ventilator days) in 2010 to 1.0 in 2013 ($P$ for trend = 0.054) and ventilator utilization ratio decreased from 0.73 in 2010 to 0.59 in 2013 ($P$ for trend < 0.001). There were negative significant correlations between the trends of ventilator bundle compliance and VAP rate (cross-correlation coefficients −0.63 to 0.07) and ventilator utilization (cross-correlation coefficients −0.18 to −0.63)... [View Link Below for More]
PRE-EMPLOYMENT SCREENING OF LATENT TUBERCULOSIS INFECTION AMONG HEALTHCARE WORKERS USING TUBERCULIN SKIN TEST AND QUANTIFERON-TB GOLD TEST AT A TERTIARY CARE HOSPITAL IN SAUDI ARABIA

AUTHOR(S): El-Helaly, M., Khan, W., El-Saed, A., & Balkhy, H. H.

AFFILIATION: Infection Prevention and Control Department, King Abdulaziz Medical City, National Guard Health Affairs, Riyadh, Kingdom of Saudi Arabia; Community Medicine Department, Faculty of Medicine, Mansoura University, Egypt. Electronic; Infection Prevention and Control Department, King Abdulaziz Medical City, National Guard Health Affairs, Riyadh, Kingdom of Saudi Arabia; Infection Prevention and Control Department, King Abdulaziz Medical City, National Guard Health Affairs, Riyadh, Kingdom of Saudi Arabia; Community Medicine Department, Faculty of Medicine, Mansoura University, Egypt; Infection Prevention and Control Department, King Abdulaziz Medical City, National Guard Health Affairs, Riyadh, Kingdom of Saudi Arabia; Et Al.

ABSTRACT:

Objective: To assess the agreement between the tuberculin skin test (TST) and the QuantiFERON-TB Gold test (QFT-G) as pre-employment screening tests for latent tuberculosis infection (LTBI) among healthcare workers.

Methods: A retrospective cross-sectional study was conducted among 1412 healthcare workers who were screened for LTBI during the period from August 2009 to May 2011 at a tertiary-care hospital in the Kingdom of Saudi Arabia (KSA). The studied population was screened for LTBI using both TST and QFT-G simultaneously. The agreement between both tests was quantified using the Kappa coefficient (κ)... [View Link Below for More]
Knowledge and practices of healthcare workers in relation to bloodborne pathogens in a tertiary care hospital, western Saudi Arabia

Author(s): Al-Zahrani, A. O., Farahat, F., & Zolaly, E. N.

Affiliation: Family Medicine Department, Armed Forces Hospital, Taif, Saudi Arabia; Infection Prevention and Control Department, King AbdulAziz Medical City, Jeddah, Saudi Arabia; King Saud bin AbdulAziz University for Health Sciences, Jeddah, Saudi Arabia; Community Medicine and Public Health Department, Faculty of Medicine, Menoufia University, Shebin El-Kom, Egypt

Abstract:
To assess knowledge and practices of healthcare workers (HCWs) in relation to bloodborne pathogens in a tertiary care hospital, western Saudi Arabia. Self-administered questionnaire was distributed assessing demographic characteristics, knowledge and practices of physicians, nurses and technicians on risks of exposure and prophylaxis against human immunodeficiency virus, hepatitis B virus and hepatitis C virus infections. A total of 466 participants (151; 32.4 % physicians and 315; 67.6 % nurses/technicians) completed the questionnaire. Almost two thirds of the physicians (60.9 %) and half of the nurses/technicians (47.6 %) had history of exposure to risks of bloodborne infection. Although both physicians and nurses/technicians showed acceptable level of knowledge about risks of bloodborne infections, modest proportion knew the correct actions including reporting following exposure. Behavioral-based in-service training interventions and strict policy should be implemented to promote compliance of HCWs to the protective measures against hazards of bloodborne infection… [View Link Below for More]

Shortlink: bit.ly/1OncZph
RISK FACTORS, MANAGEMENT AND OUTCOMES OF PATIENTS ADMITTED WITH NEAR FATAL ASTHMA TO A TERTIARY CARE HOSPITAL IN RIYADH


AFFILIATION: Family Medicine Department, Armed Forces Hospital, Taif, Saudi Arabia; Infection Prevention and Control Department, King AbdulAziz Medical City, Jeddah, Saudi Arabia; King Saud bin AbdulAziz University for Health Sciences, Jeddah, Saudi Arabia; Community Medicine and Public Health Department, Faculty of Medicine, Menoufia University, Shebin El-Kom, Egypt

ABSTRACT:
Rationale: Near-fatal asthma (NFA) has not been well studied in Saudi Arabia. We evaluated NFA risk factors in asthmatics admitted to a tertiary-care hospital and described NFA management and outcomes.

Materials & Methods: This was a retrospective study of NFA patients admitted to an ICU in Riyadh (2006-2010). NFA was defined as a severe asthma attack requiring intubation. To evaluate NFA risk factors, randomly selected patients admitted to the ward for asthma exacerbation were used as controls. Collected data included demographics, information on prior asthma control and various NFA treatments and outcomes.

Results: Thirty NFA cases were admitted to the ICU in the five-year period. Compared to controls (N = 120), NFA patients were younger (37.5 ± 19.9 vs. 50.3 ± 23.1 years, P = 0.004) and predominantly males (70.0% vs. 41.7%, P = 0.005) and used less inhaled steroids/long-acting β2-agonists combination (13.6% vs. 38.7% P = 0.024). Most (73.3%) NFA cases presented in the cool months (October-March). On multivariate analysis, age (odds ratio [OR] 0.96; 95% confidence interval [CI], 0.92-0.99, P = 0.015) and ... [View Link Below for More]
ANTIBIOTIC THERAPY OF PNEUMONIA IN THE OBESE PATIENT: DOSING AND DELIVERY

AUTHOR(s): Al-Dorzi, H. M., Al Harbi, S. A., & Arabi, Y. M.

AFFILIATION: INTENSIVE CARE DEPARTMENT, KING ABDULAZIZ MEDICAL CITY – RIYADH; COLLEGE OF MEDICINE, KING SAUD BIN ABDULAZIZ UNIVERSITY FOR HEALTH SCIENCES; MEDICAL SURGICAL INTENSIVE CARE UNIT, KING ABDULAZIZ MEDICAL CITY – RIYADH AND; COLLEGE OF PHARMACY, KING SAUD BIN ABDULAZIZ UNIVERSITY FOR HEALTH SCIENCES

ABSTRACT:

Purpose of Review: Obesity has been shown to be associated with antibiotic underdosing and treatment failure. This article reviews the recent literature on antibiotic dosing in obese patients with pneumonia.

Recent Findings: Obesity is associated with several alterations in antibiotic pharmacokinetics and pharmacodynamics, including increases in the antibiotic volume of distribution and clearance. These alterations necessitate changes in the dosing of certain antibiotics. However, data on antibiotic dosing for pneumonia in obese patients are limited and come mainly from observational studies. Additionally, dosing recommendations are often extrapolated from healthy obese volunteers and from the studies of antibiotics given for other indications.

Summary: Recognizing obesity-related pharmacokinetic and pharmacodynamic alterations is important in treating obese patients with pneumonia. Studies that evaluate such alterations and assess the impact of antibiotic dosing and delivery on the clinical outcomes of this patient population are needed... [View Link Below for More]

SHORTLINK: bit.ly/1XACSWF
A MULTIFACETED APPROACH TO IMPROVE HAND HYGIENE PRACTICES IN THE ADULT INTENSIVE CARE UNIT OF A TERTIARY-CARE CENTER


AFFILIATION: Intensive Care Department, King Abdulaziz Medical City- Riyadh, Riyadh, Saudi Arabia; College of Medicine, King Saud Bin Abdulaziz University for Health Sciences, Riyadh, Saudi Arabia; Adult ICU, King Abdulaziz Medical City, Riyadh, Saudi Arabia; Anesthesiology Department, King Abdulaziz Medical City Riyadh, Saudi Arabia; Infection Prevention and Control Department, King Abdulaziz Medical City- Riyadh, Saudi Arabia; Respiratory Services Department, King Abdulaziz Medical City- Riyadh, Saudi Arabia; Et Al.

ABSTRACT:
A multidisciplinary team was formed to improve hand hygiene (HH) practices in a tertiary-care ICU. At baseline, an audit revealed that the overall HH compliance was 64% and was significantly lower at night than during the day shift. After implementing a stepwise multifaceted approach that included education, workplace reminders, active feedback and later universal contact precautions, the HH compliance improved significantly to >80%, and the improvement was sustained over several months. This improvement was noted during the day and night and affected different healthcare workers as well as visitors... [View Link Below for More]
Serum procalcitonin in cirrhotic patients with septic shock: relationship with adrenal insufficiency and clinical outcomes

Author(s): Al-Dorzi, H. M., Rishu, A. H., Tamim, H. M., Aljumah, A., Al-Tamimi, W., et al.

Affiliation: Intensive Care Department, King Saud bin Abdulaziz University for Health Sciences, Riyadh, Saudi Arabia

Abstract:

Background: Serum procalcitonin is commonly used to differentiate systemic inflammation due to infection from non-infectious causes. Limited data exist on the value of procalcitonin in predicting relative adrenal insufficiency (RAI). This study evaluated the value of procalcitonin in predicting RAI and mortality in cirrhotic patients with septic shock.

Methods: This was a post-hoc analysis of a randomized placebo-controlled trial that evaluated low-dose hydrocortisone in cirrhotic patients with septic shock. Extracted first study-day data included serum procalcitonin, baseline serum cortisol, cortisol level after 250 µg - adrenocorticotropic hormone stimulation test and 28 - day mortality. RAI was defined as a baseline serum cortisol < 10 µg/dL or cortisol not rising by > 9 µg/dL after stimulation. Procalcitonin > 0.5 ng/mL was considered high.

Results: Forty-five patients had serum procalcitonin measured (mean = 2.7 ± 3.2 ng/mL, first and third quartiles were 0.3 and 3.3 ng/mL, respectively). Most (78%) patients had high procalcitonin levels. RAI was present in 34 (76%) patients. Patients with high procalcitonin were more likely to have RAI (odds ratio, 4.8; 95% confidence interval, 1.1 - 22.1). Receiver operator characteristic curve analysis showed that the best cut-off for detecting RAI was 1.0 ng/mL (sensitivity = 79% and specificity = 55%). High serum procalcitonin was not associated with 28 - day mortality (80% for normal procalcitonin and 77% for high procalcitonin, p = 0.61)...

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THE EFFECT OF A CONTINUING MEDICAL EDUCATION PROGRAM ON VENOUS THROMBOEMBOLISM PROPHYLAXIS UTILIZATION AND MORTALITY IN A TERTIARY-CARE HOSPITAL

AUTHOR(S): Al-Hameed, F., Al-Dorzi, H. M., & Aboelnazer, E.

AFFILIATION: Department of Intensive Care, King Abdul-Aziz Medical City; College of Medicine, King Saud Bin Abdul-Aziz University for Health Sciences, National Guard Health Affairs, Jeddah, Saudi Arabia; Saudi Association for Venous Thromboembolism (SAVTE), Jeddah, Saudi Arabia; Department of Intensive Care, King Abdulaziz Medical City and King Saud Bin Abdulaziz University for Health Sciences, College of Medicine, Riyadh, Saudi Arabia; Department of Surgery, Medical College, University of Um Al-Qura, Mekkah, Saudi Arabia

ABSTRACT:

Background: Venous thromboembolism (VTE) prophylaxis is underutilized for hospitalized patients. The primary objective of this study was to assess the impact of a continuing medical education (CME) program on thromboprophylaxis and VTE-associated mortality in a tertiary-care hospital.

Methods: This was a retrospective study of all patients admitted to a tertiary-care hospital from 01/07/2009 to 30/06/2010 (after a CME program that aimed at improving VTE prophylaxis) and had confirmed VTE during stay. VTE prophylaxis utilization and associated mortality were assessed in them and compared to those of a similar cohort of patients hospitalized in the previous 12 months.

Results: There were 147 confirmed VTE cases in the study period (surgical: 26.5% and medical: 73.5%). Most (63.9%) VTE patients received prophylaxis after the CME program compared with 36.5% in the previous 12 months (relative risk 1.73; 95% confidence interval, 1.38-2.18; P < 0.001). More surgical (82.1%) than medical (57.4%) patients received prophylaxis (P < 0.01). VTE-associated mortality rate was 10.9% with a significant decrease after the CME program (relative risk, 0.52; 95% confidence interval, 0.30-0.90). [View Link Below for More]

SHORTLINK: bit.ly/1XEMsI2
THE SAUDI CLINICAL PRACTICE GUIDELINE FOR THE DIAGNOSIS OF THE FIRST DEEP VENOUS THROMBOSIS OF THE LOWER EXTREMITY

AUTHOR(S): AL-HAMEED, F., AL-DORZI, H. M., SHAMY, A., QADI, A., BAKHSH, E., ET AL.

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ABSTRACT:
The diagnosis of deep venous thrombosis (DVT) may be challenging due to the inaccuracy of clinical assessment and diversity of diagnostic tests. On one hand, missed diagnosis may result in life-threatening conditions. On the other hand, unnecessary treatment may lead to serious complications. As a result of an initiative of the Ministry of Health of the Kingdom of Saudi Arabia (KSA), an expert panel led by the Saudi Association for Venous Thrombo-Emboliqism (SAVTE; a subsidiary of the Saudi Thoracic Society) with the methodological support of the McMaster University Working Group, produced this clinical practice guideline to assist healthcare providers in evidence-based clinical decision-making for the diagnosis of a suspected first DVT of the lower extremity. Twenty-four questions were identified and corresponding recommendations were made following the Grading of Recommendations, Assessment, Development and Evaluation (GRADE) approach... [View Link Below for More]

SHORTLINK: bit.ly/1K39NJf
**Profile, outcome and predictors of mortality of abdomino-pelvic trauma patients in a tertiary intensive care unit in Saudi Arabia**


**Affiliation:** Surgical Intensive Care Unit, Intensive Care Department, King Abdulaziz Medical City, Riyadh, Saudi Arabia; Department of Surgery, King Saud Bin Abdulaziz University for Health Sciences, King Abdulaziz Medical City, Riyadh, Saudi Arabia; Department of Surgery, King Saud Bin Abdulaziz University for Health Sciences, King Abdulaziz Medical City, Riyadh, Saudi Arabia; Department of Surgery, King Saud Bin Abdulaziz University for Health Sciences, King Abdulaziz Medical City, Riyadh, Saudi Arabia; Department of Surgery, King Saud Bin Abdulaziz University for Health Sciences, King Abdulaziz Medical City, Riyadh, Saudi Arabia; et al.

**Abstract:**

**Introduction:** The Kingdom of Saudi Arabia (KSA) is one of countries with the world's highest number of deaths per 100,000 populations from road traffic accidents (RTAs). Numerous trauma victims sustain abdomino-pelvic injuries, which are associated with considerable morbidity and mortality. The purpose of this study was to describe profile, outcomes and predictors of mortality of patients with abdomino-pelvic trauma admitted to the intensive care unit (ICU) in a tertiary care trauma centre in Riyadh, KSA.

**Methods:** This was a retrospective analysis of prospectively collected ICU database. All consecutive patients older than 14 years with abdomino-pelvic trauma from March 1999 to June 2013 were included. The followings were extracted: demographics, injury severity, mechanism and type of injury, associated injuries, use of vasopressors and mechanical ventilation, and worst laboratory results in the first 24h. The primary outcome was hospital mortality. We compared profile and outcomes between survivors and non-survivors and reported predictors of mortality ... [View Link Below for More]

**Shortlink:** bit.ly/1UDIgt2
TRANSARTERIAL THERAPY: AN EVOLVING TREATMENT MODALITY OF HEPATOCELLULAR CARCINOMA

AUTHOR(S): Jazieh, K. A., Arabi, M., & Khankan, A. A.

AFFILIATION: College of Medicine, Alfaaisal University, Riyadh, Saudi Arabia; Department of Medical Imaging, Prince Sultan Military Medical City, Riyadh, Saudi Arabia; Department of Medical Imaging, King Abdulaziz Medical City, Riyadh, Saudi Arabia

ABSTRACT:
Liver cancer is the fifth most common cancer in men, the seventh most common in women, and the third most common cause of death from cancer worldwide. Only 30-40% of liver cancer patients present early enough to undergo curative treatments such as surgery or liver transplantation. Local treatment with radiofrequency ablation or ethanol injection is often reserved for non-surgical candidates with early stages of disease. Transarterial embolization has become a widely accepted treatment for asymptomatic patients with unresectable lesions. This review discusses in details the three major forms of transarterial therapies: Bland embolization, chemoembolization, and radioembolization... [View Link Below for More]

SAUDI JOURNAL OF GASTROENTEROLOGY

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SHORTLINK: bit.ly/1FHdC60
The identification of tumor biomarkers provides information on the prognosis and guides the implementation of appropriate treatment in patients with many different cancer types. In nonesmall cell lung cancer (NSCLC), targeted treatment plans based on biomarker identification have already been used in the clinic. However, such predictive molecular testing is not currently a universally used practice. This is the case, in particular, in developing countries where lung cancer is increasingly prevalent. In September 2012 and November 2013, a committee of 16 lung cancer experts from Africa and the Middle East met to discuss key issues related to diagnosis and biomarker testing in NSCLC and the implementation of personalized medicine in the region. The committee identified current challenges for effective diagnosis and predictive analysis in Africa and the Middle East. Moreover, strategies to encourage the implementation of biomarker testing were discussed. A practical approach for the effective diagnosis and predictive molecular testing of NSCLC in these regions was derived. We present the key issues and recommendations arising from the meetings... [View Link Below for More]
SAFETY CLIMATE IN DIALYSIS CENTERS IN SAUDI ARABIA: A MULTICENTER STUDY

AUTHOR(S): TAHER, S., HEJAILI, F., KARKAR, A., SHAHEEN, F., BARAHMIEN, M., ET AL.

AFFILIATION: MEDICAL SERVICES, KING ABDULLAH INTERNATIONAL MEDICAL RESEARCH CENTER ANNUAL PUBLICATION BOOK 2014

ABSTRACT:
Objective: The aim of this study was to assess the safety climate as perceived by nurses and physicians in the dialysis units in Saudi Arabia.

Methods: This is a cross-sectional survey-based multicenter study using the Safety Climate Scale, which assesses the perception by staff of the prevailing climate of safety. We used 17 items in this survey. These could be further divided into 3 summative categories: (a) handling of errors and safety concerns (9 items), (b) leadership emphasis of safety (7 items), and (c) overall safety recommendation (1 item). The survey uses 5 Likert scale options (1, disagree strongly; 2, disagree slightly; 3, neutral; 4, agree slightly; and 5, agree strongly).

Results: There were 509 respondents—a response rate of 76.6% and 53.3% among nurses and physicians, respectively. The internal consistency using Cronbach α was 0.899. The overall mean (SD) of satisfaction with safety climate was higher among the nurses than the physicians (4.13 [1.1] and 4.05 [1.7], respectively; P = 0.029). The overall agreement rate was 73.8%, with more nurses than physicians agreeing that safety climate prevails the dialysis center (75.4% versus 72.1%, respectively; P = 0.047). The respondents perceived a stronger commitment to safety from their clinical area leaders than from senior leaders in the organization (76.2% and 72.4%, respectively)...

SHORTLINK: bit.ly/1KfYjFB
**Primary posterior mediastinum hydatid cyst**

**Author(s):** Ahmed, M. U., Eid, A. F., Al-Hawashim, N., Sheikh, M. Y., & Yiannakou, N.

**Affiliation:** Department of Microbiology / Medical Imaging / Pathology, King Abdulaziz Hospital (NGHA) Al-Ahsa, Saudi Arabia

**Abstract:**
Primary posterior mediastinal hydatid cyst is a serious health problem for the Mediterranean countries. We diagnosed a case of a 46-year-old female with a primary posterior mediastinum hydatid cyst on CT and MRI. It was provisionally identified as either a hydatid cyst or bronchogenic cyst or neuroenteric cyst. CT guided aspiration with 18 gauge needle confirmed as hydatid sand. This is very rare in this population but it should be kept in mind when one is looking at any cyst in the posterior mediastinum... [View Link Below for More]
ADVANCING PATERNAL AGE DOES NOT AFFECT IN-VITRO FERTILIZATION (IVF) OUTCOMES IN A SAUDI POPULATION

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ABSTRACT:

Objective: To evaluate the effect of paternal age on in-vitro fertilization (IVF) outcomes.

Design: Retrospective cohort study.

Setting: Reproductive Endocrinology and Infertility Unit.

Patients: The study included 451 couples undergoing their first IVF cycle.

Main Outcome Measures: Effect of advancing paternal age on: semen parameters; IVF cycle-related factors e.g., number of oocyte retrieved, fertilization rate, high quality embryo rate; and IVF outcome i.e., pregnancy rate.

Results: The mean paternal age in our study was 36.3 years (range: 24–76 years). Approximately half of the study couples (51.9%) had secondary infertility with anovulation being the major cause. We found no significant correlations between the advancing paternal age and the semen parameters – sperm volume (p=0.28), sperm concentration (p=0.47), or sperm motility (p=0.91). IVF cycle-related factors did not significantly differ for advancing paternal age groups – number of oocyte retrieved (p=0.52), number of embryos fertilized (p=0.14), fertilization rate (p=0.94), or the high quality embryo rate (p=0.84). Likewise, we found no significant association between the advancing paternal age and the positive IVF outcome i.e., the positive serum pregnancy test (p=0.64).

Conclusion: Advancing paternal age does not affect the IVF outcomes in a Saudi population... [View Link Below for More]
ADVANCED-STAGE NODULAR LYMPHOCYTE
PREDOMINANT HODGKIN LYMPHOMA COMPARED
WITH CLASSICAL HODGKIN LYMPHOMA: A MATCHED
PAIR OUTCOME ANALYSIS


AFFILIATION: CENTRE FOR LYMPHOID CANCER AND DEPARTMENT OF MEDICAL
ONCOLOGY, BRITISH COLUMBIA CANCER AGENCY AND THE UNIVERSITY OF BRITISH
COLUMBIA, VANCOUVER, BC, CANADA; CANCER SURVEILLANCE AND OUTCOMES,
POPULATION ONCOLOGY, BRITISH COLUMBIA CANCER AGENCY, VANCOUVER, BC,
CANADA; ONCOLOGY DEPARTMENT, KING ABDULAZIZ MEDICAL CITY, RIYADH, SAUDI
ARABIA; CENTRE FOR LYMPHOID CANCER AND DEPARTMENT OF PATHOLOGY, BRITISH
COLUMBIA CANCER AGENCY, VANCOUVER, BC, CANADA

ABSTRACT:

Due to disease rarity, there is limited information regarding the optimal therapy and outcome for patients with advanced-stage nodular lymphocyte-predominant Hodgkin lymphoma (NLPHL). Forty-two patients with NLPHL by the Revised European-American Lymphoma/World Health Organization classification with advanced-stage disease were identified and paired 1:2 with a matched control with classical Hodgkin lymphoma (CHL) matched by age, gender, stage, decade of diagnosis, and treatment received. The median follow-up was 11.3 years (range, 1.9 to 35.5 years) for NLPHL patients and 10.7 years (range, 1.6 to 26.3 years) for CHL patients. The majority received doxorubicin, bleomycin, vinblastine, and dacarbazine (ABVD)—like chemotherapy. Although the 10-year overall survival (OS) (P = .579) and HL freedom from treatment failure (HL-FFTF) were similar between NLPHL and CHL patients (75% vs 73%; P = .610), the time to progression (TTP), which also includes the development of secondary aggressive lymphoma, was inferior in NLPHL (10-year, 63% vs 73%; P = .040). Splenic involvement was associated with an inferior 10-year TTP in patients treated with ABVD (48% vs 71%; P = .049) and an increased cumulative incidence of secondary aggressive lymphoma (P = .014) providing a rationale for further evaluation of cyclophosphamide, doxorubicin, vincristine, and prednisone (CHOP) with rituximab in NLPHL...

[View Link Below for More]
**ABSTRACT:**

**Background:** Treatment of childhood acute lymphoblastic leukemia (ALL) has been available in Saudi Arabia (SA) for over 30 years; however, only limited data have been published from there. This study was conducted to establish processes for collaborative data collection and provide clinical characteristics and outcome of children with ALL in SA.

**Procedure:** Clinical data for patients diagnosed from 2004 to 2008 were retrospectively collected at eight institutions and entered remotely into a custom-built database. Statistics regarding clinical and genetic characteristics and treatment outcome were calculated.

**Results:** The 594 evaluable patients had a median age of 4.37 years and 56.4% were boys. Majority of patients had B-precursor ALL while 10.7% had T-ALL. CNS leukemia was present in 5.2% of patients. The ... [View Link Below for More]
CLINICO-PATHOLOGICAL PATTERNS AND SURVIVAL OUTCOME OF COLORECTAL CANCER IN YOUNG PATIENTS: WESTERN SAUDI ARABIA EXPERIENCE


AFFILIATION: CENTRE FOR LYMPHOID CANCER AND DEPARTMENT OF MEDICAL ONCOLOGY, BRITISH COLUMBIA CANCER AGENCY AND THE UNIVERSITY OF BRITISH COLUMBIA, VANCOUVER, BC, CANADA; CANCER SURVEILLANCE AND OUTCOMES, POPULATION ONCOLOGY, BRITISH COLUMBIA CANCER AGENCY, VANCOUVER, BC, CANADA; ONCOLOGY DEPARTMENT, KING ABDULAZIZ MEDICAL CITY, RIYADH, SAUDI ARABIA; CENTRE FOR LYMPHOID CANCER AND DEPARTMENT OF PATHOLOGY, BRITISH COLUMBIA CANCER AGENCY, VANCOUVER, BC, CANADA

ABSTRACT:

Background: The prognosis of young colorectal cancer (CRC) patients has been addressed by several studies but with contradictory results. The aim of the present study was to evaluate the clinico-pathological features of young Saudi patients with CRC in addition to displaying their survival outcome.

Materials and Methods: In this retrospective study, young CRC patients (≤ 40 years) diagnosed between 2007 and 2011 from 4 centres in western Saudi Arabia, were included. Clinico-pathological features, tumor markers, dates of disease relapse and death were collected. Survival parameters were compared with those of older Saudi patients, reported in previous studies.

Results: One hundred and sixteen young patients with CRC were identified (32.2% rectal, 67.8% colon). Some 44% were metastatic while 32.7% had stage III at diagnosis. Patients with grade 3 tumors made up 29.4% of the total while 49.5% had positive lymphovascular invasion (LVI), 56% had a lymph node (LN) ratio ≥ 0.2 and 40.2% were K-ras mutant. Median disease-free survival (DFS) and overall survival (OS) in non-metastatic cases were 22.8 and 49.6 months respectively with better median DFS in K-ras wild compared to mutant patients (28.5 vs 20.9 months, p=0.005). In metastatic cases, median OS was 19.5 months. These survival outcomes are inferior compared to those of older Saudi patients reported in prior studies... [View Link Below for More]
Chemotherapy-induced febrile neutropenia in patients with breast cancer. A multivariate risk assessment model for first cycle chemotherapy

Author(s): Baghlaf, S. S., Abulaban, A. A., Abrar, M. B., & Al-Shehri, A. S

Affiliation: Department of Medicine, King Abdulaziz University, and the Department of Adult Medical Oncology, Princess Norah Oncology Center, King Abdulaziz Medical City, Jeddah, Kingdom of Saudi Arabia

Abstract:
Objective: To identify factors that increase the risk of developing febrile neutropenia (FN) during the first cycle of chemotherapy in breast cancer patients.

Methods: In this retrospective study, we reviewed the records of 211 patients with confirmed breast cancer treated with chemotherapy at the Princess Norah Oncology Center, King Abdulaziz Medical City, Jeddah, Kingdom of Saudi Arabia between January 2010 and May 2012. Statistical analysis was conducted using descriptive analysis, univariate, and multivariate logistic regressions. A multivariate regression of FN occurrence in the first cycle was developed.

Results: The median age of patients was 48 years. Febrile neutropenia was documented in 43 (20.3%) of 211 patients. Twenty-one (49%) of the 43 patients had FN during the first cycle of chemotherapy. A multivariate logistic regression revealed that age (odds ratio [OR] 1.059, 95% confidence interval [CI]: 1.007-1.114), non-anthracycline and/or taxane-based chemotherapy regimens (OR of 39.488; 95% CI: 4.995-312.187), and neo-adjuvant chemotherapy (OR of 8.282; 95% CI: 1.667-41.152) were the most important independent risk factors of FN.

Conclusion: Identifying risk factors of FN may help to target high-risk patients with granulocyte colony-stimulating factor prophylaxis and reduce FN incidences, with subsequent morbidities and mortalities... [View Link Below for More]

Shortlink: bit.ly/1Qns5u3
THE PROGNOSTIC VALUE OF TUMOR-INFILTRATING LYMPHOCYTES IN TRIPLE-NEGATIVE BREAST CANCER: A META-ANALYSIS


AFFILIATION: ONCOLOGY CENTER OF EXCELLENCE, INTERNATIONAL MEDICAL CENTER, JEDDAH, KINGDOM OF SAUDI ARABIA; PRINCESS NOORAH ONCOLOGY CENTER, KING ABDULAZIZ MEDICAL CITY, JEDDAH, KINGDOM OF SAUDI ARABIA

ABSTRACT:
In a recent meta-analysis, we demonstrated that rich tumor-infiltrating lymphocytes (TILs) were significantly correlated to a favorable breast cancer (BC) outcome largely in estrogen receptor-negative tumors. It is known that TILs predominate in triple-negative (TN) BC, and to the best of our knowledge, there is no published meta-analysis that examined their prognostic value exclusively in that subtype. Therefore, we planned this meta-analysis to explore the clinical utility of rich TILs in TN-BC. According to predefined selection criteria, literature search identified eight eligible studies. The meta-analysis included data on 2,987 patients with early stage BC. The median percentage of lymph node positivity was 47% (95% confidence interval [CI] 23-82%). Over a median follow-up of 113 months (95% CI 80-144 months), it was found that rich TILs were associated with 30% (hazard ratio [HR] = 0.70; 95% CI 0.56-0.87; P = 0.001), 22% (HR = 0.78; 95% CI 0.68-0.90; P = 0.0008), and 34% (HR = 0.66; 95% CI 0.53-0.83; P = 0.0003), reduction in the risk of recurrence, distant recurrence, and death, respectively. In addition, for every 10% increments in rich TILs, there was an approximate 15-20% reduction in any recurrence, distant recurrence, or mortality. Moreover, rich TILs predicted superior overall survival (OS) benefit irrespective of the disease phenotype (TN-BC or core-basal phenotype), TILs location (intratumoral or stromal), or TILs qualification as either TILs-non-specified, cytotoxic (CD8+) or regulatory (forkhead box protein 3, FOXP3+) T cells. Data on 5-negative phenotype population were limited, and rich TILs failed to demonstrate a prognostic significance in this phenotype. To investigate the heterogeneity that was shown in the analyses of disease-free survival and OS, a set of meta-analyses showed that the method used in TILs detection (hematoxylin and eosin stains vs. immunohistochemistry) could explain most of the variability in the pooled estimates ...

SHORTLINK: bit.ly/1Nx1wnN
Breast Cancer: Is there a viral connection?

Author(s): Akhter, J., Aziz, M. A. A., Al Ajlan, A., Tulbah, A., & Akhtar, M.

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Abstract:
Viruses are known to be etiologically related to several types of human cancer. In several published studies, viruses such as human mammary tumor virus, human papillomaviruses, EpsteinBarr virus, human cytomegalovirus, herpes simplex virus, and measles virus have been implicated in the pathogenesis of a subset of breast cancers (BC). However, these studies have produced conflicting results, causing considerable controversy. In this context, recent demonstration of elevated levels of mutagenic antiviral enzyme APOBEC3B in a majority of BCs is a highly significant development, as it provides a possible mechanism for development of large numbers of mutations (kataegis) that characterize many of the BCs. It has also provided further impetus... [View Link Below for More]

Shortlink: bit.ly/1EM8nGX

Advances in Anatomic Pathology

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NEXT-GENERATION SEQUENCING ANALYSIS FOR DETECTING HUMAN PAPILLOMAVIRUS IN ORAL VERRUCOUS CARCINOMA

AUTHOR(S): SAMMAN, M., WOOD, H., CONWAY, C., BERRI, S., PENTENERO, M., ALAJLAN, A., ET AL.

AFFILIATION: LEEDS INSTITUTE OF CANCER AND PATHOLOGY, UNIVERSITY OF LEEDS, LEEDS, UNITED KINGDOM; UNIVERSITY OF TURIN, TURIN, ITALY; NATIONAL GUARD HOSPITALS, RIYADH, SAUDI ARABIA; QUEEN VICTORIA HOSPITAL, EAST GRINSTEAD, UNITED KINGDOM; ST JAMES’ S UNIVERSITY HOSPITAL AND LEEDS DENTAL INSTITUTE, UNIVERSITY OF LEEDS, LEEDS, UNITED KINGDOM

ABSTRACT:
Objective: The etiology of oral verrucous carcinoma is unknown, and human papillomavirus ‘involvement’ remains contentious. The uncertainty can be attributed to varied detection procedures and difficulties in defining ‘gold-standard’ histologic criteria for diagnosing ‘verrucous’ lesions. Their paucity also hampers investigation. We aimed to analyze oral verrucous lesions for human papillomavirus (HPV) subtype genomes.

Study Design: We used next-generation sequencing for the detection of papillomavirus sequences, identifying subtypes and computing viral loads. We identified a total of 78 oral verrucous cases (62 carcinomas and 16 hyperplasias). DNA was extracted from all and sequenced at a coverage between 2.5% and 13%.

Results: An HPV-16 sequence was detected in 1 carcinoma and 1 hyperplasia, and an HPV-2 sequence was detected in 1 carcinoma out of the 78 cases, with viral loads of 2.24, 8.16, and 0.33 viral genomes per cell, respectively.


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ORAL SURGERY, ORAL MEDICINE, ORAL PATHOLOGY AND ORAL RADIOLOGY

AFFILIATION: Nuffield Department of Obstetrics and Gynaecology, University of Oxford The Women’s Centre, Oxford, UK; Institute of Clinical Medicine/Paediatrics, University of Oulu, Clinical Research Center, Oulu University Hospital, Oulu, Finland; Oxford Medical Genetics Laboratories, Oxford University Hospitals NHS Trust, Oxford, UK; Wellcome Trust Centre for Mitochondrial Research, Newcastle University, UK; Neurometabolic Unit, National Hospital for Neurology and Neurosurgery, London, UK; Department of Pediatrics, King Fahad Medical City, Riyadh, Saudi Arabia; Department of Pathology and Laboratory Medicine, King Abdulaziz Medical City, Riyadh, Saudi Arabia; Et Al.

ABSTRACT:
Mitochondrial DNA (mtDNA) depletion syndromes (MDS) are severe autosomal recessive disorders associated with decreased mtDNA copy number in clinically affected tissues. The hepatocerebral form (mtDNA depletion in liver and brain) has been associated with mutations in the POLG, PEO1 (Twinkle), DGUOK and MPV17 genes, the latter encoding a mitochondrial inner membrane protein of unknown function. The aims of this study were to clarify further the clinical, biochemical, cellular and molecular genetic features associated with MDS due to MPV17 gene mutations. We identified 12 pathogenic mutations in the MPV17 gene, of which 11 are novel, in 17 patients from 12 families. All patients manifested liver disease. Poor feeding, hypoglycaemia, raised serum lactate, hypotonia and faltering growth were common presenting features. MtDNA depletion in liver was demonstrated in all seven cases where liver tissue was available. Mosaic mtDNA depletion was found in primary fibroblasts by PicoGreen staining. These results confirm that MPV17 mutations are an important cause of hepatocerebral mtDNA depletion ...

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PREDICTORS OF SIGNIFICANT FIBROSIS IN CHRONIC HEPATITIS B PATIENTS WITH LOW VIREMIA


AFFILIATION: College of Medicine, Liver Disease Research Center, King Saud University; Department of Medicine, Liver Unit, Division of Gastroenterology and Hepatology, University of Calgary, AB, Canada; Department of Gastroenterology, Riyadh Military Hospital, Riyadh; Department of Medicine, Division of Gastroenterology, King Fahad General Hospital, Jeddah; Department of Medicine, Division of Gastroenterology; Department of Pathology, King Faisal Specialist Hospital & Research Center; Departments of Pathology, Hepatobiological Sciences & Liver Transplantation, King Abdulaziz Medical City, Riyadh, Saudi Arabia

ABSTRACT:
Background and Aim: The data on the prevalence and predictors of significant fibrosis (≥F2, METAVIR) in chronic hepatitis B virus (HBV) patients with low viremia are limited. We aimed to assess both the prevalence predictors of ≥F2 fibrosis in hepatitis B envelope antigen-negative patients with HBV DNA <20,000 IU/mL.

Methods: Hepatitis B envelope antigen-negative patients (n=213) with mean HBV DNA <2000 IU/mL (n=97) and HBV DNA 2000 to 20,000 IU/mL (n=116) were included and all had liver biopsy. Variables significantly associated with ≥F2 fibrosis on an univariate analysis were included in a multivariate logistic regression model.

Results: Overall, 40 (18.8%) patients had ≥F2 fibrosis, with no difference between those with mean HBV DNA <2000 IU/mL (19.6%) compared with patients with HBV DNA of 2000 to 20,000 IU/mL (18.1%; P=0.782). Fibrosis ≥F2 was similar in patients with HBV DNA <2000 versus 2000 to 20,000 IU/mL in relation to varying alanine aminotransferase thresholds (P>0.05), and was less frequent in persistently normal alanine aminotransferase patients (13.6%) when compared with those with elevated or ...

Shortlink: bit.ly/1M2SiiW
PVN is a well-known cause of renal allograft dysfunction and failure. The diagnosis is established by examination of tissue from the renal graft, and confirmed by immunohistochemical or in situ hybridization techniques. Electron microscopy can be utilized as an ancillary modality to identify the viral particles ultrastructurally. The tubular epithelial cells are the primary target of PV cytopathic effect; however, PV-associated glomerular changes have also been described. Immune-type electron-dense deposits in the TBM have been described in the setting of PVN, and rarely, likewise have glomerular subepithelial hump-like deposits. Diffuse immune-mediated proliferative glomerulonephritis in the setting of PVN has not been reported before. In this report, we describe an 11-yr-old kidney transplant recipient boy who developed immune-mediated glomerulonephritis with light microscopic, immunofluorescence, and ultrastructural features compatible with acute PIGN superimposing chronic PVN, discuss this unusual association and the possible mechanisms of antigen clearance in PVN and present a literature review... [View Link Below for More]

SHORTLINK: bit.ly/1ELYbyr
RARE VARIANTS IN NR2F2 CAUSE CONGENITAL HEART DEFECTS IN HUMANS


AFFILIATION: Wellcome Trust Sanger Institute, Hinxton, Cambridge, UK; Department of Pathology, King Abdulaziz Medical City, Riyadh, Saudi Arabia; Division of Cardiology, Department of Pediatrics, Hospital for Sick Children, University of Toronto, Toronto, Canada; Human Development and Health Academic Unit, Faculty of Medicine, University of Southampton, Southampton General Hospital, Southampton, UK; Department of Cardiology, Boston Children’s Hospital, Harvard Medical School, 300 Longwood Avenue, Boston, MA, USA; Et Al.

ABSTRACT:
Congenital heart defects (CHDs) are the most common birth defect worldwide and are a leading cause of neonatal mortality. Nonsyndromic atrioventricular septal defects (AVSDs) are an important subtype of CHDs for which the genetic architecture is poorly understood. We performed exome sequencing in 13 parent-offspring trios and 112 unrelated individuals with nonsyndromic AVSDs and identified five rare missense variants (two of which arose de novo) in the highly conserved gene NR2F2, a very significant enrichment (p = 7.7 × 10(-7)) compared to 5,194 control subjects. We identified three additional CHD-affected families with other variants in NR2F2 including a de novo balanced chromosomal translocation, a de novo substitution disrupting a splice donor site, and a 3 bp duplication that cosegregated in a multiplex family. NR2F2 encodes a pleiotropic developmental transcription factor, and decreased dosage of NR2F2 in mice has been shown to result in abnormal development of atrioventricular septa. Via luciferase assays, we showed that all six coding sequence variants observed in individuals significantly alter the activity of NR2F2 on target promoters... [View Link Below for More]
THE ROLES OF HOXD10 IN THE DEVELOPMENT AND PROGRESSION OF HEAD AND NECK SQUAMOUS CELL CARCINOMA (HNSCC)


AFFILIATION: Unit of Oral & Maxillofacial Pathology, School of Clinical Dentistry, University of Sheffield, Sheffield, UK; Department of Pathology and Laboratory Medicine, King Abdulaziz Medical City-WR, Jeddah, Saudi Arabia; Unit of Oral & Maxillofacial Pathology, School of Clinical Dentistry, University of Sheffield, Sheffield, UK; Academic Unit of Clinical Oncology, University of Sheffield, Sheffield, UK; Unit of Oral & Maxillofacial Pathology, School of Clinical Dentistry, University of Sheffield, Sheffield, UK; Department of Oral Pathology and Biology, University of Pretoria, Pretoria, South Africa

ABSTRACT:

Background: HOX gene expression is altered in many cancers; previous microarray revealed changes in HOX gene expression in head and neck squamous cell carcinoma (HNSCC), particularly HOXD10.

Methods: HOXD10 expression was assessed by qPCR and immunoblotting in vitro and by immunohistochemistry (IHC) in tissues. Low-expressing cells were stably transfected with HOXD10 and the phenotype assessed with MTS, migration and adhesion assays and compared with the effects of siRNA knockdown in high-HOXD10-expressing cells. Novel HOXD10 targets were identified using expression microarrays, confirmed by reporter assay, and validated in tissues using IHC.

Results: HOXD10 expression was low in NOKs, high in most primary tumour cells, and low in lymph node metastasis cells, a pattern confirmed using IHC in tissues. Overexpression of HOXD10 decreased cell invasion but increased proliferation, adhesion and migration, with knockdown causing reciprocal effects. There was no consistent effect on apoptosis. Microarray analysis identified several putative HOXD10-responsive genes, including angiomotin (AMOT-p80) and miR-146a... [View Link Below for More]

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BRAF ANALYSIS ON A SPECTRUM OF MELANOCYTIC NEOPLASMS: AN EPIDEMIOLOGICAL STUDY ACROSS DIFFERING UV REGIONS

AUTHOR(S): SAROUFIM, M., HABIB, R., KARRAM, S., MASSAD, C. Y., TARAIF, S., SATTI, M. ET AL.

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ABSTRACT:
BRAF mutation has been linked to the development of melanocytic tumors in homogeneous Caucasian cohorts. The role of solar UV radiation (UVR) in BRAF mutation status is poorly understood. We studied the epidemiology of BRAF mutation across a spectrum of melanocytic neoplasms in populations with differing UVR rates. Extended testing for 9 mutation types was attempted on 600 melanocytic neoplasms including banal nevi (n = 225), dysplastic nevi (n = 113), primary (n = 172), and metastatic melanomas (n = 90). Specimens were collected from 4 countries with increasing UVR rates (in kJ/m2/yr): Syria (n = 45; UVR = 93.5), Lebanon (n = 225; UVR = 110), Pakistan (n = 122; UVR = 128), and Saudi Arabia (n = 208; UVR = 139). UVR was estimated from 21-year averages from The National Center for Atmospheric Research database. The overall BRAF mutation rate was 49% (268 of 545) and differed significantly by the geographic location [34% Pakistan, 49% Lebanon, 67% Syria, and 54% Saudi Arabia; P = 0.001], neoplasm type (P, 0.001), and anatomical location (P, 0.001) but not with age (P = 0.07) and gender (P = 1.0). V600E was the predominant mutation type, found in 96.3% of the cases. Incidence of melanoma was significantly greater in BRAF-negative (39%) versus BRAF-positive (17%) groups... [View Link Below for More]

SHORTLINK:bit.ly/1OvCu7S
Acute intermittent porphyria (AIP) is an autosomal dominant metabolic disorder caused by deficiency of the heme biosynthetic enzyme hydroxymethylbilane synthase (approved gene symbol HMBS), also known as porphobilinogen deaminase (PBGD). AIP is characterised by intermittent attacks of abdominal pain, vomiting, and neurological complaints. The highly variable symptomatic presentation of AIP causes confusion with other diseases and results in a high misdiagnosis rate (68% in China) and delayed effective treatments. Based on biochemical and genetic analysis of two Chinese families, a new and a previously reported HMBS mutation were identified in patients with AIP and syndrome of inappropriate antidiuretic hormone (SIADH). The novel HMBS mutation is the 655G>C point mutation (A219P). In addition, the 973C>T point mutation (R325X), which had been previously reported in two Danish families, was identified... [View Link Below for More]
SEVERE BLASTOMYCOSIS IN INFANTS

AUTHOR(S): PELLY, L., AL JUAID, A., & FANELLA, S.

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ABSTRACT:
Blastomycosis is a dimorphic fungal infection that can be manifested as pulmonary or extrapulmonary disease. Disease in infants is rare, even in endemic areas. We report a case of severe blastomycosis in a 4-month-old infant, as well as details of 2 other cases from our center and a brief review of infant blastomycosis... [View Link Below for More]

SHORTLINK: bit.ly/1isqmsq
BRUCELLA MELITENSI S INFECTION OF VENTRICULO-PERITONEAL SHUNT: A FORM OF NEUROBRUCELLOSIS MANIFESTED AS GASTROINTESTINAL SYMPTOMS

AUTHOR(S): Al-Otaibi, A., Almuneef, M., & Shaalan, M. A

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ABSTRACT:
A report of a 9 year-old child with Myelomeningocele who has a ventriculo-peritoneal (VP) shunt presented with gastrointestinal symptoms and peritonitis. The patient had no CNS symptoms but the cerebrospinal fluid was positive for Brucella melitensis. We discuss neurobrucellosis in children, its various presentations, complications and challenges in treatment, choice of antibiotics and duration... [View Link Below for More]

SHORTLINK: bit.ly/1F66vZE
HEREDITARY NEUROMETABOLIC CAUSES OF INFANTILE SPASMS IN 80 CHILDREN PRESENTING TO A TERTIARY CARE CENTER

AUTHOR(S): ALRIFAI, M., ALSHAYA, M., ABULABAN, A., & ALFADHEL, M.

AFFILIATION: NEUROLOGY DIVISION, DEPARTMENT OF PEDIATRICS, KING ABDULAZIZ MEDICAL CITY, KING SAUD BIN ABDULAZIZ UNIVERSITY FOR HEALTH SCIENCES (KSAU-HS), RIYADH, SAUDI ARABIA PEDIATRIC SECTION; KING ABDULLAH INTERNATIONAL MEDICAL RESEARCH CENTRE (KAIMRC)RIYADH, RIYADH, SAUDI ARABIA; KING SAUD BIN ABDULAZIZ UNIVERSITY FOR HEALTH SCIENCES, RIYADH, SAUDI ARABIA; NEUROLOGY DIVISION, DEPARTMENT OF INTERNAL MEDICINE, KING ABDULAZIZ MEDICAL CITY, RIYADH, SAUDI ARABIA

ABSTRACT:
Infantile spasms are a devastating infantile epileptic syndrome with multiple etiologies. Hereditary neurometabolic disorders are rarely recognized causes of infantile spasms. The aim of this study was to identify hereditary neurometabolic disorders when they were the cause of infantile spasms in patients presenting to a tertiary care center in Saudi Arabia...

[View Link Below for More]
AUTHOR(S): Rukban, H. A., Ghaihab, M. A., Tamimi, O., & Al-Saleh, S.

AFFILIATION: Department of Pediatrics, Cardiac Center, Pediatrics Division, King Abdul-Aziz Medical City, King Saud Bin Abdul-Aziz University for Health Sciences; King Abdullah International Medical Research Centre, Riyadh, Saudi Arabia

ABSTRACT:

Aim: Infantile scimitar syndrome is a rare condition, with most of the literature reports being limited to case reports and a few case series. The aim of this study was to review patients with infantile scimitar syndrome who presented to our hospital from July 2000 to January 2011.

Materials and Methods: In this retrospective study, we evaluated the medical records of patients aged 0–14 years who were symptomatic before the age of 1 year and were subsequently diagnosed with the syndrome. A total of 16 patients with the infantile form of scimitar syndrome were identified from the database.

Results: The median age at presentation was 14 days, with a median age at diagnosis of 55 days. Fifty-six percent of the patients were females. Tachypnea was the major presenting symptom and 13 out of 16 patients had pulmonary hypertension. Of the 13 patients with pulmonary hypertension, 7 had systemic collaterals, which were treated by coil occlusion together with medications, and 3 had corrective surgery. The mortality rate was 3/16 (18.8%) over the 10.5 years study period.

Conclusions: Infantile scimitar syndrome is a rare congenital anomaly that needs a high degree of suspicion for early referral and management. The association of the syndrome with pulmonary hypertension leads to recurrent and prolonged hospitalization... [View Link Below for More]
Mutations in CSPP1 cause primary cilia abnormalities and Joubert syndrome with or without Jeune asphyxiating thoracic dystrophy


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Abstract:
Joubert syndrome (JBTS) is a recessive ciliopathy in which a subset of affected individuals also have the skeletal dysplasia Jeune asphyxiating thoracic dystrophy (JATD). Here, we have identified biallelic truncating CSPP1 (centrosome and spindle pole associated protein 1) mutations in 19 JBTS-affected individuals, four of whom also have features of JATD. CSPP1 mutations explain ~5% of JBTS in our cohort, and despite truncating mutations in all affected individuals, the range of phenotypic severity is broad. Morpholino knockdown of cspp1 in zebrafish caused phenotypes reported in other zebrafish models of JBTS (curved body shape, pronephric cysts, and cerebellar abnormalities) and reduced ciliary localization of Arl13b, further supporting loss of CSPP1 function as a cause of JBTS. Fibroblasts from affected individuals with CSPP1 mutations showed reduced numbers of primary cilia and/or short primary cilia, as well as reduced axonemal localization of ciliary proteins ARL13B and adenylyl cyclase III. In summary, CSPP1 mutations are a major cause of the Joubert-Jeune phenotype in humans; however, the mechanism by which these mutations lead to both JBTS and JATD remains unknown... [View Link Below for More]
IDENTIFICATION OF THREE NOVEL ECEL1 MUTATIONS IN THREE FAMILIES WITH DISTAL ARTHROGRYPOSIS TYPE 5D

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ABSTRACT:
Arthrogryposis refers to congenital contracture in at least two different body parts. When distal joints are primarily involved, the term distal arthrogryposis (DA) is used. The recognition of clinically distinct subtypes of DA has proven very useful in mapping the disease genes for this genetically heterogeneous condition. DA5D is characterized by ocular involvement usually in the form of ptosis and incomitant strabismus, but extraocular manifestations have also been reported. In a multiplex consanguineous family with DA5D, we combined autozygosity mapping and exome sequencing to identify a novel mutation in ECEL1. This was followed by targeted sequencing of this gene in another two extended consanguineous family with the same phenotype, which revealed two additional novel homozygous mutations. Our results support the recent identification of mutations in ECEL1 as a disease gene in DA5D and expand the clinical and allelic spectrum of this condition...

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TEMPORARY CENTRAL LINE RELATED THROMBOSIS IN A PEDIATRIC INTENSIVE CARE UNIT IN CENTRAL SAUDI ARABIA TWO-YEAR INCIDENCE AND RISK FACTORS

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ABSTRACT:
Objectives: To estimate the incidence of temporary central venous line (CVL) related thrombosis among the pediatric population of critical care units, and to determine the possible predictors for developing CVL thrombosis.

Methods: A retrospective cohort study of patients ≤14 years of age who were admitted to the pediatric intensive care unit (PICU) at King Abdulaziz Medical City, Riyadh, Saudi Arabia from 2009 to 2011 was performed. The patients were recruited using the PICU admission database, and the infection control unit database.

Results: In 2 years, there were 1,361 admissions to the PICU. Only 248 patients required a central line for acute management. Twenty-one (8.5%) patients developed a thrombosis. The risk of thrombosis increased with multiple insertions of the central line compared with a single central line insertion (95% confidence interval: 2.339-16.667; p=0.0003).

Conclusion: Among all predictors, the number of CVLs was the only significant predictor of CVL thrombosis. Patients with multiple CVLs are at 6.2 times higher risk of developing thrombosis compared with those with a single CVL... [View Link Below for More]
SUCCESSFUL INTERFERON-ALPHA 2B THERAPY FOR UNREMITTING WARTS IN A PATIENT WITH DOCK8 DEFICIENCY


AFFILIATION: IMMUNOLOGY AND ALLERGY, PEDIATRIC DEPARTMENT, KING ABDULAZIZ MEDICAL CITY-WR, JEDDAH, SAUDI ARABIA; DERMATOLOGY DEPARTMENT, KING ABDULAZIZ MEDICAL CITY-WR, JEDDAH, SAUDI ARABIA; DIVISION OF IMMUNOLOGY, BOSTON CHILDREN’S HOSPITAL AND DEPARTMENT OF PEDIATRICS, HARVARD MEDICAL SCHOOL, BOSTON, USA

ABSTRACT:

The autosomal recessive form of the Hyper IgE syndrome (AR-HIES) with dedicator of cytokinesis 8 (DOCK8) deficiency is associated with difficult to treat persistent viral skin infections, including papilloma virus infection. Type I interferons play an important role in the defense against viruses. We examined the effect of therapy with IFN-α 2b in an 11-year old boy with DOCK8 deficiency due to a homozygous splice donor site mutation in DOCK8 intron 40. His unremitting warts showed dramatic response to IFN-α 2b therapy. Immunological studies revealed decreased circulating plasmacytoid dendritic cells (pDCs) and profound deficiency of IFN-α production by his peripheral blood mononuclear cells in response to treatment with CpG oligonucleotides. These findings indicate that underlying pDC deficiency and impaired IFN-α production may predispose to chronic viral infections in DOCK8 deficiency. IFN-α 2b therapy may be useful in controlling recalcitrant viral infections in these patients... [View Link Below for More]

SHORTLINK: bit.ly/1FF8bEt
CONGENITAL MORGAGNI'S HERNIA: A NATIONAL MULTICENTER STUDY

AUTHOR(s): AL-SALEM, A. H., ZAMAKHSHARY, M., AL MOHAIDLY, M., AL-QAHTANI, A., ABDULLA, M. R., ET AL.

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ABSTRACT:

Background: Congenital Morgagni's hernia (CMH) is rare and represents less than 5% of all congenital diaphragmatic hernias. This is a national review of our experience with CMH outlining clinical presentation, methods of diagnosis, associated anomalies, treatment, and outcome.

Patients and methods: The medical records of all patients with the diagnosis of CMH treated at four pediatric surgery units in Saudi Arabia were retrospectively reviewed for age at diagnosis, sex, presenting symptoms, associated anomalies, diagnosis, operative findings, treatment, and outcome.

Results: During a 20-year period (January 1990–December 2010), 53 infants and children with CMH were treated. There were 38 males and 15 females. Their age at diagnosis ranged from 1 month to 9 years (mean 22.2 months). Forty-three (81%) presented with recurrent chest infection. Twenty-two (44.5%) had right CMH, 15 (28.3%) had left-sided hernia and 16 (30.2%) had bilateral hernia. In 7, the diagnosis of bilaterality was made at the time of surgery. Associated anomalies were seen in 38 (71.7%). Twenty-one (39.6%) had congenital heart disease, 8 (15%) had malrotation, and 15 (28.3%) had Down syndrome. All were operated on. Twenty-nine (54.7%) underwent repair via an open approach. The remaining 24 (45.3%) underwent repair using minimal invasive surgery, laparoscopic-assisted hernia repair (19 patients) or totally laparoscopic approach (5 patients). At the time of surgery, the hernia sac content included the colon in 33 (62.3%), part of the left lobe of the liver in 13 (24.5%), the small intestines in 11 (20.75), the...
Efficacy and Safety of Low-dose Colistin in the Treatment for Infections Caused by Multidrug-Resistant Gram-negative Bacteria

Author(s): Zaidi, S. T. R., Al Omran, S., Al Aithan, A. S. M., & Al Sultan, M.

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Abstract:

What is known and Objective: Infections due to multidrug-resistant gram-negative bacteria (MDR-GNB) are a significant burden to the healthcare system globally. Colistin is the drug of choice for MDR-GNB and recent studies recommend high doses. This study investigated the safety of low-dose colistin and the relationship of minimum inhibitory concentration (MIC) of colistin with bacterial cure in the treatment for MDR-GNB infections.

Methods: Computerized dispensing records identified all patients who received colistin during January 2010 and December 2011. Patients who were aged < 12 years old, who received colistin for < 72 h or had moderate to severe renal impairment were excluded. Medical records of the remaining patients were reviewed for the necessary data to determine the bacterial cure and nephrotoxicity of colistin. Multivariate logistic regression analysis was used to determine the predictors of bacterial cure.

Results: A total of 125 evaluable patients received colistin during the study period. Ninety-four of 125 (75·2%) patients achieved bacterial cure. No statistically significant differences were observed between patients who achieved and failed to achieve bacterial cure with regards to age, gender, site of infection, mg/kg dose or duration of colistin use. The average MIC in the bacterial cure group was significantly lower than the MIC in the bacterial failure group (P = 0·002). Similarly, 30-day mortality from the last dose of colistin was significantly lower in the bacterial cure group (P = 0·002)...

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CONTACT CHARCOAL BURN ASSOCIATED WITH ACUTE CENTRAL CORD SYNDROME

AUTHOR(s): AL-THUNYAN, A., AL-QATTAN, M. M., AL-HUSAINAN, H., & AL-MESHAL, O.

AFFILIATION: DIVISION OF PLASTIC SURGERY, KING FAHAD NATIONAL GUARD HOSPITAL AND THE DIVISION OF PLASTIC SURGERY AT KING SAUD UNIVERSITY, RIYADH, SAUDI ARABIA

ABSTRACT:
We describe a very unusual contact charcoal burn associated with acute central cord syndrome. The patient is a known case of cervical degenerative disc disease who accidentally slipped and fell down in hot charcoal with sudden neck hyperextension. This lead to acute central cord syndrome, quadriplegia, loss of sensation, and bilateral lower limb 4th degree burn requiring amputation. The case is reported to increase the awareness of burn surgeons to burns associated with central cord syndrome... [View Link Below for More]
CAUSES AND PATTERNS OF SPINE TRAUMA IN CHILDREN AND ADOLESCENTS IN SAUDI ARABIA: IMPLICATIONS FOR INJURY PREVENTION


AFFILIATION: Department of Surgery, King Saud University, Riyadh, Saudi Arabia; Department of Radiology, King Abdulaziz Medical City, Riyadh, Saudi Arabia; Department of Surgery, National Guard Hospital, Riyadh, Saudi Arabia; Department of Planning and Training, Ministry of Health, Riyadh, Saudi Arabia; Department of Surgery, King Abdulaziz Medical City, Riyadh, Saudi Arabia; Department of Radiology, National Guard Hospital, Riyadh, Saudi Arabia

ABSTRACT:

Background and Objectives: Knowledge regarding traumatic spine injuries (TSIs) is essential for effective prevention strategies, particularly in the developing world, where majority of the population is younger and organized prevention programs are scarce. Therefore, our objective was to describe TSI mechanisms, demographics, patterns, and outcomes in children and adolescents.

Design and Settings: Retrospective chart review in a major trauma center from May 2001 to May 2009 in Riyadh, Saudi Arabia.

Patients and Methods: Detailed chart reviews were done for all consecutive TSI patients ≤18 years old. Cases were identified through the trauma database registry that included admitted patients.

Results: Of the 3796 cases identified, 120 cases (3.2%) sustained 141 TSIs (mean age: 13.5 years; males: 83.8%). TSI was most common among children from 16 to 18 years old. Overall, motor vehicle collision (MVC) was the most common injury mechanism (60.8%). However, younger patients (<12 years) sustained more pedestrian injuries (40.6%)....

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TRAUMATIC RETROPULSION OF T10 VERTEBRA IN A 5-YEAR-OLD BOY WITH INVOLVEMENT OF NEUROCENTRAL SYNCHONDROSIS: A CASE REPORT AND REVIEW OF THE LITERATURE

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AFFILIATION: Division of Neurosurgery, Department of Surgery, College of Medicine, King Saud University, Riyadh, Saudi Arabia

ABSTRACT:
Study Design: This is a case report of a traumatic retropulsion of the T10 vertebral body in a 5-year-old boy.

Objectives: This paper aims to describe a rare pediatric fracture where there was involvement of the neurocentral synchondrosis (NCS) and to evaluate the characteristics of this type of fractures in children.

Summary of Background Data: The NCS is the junction between the vertebral body and the pedicle bilaterally where the vertebra grows horizontally. It closes between 11 and 16 years. It is a known location for spine fracture. However, it was mainly reported in children less than 2 years of age secondary to nontraumatic injury and at the junction levels of the spine. This is the first case of a fracture involving the NCS in a child older than 2 years, due to trauma, and in a non-junctional area of the spine.

Methods: This 5-year-old boy was involved in a motor vehicle collision where he was ejected from the car. He had bilateral lower limb paresthesia and weakness. The fracture involved the neurocentral synchondrosis on the left side and impacted the vertebral body into the pedicle on the right side. Additionally, there was posterior vertebral element injury. He was treated with wide laminectomy and posterior pedicle screw instrumentation.

Results: At 18 months of follow-up, the patient showed a normal neurologic status and a normal alignment of the spine... [View Link Below for More]

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A RARE CLINICAL PRESENTATION OF HETEROTOPIC GASTRIC MUCOSA OF THE JEJUNUM: A CASE REPORT AND REVIEW OF THE LITERATURE

AUTHOR(S): AL-JADAAN, S., & ODA, O.

AFFILIATION: DEPARTMENT OF SURGERY, KING ABDULAZIZ MEDICAL CITY, COLLEGE OF MEDICINE, KING SAUD BIN ABDULAZIZ UNIVERSITY FOR HEALTH SCIENCES, RIYADH, SAUDI ARABIA

ABSTRACT:
Heterotopic gastric mucosa (HGM) of the small bowel is a congenital disorder with a variable clinical presentation. Reported manifestations are gastrointestinal bleeding, intestinal obstruction or perforation, penetration into adjacent organs, and fistulization. Rarely, failure to thrive (FTT) is the clinical manifestation of HGM. We present the case of a baby girl with FTT due to chronic abdominal pain associated with recurrent episodes of abdominal distention, vomiting, and diarrhea. The cause was found to be HGM in the jejunum. The purpose of this paper is to describe this unusual clinical presentation of jejunal HGM... [View Link Below for More]

SHORTLINK: bit.ly/1PZjVqV
PROSPECTIVE CLINICAL TRIAL OF GELATIN-THROMBIN MATRIX AS FIRST LINE TREATMENT OF POSTERIOR EPISTAXIS

AUTHOR(s): KILTY, S. J., AL-HAJRY, M., AL-MUTAIRI, D., BONAPARTE, J. P., DUVAL, M., ET AL.

AFFILIATION: DEPARTMENT OF OTOLARYNGOLOGY—HEAD AND NECK SURGERY, THE UNIVERSITY OF OTTAWA; THE OTTAWA HOSPITAL; THE OTTAWA HOSPITAL RESEARCH INSTITUTE, OTTAWA, CANADA; DEPARTMENT OF OTOLAR-YNGOLOGY—HEAD AND NECK SURGERY, KING ABDULLAZIZ MEDICAL CITY, JEDDAH, SAUDI ARABIA.

ABSTRACT:

Objectives/Hypothesis: To evaluate the effectiveness of gelatin-thrombin matrix for first line treatment of posterior epistaxis. Secondarily, we evaluated discomfort during treatment and the cost savings of treatment with gelatin-thrombin matrix compared to posterior packing, endoscopic, or endovascular treatment at our institution.

Study Design: Prospective pilot, nonblinded, noncontrolled registered clinical trial (NCT01098578).

Methods: Twenty patients with posterior epistaxis were enrolled into this study. Gelatin-thrombin matrix was used for posterior epistaxis treatment with simultaneous ipsilateral choanal occlusion. Patients were discharged within 2 hours of being successfully treated. A visual analog scale (range 0–10) was used to assess treatment discomfort. Patients were evaluated in clinic 5 and 30 days after treatment to assess for intranasal complications and recurrent epistaxis.

Results: Gelatin-thrombin matrix successfully treated epistaxis in 80% of the patients. The procedure was associated with a mean discomfort of 3.6 (range 0–9.7). The institutional per case cost of treatment of patients with posterior epistaxis with gelatin-thrombin matrix is 80.3%, 87.4%, and 89.4% less than with endoscopic surgery, posterior packing, or embolization, respectively. There were no complications.

Conclusion: This pilot study demonstrated that gelatin-thrombin matrix is a safe and both a clinically effective and cost saving means of treating posterior epistaxis. In this study, its use is associated with a ...

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GALLBLADDER AGENESIS WITH A PRIMARY
CHOLEDOCHAL STONE IN A PATIENT WITH SITUS
INVERSUS TOTALIS

AUTHOR(S): Alzahrani, H. A., & Yamani, N. M.

AFFILIATION: Department of Surgery, King Fahad National Guard Hospital,
King Abdulaziz Medical City, Riyadh, Saudi Arabia

ABSTRACT:
Patient: Female, 68
Final Diagnosis: Gallbladder agenesis with situs inversus totalis
Symptoms: Epigastric pain • jaundice
Medication: —
Clinical Procedure: —
Specialty: Surgery
Objective: Rare disease

Background: Situs inversus totalis is an inherited condition characterized by the mirror-image transposition of thoracic and abdominal organs. Gallbladder agenesis, which has normal bile ducts, is a rare congenital condition that occurs in 13 to 65 people out of 100,000. A common bile duct (CBD) stone or choledocholithiasis in patients with gallbladder agenesis is even rarer.

Case Report: We report the case of a 68-year-old woman who presented with epigastric pain and jaundice. She was not known to have situs inversus totalis. Abdominal ultrasound showed a large stone in the CBD, which could not be extracted by endoscopic retrograde cholangiopancreatography (ERCP), necessitating exploration. The gall-bladder and cystic duct were found to be absent. Incisional exploration of the CBD was performed, and a large stone was removed. A choledochoscope was used to identify the remnants and exclude the presence of ectopic gallbladder, and a T-tube was placed into the CBD... [View Link Below for More]
Rate of Full Publication of Presentations from the Saudi Association of Neurological Surgery Meetings

Author(s): Jamjoom, A. A., Jamjoom, B. A., & Jamjoom, A. B.

Affiliation: Department of Clinical Neuroscience, Western General Hospital, Edinburgh, Scotland; Department of Endocrinology and Metabolic Medicine, Leicester General Hospital, Leicester, England, United Kingdom; Section of Neurosurgery, Department of Surgery, King Khalid National Guard Hospital, Jeddah, Kingdom of Saudi Arabia.

Abstract:
Scientific meetings allow professionals working in the same field to share knowledge and to rapidly disseminate new research findings. The publication rate of abstracts presented at a scientific meeting, also known as the abstract to publication ratio, is a way to assess the scientific impact of a meeting. This was examined for a number of disciplines, and the average publication rate was found to be 45%. Over the last decade many scientific societies were established in the Kingdom of Saudi Arabia (KSA) and most have been organizing regular annual scientific meetings. However, there is a lack of information evaluating the publication rates of abstracts presented during any of the Saudi medical society’s scientific meetings. The objectives of this study are to determine the publication rates and the factors predictive of publication of abstracts presented during the annual meetings of the Saudi Association of Neurological Surgery (SANS), a national scientific society established in 2007...

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LEVEL OF EVIDENCE OF CLINICAL NEUROSURGERY RESEARCH IN SAUDI ARABIA

AUTHOR(S): Jamjoom, A. A., Jamjoom, B. A., & Jamjoom, A. B.

AFFILIATION: Department of Clinical Neuroscience, Western General Hospital, Edinburgh, Scotland; Department of Endocrinology and Metabolic Medicine, Leicester General Hospital, Leicester, England, United Kingdom; Section of Neurosurgery, Department of Surgery, King Khalid National Guard Hospital, Jeddah, Kingdom of Saudi Arabia.

ABSTRACT:
Good quality clinical research is fundamental for the practice of evidence-based medicine (EBM). Level of evidence (LOE) is a tool used to assess the quality and design of clinical research. It is generally accepted that publications with a high LOE are likely to be more valid and have greater impact on clinical practice. In recent years, there has been a growing interest in the assessment of the LOE in publications from the Kingdom of Saudi Arabia (KSA),1,2 in major specialty journals,3,4 and from different countries.5 Up to date information on the quality of neurosurgery research in KSA is still lacking. This study aimed at evaluating the LOE in Saudi neurosurgical publications, and comparing this with the international literature, and with KSA publications from other specialties... [View Link Below for More]
FIRST INTERNATIONAL CONSENSUS GUIDELINES FOR BREAST CANCER IN YOUNG WOMEN (BCY1)

AUTHOR(S): Partridge, A. H., Pagani, O., Abulkhair, O., Aebi, S., Amant, F., Azim, H. A., ET AL.

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ABSTRACT:
The 1st International Consensus Conference for Breast Cancer in Young Women (BCY1) took place in November 2012, in Dublin, Ireland organized by the European School of Oncology (ESO). Consensus recommendations for management of breast cancer in young women were developed and areas of research priorities were identified. This manuscript summarizes these international consensus recommendations, which are also endorsed by the European Society of Breast Specialists (EUSOMA)... [View Link Below for More]

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Accuracy of Tablet Splitting: Comparison Study Between Hand Splitting and Tablet Cutter

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Abstract:

Background: Tablet splitting is often used in pharmacy practice to adjust the administered doses. It is also used as a method of reducing medication costs.

Objective: To investigate the accuracy of tablet splitting by comparing hand splitting vs. a tablet cutter for a low dose drug tablet.

Methods: Salbutamol tablets (4 mg) were chosen as low dose tablets. A randomly selected equal number of tablets were split by hand and a tablet cutter, and the remaining tablets were kept whole. Weight variation and drug content were analysed for salbutamol in 0.1 N HCl using a validated spectrophotometric method. The percentages by which each whole tablet’s or half-tablet’s drug content and weight difference from sample mean values were compared with USP specification ranges for drug content. The %RSD was also calculated in order to determine whether the drugs met USP specification for %RSD. The tablets and half tablets were scanned using electron microscopy to show any visual differences arising from splitting.

Results: 27.5% of samples differed from sample mean values by a percentage that fell outside of USP specification for weight, of which 15% from the tablet cutter and 25% from those split by hand fell outside the specifications. All whole tablets and half tablets met the USP specifications for drug content but the variation of content between the two halves reached 21.3% of total content in case of hand splitting, and 7.13% only for the tablet cutter. The %RSDs for drug content and weight met the USP specification for whole salbutamol tablets and the half tablets which were split by tablet cutter. The halves which were split by hand fell outside the specification for %RSD (drug content = 6.43%, weight = 8.33%). The differences were visually clear in the electron microscope scans... [View Link Below for More]
Molecular diagnosis of fragile X syndrome using methylation sensitive techniques in a cohort of patients with intellectual disability


Affiliation: Faculty of Medical Sciences, King Abdulaziz University, Jeddah, Kingdom of Saudi Arabia; Center of Excellence in Genomic Medicine Research, King Abdulaziz University, Jeddah, Kingdom of Saudi Arabia; Pediatric Hospital, Ministry of Health, Al Taif, Kingdom of Saudi Arabia; King Fahd Hospital, Jeddah, Kingdom of Saudi Arabia; Faculty of Science, King Abdulaziz University, Jeddah, Kingdom of Saudi Arabia; Center of Excellence in Genomic Medicine Research, King Abdulaziz University, Jeddah, Kingdom of Saudi Arabia; King Abdulaziz Medical City for National Guard Health Affairs, and King Saud bin Abdulaziz University for Health Sciences, Riyadh, Kingdom of Saudi Arabia

Abstract:

Background: Fragile X syndrome, the most common form of inherited intellectual disability, is caused by expansion of CGG trinucleotide repeat at the 5′ untranslated region of the FMR1 gene at Xq27. In affected individuals, the CGG repeat expansion leads to hypermethylation and the gene is transcriptionally inactive. Our aim was to identify fragile X syndrome among children with intellectual disability in Saudi Arabia.

Patients and Methods: The study included 63 patients (53 males, 10 females) presented with intellectual disability, 29 normal subjects, and 23 other family members. DNA samples from six patients previously diagnosed with fragile X syndrome by Southern blot technique were used as positive controls. The method was based on bisulfite treatment of DNA followed by two different techniques. The first technique applied polymerase chain reaction amplification using one set of primers specific for amplifying methylated CpG dinucleotide region; another set designed to amplify the unmethylated CGG repeats. The second technique used the methylation-specific melting curve analysis for detection of methylation status of the FMR1 promoter region... [View Link Below for More]
MECHANICAL PROPERTIES OF DENTAL RESIN/COMPOSITE CONTAINING URCHIN-LIKE HYDROXYAPATITE

AUTHOR(S): LIU, F. W., SUN, B., JIANG, X. Z., ALDEYAB, S. S., ZHANG, Q. H., ET AL.

AFFILIATION: STATE KEY LABORATORY FOR MODIFICATION OF CHEMICAL FIBERS AND POLYMER MATERIALS, COLLEGE OF MATERIAL SCIENCE AND ENGINEERING, DONGHUA UNIVERSITY, SHANGHAI, CHINA; KING ABDULAZIZ MEDICAL CITY, RIYADH, SAUDI ARABIA

ABSTRACT:
Objectives: To investigate the reinforcing effect of urchin-like hydroxyapatite (UHA) in bisphenol A glycidyl methacrylate (Bis-GMA)/triethylene glycol dimethacrylate (TEGDMA) dental resin (without silica nanoparticles) and dental composites (with silica nanoparticles), and explore the effect of HA filler morphologies and loadings on the mechanical properties.

Methods: UHA was synthesized by a facile method of microwave irradiation and studied by X-ray diffraction (XRD), scanning electron microscope (SEM), and thermogravimetric analysis (TGA). Mechanical properties of the dental resin composites containing silanized UHA were tested by a universal mechanical testing machine. Analysis of variance was used for the statistical analysis of the acquired data. The fracture morphologies of tested composites were observed by SEM. Composites with silanized irregular particulate hydroxyapatite (IPHA) and hydroxyapatite whisker (HW) were prepared for comparative studies.

Results: Impregnation of lower loadings (5 wt% and 10 wt%) of silanized UHA into dental resin (without silica nanoparticles) substantially improved the mechanical properties; higher UHA loadings (20 wt% and 30 wt%) of impregnation continuously improved the flexural modulus and microhardness, while the strength would no longer be increased. Compared with silanized IPHA and HW, silanized UHA consisting of rods extending radially from center were embedded into the matrix closely and well dispersed in the composite, increasing filler-matrix interfacial contact area and combination. At higher filler loadings, ... [View Link Below for More]
GLOBAL, REGIONAL, AND NATIONAL LEVELS AND CAUSES OF MATERNAL MORTALITY DURING 1990-2013: A SYSTEMATIC ANALYSIS FOR THE GLOBAL BURDEN OF DISEASE STUDY 2013


AFFILIATION: INSTITUTE FOR HEALTH METRICS AND EVALUATION; PEDIATRIC ANESTHESIOLOGY AND PAIN MEDICINE, SEATTLE CHILDREN’S HOSPITAL, SCHOOL OF MEDICINE; UNIVERSITY OF WASHINGTON, SEATTLE, WA, USA; HACETTEPE UNIVERSITY INSTITUTE OF POPULATION STUDIES, ANKARA, TURKEY; NATIONAL GUARD HEALTH AFFAIRS, KING ABDULAZIZ MEDICAL CITY, RIYADH, SAUDI ARABIA; ET AL.

ABSTRACT:

Background: The fifth Millennium Development Goal (MDG 5) established the goal of a 75% reduction in the maternal mortality ratio (MMR; number of maternal deaths per 100,000 livebirths) between 1990 and 2015. We aimed to measure levels and track trends in maternal mortality, the key causes contributing to maternal death, and timing of maternal death with respect to delivery.

Methods: We used robust statistical methods including the Cause of Death Ensemble model (CODEm) to analyse a database of data for 7065 site-years and estimate the number of maternal deaths from all causes in 188 countries between 1990 and 2013. We estimated the number of pregnancy-related deaths caused by HIV on the basis of a systematic review of the relative risk of dying during pregnancy for HIV-positive women compared with HIV-negative women. We also estimated the fraction of these deaths aggravated by pregnancy on the basis of a systematic review. To estimate the numbers of maternal deaths due to nine different causes, we identified 61 sources from a systematic review and 943 site-years of vital registration data. We also did a systematic review of reports about the timing of maternal death, identifying 142 sources to use in our analysis. We developed estimates for each country for 1990-2013 using Bayesian meta-regression. We estimated 95% uncertainty intervals (UIs) for all values... [View Link Below for More]
CENTRALIZED PAN-MIDDLE EAST SURVEY ON THE UNDERTREATMENT OF HYPERCHOLESTEROLEMIA: RESULTS FROM THE CEPHEUS STUDY IN ARABIAN GULF COUNTRIES

AUTHOR(S): ARAFAH, M., AL-HINAI, A. T., AL MAHMEED, W., AL-RASADI, K., AL TAMIMI, ALHERZ, S., ET AL

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ABSTRACT:

The Centralized pan-Middle East Survey on the undertreatment of hypercholesterolemia (CEPHEUS) survey evaluated the attainment of low-density lipoprotein cholesterol (LDL-C) goals among patients on lipid-lowering drugs (LLDs) according to the updated National Cholesterol Education Program (NCEP)-Adult Treatment Panel (ATP-III) guideline. The survey was conducted in 6 Arabian Gulf countries. Patients aged ≥18 years on LLDs for at least ≥3 months (stable medication for ≥6 weeks) were recruited. Fasting blood samples were collected at a single visit. In this survey, 5276 (58.2% male) patients were included in the final analysis. The LDL-C goal was attained in 91.1% of low-risk, 52.7% of high-risk, and 32.0% in very-high-risk categories. Goal attainment was directly related to female gender, age<40 years, history of diabetes, and family history of cardiovascular disease. The results of this survey highlight the suboptimal management of hypercholesterolemia across Arabian Gulf countries... [View Link Below for More]

SHORTLINK: bit.ly/1iwaMeW
Efficacy and Safety of Deep Sclerectomy in Childhood Glaucoma in Saudi Arabia


Affiliation: Department of Ophthalmology, College of Medicine, King Saud University, Riyadh, Saudi Arabia; National Guard Hospital, Riyadh, Saudi Arabia; Department of Ophthalmology, University of Ghent, Ghent, Belgium

Abstract:
Purpose: To evaluate the efficacy and safety of deep sclerectomy in childhood glaucoma.

Methods: A prospective cohort of 120 children presenting with glaucoma to King Abdul Aziz University Hospital (KAUH) was subjected to nonpenetrating deep sclerectomy surgery (NPDS). Eventually, 57 patients had macro perforation and converted to penetrating deep sclerectomy (PDS). Intra-operative mitomycin C (MMC) 0.2 mg/ml was used in all patients. Pre- and postintervention glaucoma indices were assessed. Complete success rate (CSR) was identified as achieving an end-point of intraocular pressure <21 without any antiglaucoma medications. Data were analysed to compare pre- and postintervention changes and to compare both procedures.

Results: After follow-up of 35.8 (34.5) months, NPDS procedure went smooth in 74 eyes of 63 patients. The complete success rate was 79.7%, whereas the overall success rate was 82.4%. Thirteen cases failed. The probability to survive was 74.6% after the 12th month. The mean intraocular pressure (IOP) went down to 11.5 ± 3.0 mmHg compared to 31.9 mmHg preoperatively. Comparing cases with NPDS to those with PDS, the magnitude of IOP reduction (15.8) was higher than that of the PDS (14.8); however, this difference was not statistically significant (p = 0.259). Apart from involuntary perforation of trabeculodescemetic window (TDW), neither intra-operative nor early postoperative complications were observed...

Shortlink: bit.ly/1UMl77P
GESTATIONAL TROPHOBLASTIC NEOPLASIA: 
TREATMENT OUTCOMES FROM A SINGLE 
INSTITUTIONAL EXPERIENCE

AUTHOR(S): AL-HUSAINI, H., SOUDY, H., DARWISH, A., AHMED, M., ELTIGANI, A., ET. AL

AFFILIATION: CAIRO UNIVERSITY, CAIRO, EGYPT; ONCOLOGY DEPARTMENT, DR. SOLIMAN FAKEEH HOSPITAL, JEDDAH, SAUDI ARABIA; NATIONAL GUARD HOSPITAL, RIYADH, SAUDI ARABIA; AIN SHAMS UNIVERSITY, CAIRO, EGYPT; PRINCESS MARGARET HOSPITAL, TORONTO, CANADA; FLORIDA HOSPITAL CANCER INSTITUTE, ORLANDO, FL, USA

ABSTRACT:

Purpose: To report the outcomes of gestational trophoblastic neoplasia (GTN) at a single institution and to determine the factors affecting response to chemotherapy and survival.

Methods/Patients: From 1979-2010, we retrospectively reviewed the data of 221 patients treated at our center. GTN Patients were assigned to low-risk (score ≤6) or high-risk (score ≥7) based on the WHO risk factor scoring system. Overall survival (OS) probabilities were estimated using Kaplan-Meier method. Logistic regression was applied to study the impact of different factors on the response to initial therapy.

Results: Patients' OS rate was 97%. Median age at diagnosis was 37 year. 131 (59%) patients had low-risk and 88 (40%) cases had high-risk GTN. Complete remission rates to initial chemotherapy in low-risk group were 53% and 87% for single-agent methotrexate or dactinomycin, respectively. In high-risk group, 94% achieved complete remission to initial chemotherapy with etoposide, methotrexate, dactinomycin, cyclophosphamide, and vincristine (EMA-CO). Etoposide, cisplatin, and dactinomycin as primary therapy in high-risk patients was successful in 70%, while bleomycin, etoposide, and cisplatin (BEP) was successful in 53% of cases. Salvage chemotherapy, surgical intervention or radiation therapy resulted in overall complete remission of 90% in low-risk and 73% in high-risk groups. Factors associated with resistance to initial chemotherapy were advanced-stage III/IV (p = 0.005), metastatic site other than lung or vagina (p = 0.005) and high-risk prognostic score (p = 0.05)... [View Link Below for More]
A WOMAN WITH METASTATIC PANCREATIC NEUROENDOCRINE TUMOR

AUTHOR(s): SHOUSHTARI, A. N., COVEY, A. M., ZAATARI, G., SHAMSEDDINE, A., EPSTEIN, A. S., NAGHY, M., ET AL.

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ABSTRACT:
Case report: A 47-year-old woman presented with 3 years of intermittent back pain radiating to the abdomen and 2 months of fatigue, abdominal distension, and mild weight loss. She had no flushing, diarrhea, or malabsorptive symptoms. Prior workup included an abdominal ultrasound notable for benign cysts, an upper gastroesophageal endoscopy, and a hepatobiliary iminodiacetic acid (HIDA) scan. She was referred for magnetic resonance imaging (MRI) of the abdomen... [View Link Below for More]
Molecular Characterization of Carbapenemase-Producing Escherichia coli and Klebsiella pneumoniae in the Countries of the Gulf Cooperation Council: Dominance of OXA-48 and NDM Producers


Affiliation: The University of Queensland, UQ Centre for Clinical Research, Herston, Queensland, Australia; King Abdulaziz Medical City, King Saud bin Abdulaziz University for Health Sciences, Riyadh, Saudi Arabia; GCC Center for Infection Control, Riyadh, Saudi Arabia; Department of Medical Microbiology and Infectious Diseases, School of Medicine, Cardiff University, Heath Park, Cardiff, United Kingdom; Microbiology, Department of Pathology and Lab Medicine, King Abdulaziz Medical City, Riyadh, Saudi Arabia; Et Al.

Abstract:
The molecular epidemiology and mechanisms of resistance of carbapenem-resistant Enterobacteriaceae (CRE) were determined in hospitals in the countries of the Gulf Cooperation Council (GCC), namely, Saudi Arabia, United Arab Emirates, Oman, Qatar, Bahrain, and Kuwait. Isolates were subjected to PCR-based detection of antibiotic-resistant genes and repetitive sequence-based PCR (rep-PCR) assessments of clonality. Sixty-two isolates which screened positive for potential carbapenemase production were assessed, and 45 were found to produce carbapenemase. The most common carbapenemases were of the OXA-48 (35 isolates) and NDM (16 isolates) types; 6 isolates were found to coproduce the OXA-48 and NDM types. No KPC-type, VIM-type, or IMP-type producers were detected. Multiple clones were detected with seven clusters of clonally related Klebsiella pneumoniae. Awareness of CRE in GCC countries has important implications for controlling the spread of CRE in the Middle East and in hospitals accommodating patients transferred from the region... [View Link Below for More]

Shortlink: bit.ly/1KqdSvz
King Saud bin Abdulaziz University for Health Sciences
Ultrasound-guided supraclavicular brachial plexus block: Single versus triple injection technique for upper limb arteriovenous access surgery

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Abstract:

Background: Although ultrasound-guided supraclavicular block has a good success rate, it remains unclear whether multiple injections are superior to single injection (SI). We compared the sensory block success rate of SI versus triple injection (TI).

Methods: In this randomized double-blind study, 96 end-stage renal disease patients undergoing arteriovenous fistula creation or superficialization were randomly allocated to receive either SI or TI. The primary outcome was the combined score of sensory blockade of the 5 nerves (median, ulnar, radial, medial cutaneous nerve of the forearm, and musculocutaneous) measured at 5, 10, 15, and 20 minutes after injection. Secondary outcome variables were the time to onset of the blockade, performance time (time to do the block), separate success rate for each of the above nerves, success rate of surgical anesthesia, and the complication rate.

Results: The combined success of the sensory block was 20% to 31% higher in the TI group than in the SI group at 10, 15, and 20 minutes after injection (all P < 0.035). The block of the musculocutaneous nerve in the TI group was faster and more successful than in the SI group, at all time points (all P < 0.026). The average time needed to perform the block was significantly longer in the TI than the SI group (6.5 ± 2.1 vs 4.7 ± 2.1 minutes, P = 0.001). The overall success of surgical ... [View Link Below for More]

Shortlink: bit.ly/1JS4nBL
THE RELIABILITY OF THE ARABIC VERSION OF THE ASTHMA KNOWLEDGE QUESTIONNAIRE AND ASSESSMENT OF THE LEVEL OF ASTHMA AWARENESS AMONG PARENTS OF CHILDREN WITH ASTHMA IN SAUDI ARABIA


AFFILIATION: College of Applied Medical Sciences College of Medicine, King Saud bin Abdulaziz University for Health Sciences, Riyadh, Saudi Arabia

ABSTRACT:
Asthma awareness is one of the most important components in childhood asthma control. Inadequate asthma management and a subsequent increase of morbidity have been attributed to insufficient disease knowledge among the guardians/parents of the patients. Only a few published survey instruments specifically designed to gain insights into the perceptions of the parents/guardians of children with asthma are available. Moreover, the Arabic version of any asthma awareness questionnaire is not yet available. The objective of this study was creation of Arabic asthma awareness questionnaire from a published English version of Asthma Knowledge Questionnaire (AKQ) and its validation for assessing the level of asthma knowledge among parents/guardians of asthmatic children. Original asthma knowledge questionnaire in English language was translated into Arabic language and termed as Arabic asthma knowledge questionnaire (AAKQ). A thorough validation and reliability testing was performed on AAKQ. Results revealed that the AAKQ came out with good reliability and consistency to evaluate the level of asthma awareness among parents/guardians of pediatric asthmatics. The findings explained poor asthma control despite guidelines available on health care system relating asthma in Saudi Arabia. AAKQ is appropriate for assessing general aspects of asthma and possible areas of improvement, but not applicable to evaluate the specific clinical management of asthma. In conclusion, this study provides first ever validation of an Arabic version of a questionnaire to assess level of asthma awareness among parents/guardians of children with asthma.... [View Link Below for More]
MICROENVIRONMENTAL STIMULI FOR PROLIFERATION OF FUNCTIONAL ISLET B-CELLS

AUTHOR(S): Alismail, H. & Jin, S.

AFFILIATION: Department of Bioengineering, College of Engineering, University of Arkansas, Fayetteville, AR, USA; Department of Bioengineering, Thomas J. Watson School of Engineering and Applied Sciences, State University of New York in Binghamton, Binghamton, NY, USA; College of Applied Medical Sciences, King Saud bin Abdulaziz University for Health Sciences, National Guard - Health Affairs, Riyadh, Kingdom of Saudi Arabia

ABSTRACT:
Diabetes is characterized by high blood glucose level due to either autoimmune destruction of islet β-cells or insufficient insulin secretion or glucose non-responsive production of insulin by β-cells. It is highly desired to replace biological functional β-cells for the treatment of diabetes. Unfortunately, β-cells proliferate with an extremely low rate. This cellular property hinders cell-based therapy for clinical application. Many attempts have been made to develop techniques that allow production of large quantities of clinically relevant islet β-cells in vitro. A line of studies evidently demonstrate that β-cells can proliferate under certain circumstances, giving the hopes for generating and expanding these cells in vitro and transplanting them to the recipient. In this review, we discuss the requirements of microenvironmental stimuli that stimulate β-cell proliferation in cell cultures. We highlight advanced approaches for augmentation of β-cell expansion that have recently emerged in this field. Furthermore, knowing the signaling pathways and molecular mechanisms would enable manipulating cell proliferation and optimizing its insulin secretory function. Thus, signaling pathways involved in the enhancement of cell proliferation are discussed as well... [View Link Below for More]
Facile Access to a Benzoazepinoquinazolinone via a Free Radical Cyclization

Author(s): Shawakfeh, K. Q., Ishtaiwi, Z. N., & Al-Said, N. H.

Affiliation: Department of Chemistry, Jordan University of Science and Technology, Irbid, Jordan; College of Applied Medical Sciences, King Saud bin Abdulaziz University for Health Sciences, Al-Ahsa, Saudi Arabia

Abstract:
An efficient synthetic protocol based on a free-radical cascade reaction via 6-exo-trig and 7-endo-trig cyclization processes is described for a new substituted benzoazepinoquinazolinone system which could in principle be used to form the cyclopropanequinone system found in duocarmycins... [View Link Below for More]
SURVIVAL ASSESSMENT AND OPTIMIZATION OF BCR/ABL-KD AMPLIFICATION PROTOCOL FOR DETECTION OF IMATINIB RESISTANT MUTATIONS IN PH+ CHRONIC MYELOID LEUKEMIA PATIENTS FROM PAKISTAN

AUTHOR(s): AKRAM, A. M., AKHTAR, T., & IQBAL, Z.

AFFILIATION: DEPARTMENT OF ZOOLOGY, FACULTY OF BIOLOGICAL SCIENCES, UNIVERSITY OF THE PUNJAB, LAHORE, PAKISTAN; COLLEGE OF APPLIED MEDICAL SCIENCES, KING SAUD BIN ABDULAZIZ UNIVERSITY FOR HEALTH SCIENCES, RIYADH, SAUDI ARABIA

ABSTRACT:
Translocation between parts of BCR and ABL genes is the baseline abnormality for chronic myeloid leukemia (CML) genesis. To overcome this malignancy, Imatinib mesylate, a tyrosine kinase inhibitor (TKI) is being used as the first line treatment option. Certain point mutations arising in the kinase domain of ABL part constitute resistance against drug therapy. By knowing the underlying mutation, resistance can be addressed either by dose adjustment or choosing second generation TKI’s. The present studies aimed to investigate survival probability of patients in relation to their clinical features and to optimize an efficient as well as reliable protocol for RT-PCR based amplification of BCR-ABL kinase domain, and its direct sequencing analysis for mutation detection. Since this procedure has been established for the first time in Pakistan, reproducible and amplifiable products of 1306bp (b2a2) and 1380bp (b3a2), carrying BCR-ABL KD were successfully achieved after trial and error. Their sequencing analysis revealed a total of fourteen point mutations, six in Imatinib responders and eight in resistant CML patients. Thus the mutation detection supported the usefulness of this protocol in both, Imatinib sensitive and resistant patients of chronic myeloid leukemia... [View Link Below for More]

SHORTLINK: bit.ly/1ir7zxp
Transcriptomics Study of Neurodegenerative Disease: Emphasis on Synaptic Dysfunction Mechanism in Alzheimer’s Disease

Author(s): Karim, S., Mirza, Z., Ansari, S. A., Rasool, M., Iqbal, Z., et al.

Affiliation: King Fahd Medical Research Center, King Abdulaziz University, Jeddah, Saudi Arabia; College of Applied Medical Sciences, King Saud bin Abdulaziz University for Health Sciences, Riyadh, Saudi Arabia

Abstract:
Alzheimer’s disease (AD) is a common neurodegenerative disorder primarily affecting memory and thinking ability; caused by progressive degeneration and death of nerve cells. In this study, we integrated multiple dataset retrieved from the National Center for Biotechnology Information’s Gene Expression Omnibus database, and took a systems-biology approach to compare and distinguish the molecular network based synaptic dysregulation associated with AD in particular and neurodegenerative diseases in general. We first identified 832 differentially expressed genes using cut off P value <0.5 and fold change > 2, followed by gene ontology study to identify genes associated with synapse (n=95) [membrane associated guanylate kinase, 2, amyloid beta precursor protein, neurotrophic tyrosine kinase, receptor, type 2], synapse part [γ-aminobutyric acid A receptor, γ1], synaptic vesicle [glutamate receptor, ionotropic, α-amino-3-hydroxy-5-methyl-4-isoxazole propionic acid receptor 2, synaptoporin], pre- and post-synaptic density [neuronal calcium sensor 1, glutamate receptor, metabotropic 3]. We integrated these data with known pathways using Ingenuity Pathway Analysis tool and found following synapse associated pathways to be most affected; γ-aminobutyric acid A receptor signaling, synaptic long term potentiation/depression, nuclear factor-erythroid 2-related factor 2-mediated oxidative stress response, huntington’s disease signaling and Reelin signaling in neurons. In conclusion, synaptic dysfunction is tightly associated with the development and progression of neurodegenerative diseases like AD.... [View Link Below for More]
CURRENT VIEW FROM ALZHEIMER DISEASE TO TYPE 2 DIABETES MELLITUS


AFFILIATION: Center of Excellence in Genomic Medicine Research, King Abdulaziz University, Jeddah, Saudi Arabia; Institute of Molecular Biology and Biotechnology, the University of Lahore, Pakistan; Cancer Genomics, Ontario Institute for Cancer Research, MARS Centre, Toronto, Canada; Fundamental and Applied Biology Group, King Fahd Medical Research Center, King Abdulaziz University, Saudi Arabia; Centre for Research in Molecular Medicine, The University of Lahore, Pakistan; Department of Biotechnology and Informatics, Quetta, Pakistan; College of Applied Medical Sciences, King Saud Bin Abdulaziz University of Health Sciences, National Guards Health Affairs, Riyadh, Saudi Arabia; et al.

ABSTRACT:
Alzheimer's disease (AD) is a neurodegenerative disorder that leads to memory problems. It has been associated with type 2 diabetes mellitus at both the molecular and biochemical level. Pancreatic cells have molecular similarities to the brain at the transcriptomic and proteomic levels. Several genes have been reported to be responsible for both AD and diabetes. Currently, no proper treatment is available but various therapeutic approaches are utilized worldwide for the management of these disorders and may be nanoparticles and herbal treatment of Bacopa monnieri will make promise for the treatment of AD in future. The formation of amyloids in neurons and the formation of amylin in pancreatic cells are potential links between these two disorders, which can be silent killers... [View Link Below for More]

SHORTLINK: bit.ly/1QF0xAr
NEW POSSIBILITIES IN HEPATOCELLULAR CARCINOMA TREATMENT

AUTHOR(S): RASOOL, M., RASHID, S., AROOJ, M., ANSARI, S. A., KHAN, K., ZAFAR, I., ET AL.

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ABSTRACT:
Hepatocellular carcinoma diagnosis and treatment has witnessed many major changes and challenges in the past two decades. Increasing incidence of HCC has introduced new monitoring systems and increased the efficacy of screening tests, as well as prognosis of the disease, including the staging system, serological testing and diagnostic imaging. Moreover, surgical resection, liver transplantation and herbal therapy have improved treatment. The most encouraging specific serological marker for HCC is alpha fetoprotein (AFP), which, along with ultrasonography, has improved earlier detection of HCC. Most recently, circulating tumor cell measurement has emerged as a promising tool for the prognosis of HCC. Herbal drugs and herbal composite formula drugs are promising towards the prevention of invasion and proliferation of tumor cells. Chemotherapeutic agents, such as sorafenib, bevacizumab and erlotinib, which target growth factor receptors in signaling pathways, are also used as HCC treatments. Furthermore, radiotherapy is employed in the treatment of unresectable tumors. The present report provides an analysis of the above parameters in the management of HCC. Hepatocellular carcinoma (HCC) is unique among cancers because 90% of HCCs develop in the context of chronic liver disease and cirrhosis. HCC is thought to account for more than 5% of all cancers and for 80-90% of primary liver cancers. It is the third most common cause of death globally, fifth for men and eighth for women(1). Since most HCC patients are diagnosed ... [View Link Below for More]
THE EFFECTS OF PAULINIA CUPANA, ON GENOTOXIC, SPERMATOGENIC, REPRODUCTIVE AND BIOCHEMICAL CHANGES IN SEX CELLS AFTER CHRONIC TREATMENT IN MALE SWISS ALBINO MICE

AUTHOR(s): QUreshi, S.

AFFILIATION: RESEARCH UNIT, COLLEGE OF APPLIED MEDICAL SCIENCES, KING SAUD BIN ABDUL- AZIZ UNIVERSITY FOR HEALTH SCIENCES, RIYADH, SAUDI ARABIA

ABSTRACT:
Paulinia cupana (Guarana) is immensely used as a stimulant to increase physical activity and control obesity for a long term. The present study on the effects of Guarana on spermatogenesis, reproduction and biochemical changes in male Swiss albino mice was conducted, in view of a paucity of literature. Mice were orally treated with different doses (33, 66 and 133 mg/kg/day) of the aqueous suspension of Guarana for 90 days by oral gavage. Animals in different control and treatment groups were used to conduct the following parameters: (1) cytological aberrations of the testis chromosomes; (2) spermatozoa abnormalities (3) study on reproduction and dominant lethal assay; (5) biochemical study on proteins, nucleic acids, malonaldehyde (MDA), non-protein sulfhydryl (NP-SH) and hormones. The treatment caused a significant increase in chromosomal aberrations and sperm abnormalities. The rate of pregnancy and pre- and post-implantation losses were affected. The study on biochemical parameters showed increase of the concentrations of MDA and depletion of proteins, RNA, DNA and NP-SH in the testicular cells. The plasma levels of testosterone were decreased. The changes in MDA and NP-SH elucidated the role of free radical species in the induction of chromosomal aberrations, spermatozoa abnormalities and reproductive toxicity. The exact mechanism is not known, however, this might be due to the influence of the tannin contents of Guarana. In view of the observed effects, further evaluation of the toxicity of Guarana is suggested before it is further available for human use... [View Link Below for More]

SHORTLINK: bit.ly/1gpYDGS
A STUDY OF CORRELATIONS WITHIN THE DIMENSIONS OF LOWER LIMB PARTS FOR PERSONAL IDENTIFICATION IN A SUDANESE POPULATION

AUTHOR(s): AHMED, A. A.

AFFILIATION: DEPARTMENT OF BASIC MEDICAL SCIENCES, COLLEGE OF MEDICINE, KING SAUD BIN ABDULAZIZ UNIVERSITY FOR HEALTH SCIENCES; ANATOMY DEPARTMENT, FACULTY OF MEDICINE, UNIVERSITY OF KHARTOUM

ABSTRACT:
The presence of an isolated limb or limb parts from different individuals presents a major challenge for medicolegal investigators in establishing identification in cases of wars, mass disasters, and criminal assaults because different populations have different sizes and proportions. The measurement of lower limb dimensions showed a high success rate in establishing individual identity in terms of sex and stature in various populations. However, there is a paucity of data concerning the correlation within the lower limb parts. This study aims to assess the existence of relationships within lower limb parts and to develop regression formulae to reconstruct limb parts from one another. The tibial length, bimalleolar breadth, foot length, and foot breadth of 376 right-handed Sudanese adults were measured. The results showed that all variables were significantly larger in males than in females. A significant positive correlation ($P < 0.001$) was found within the lower limb parts. Sex-specific linear equations and multiple regression equations were developed to reconstruct the lower limb parts in the presence of single dimension or multiple dimensions from the same limb. The use of multiple regression equations provided a better reconstruction than simple regression equations. These results are significant in forensics and orthopedic reconstructive surgery... [View Link Below for More]
A STUDY OF THE ANTHROPOMETRIC CORRELATIONS BETWEEN UPPER LIMB MEASUREMENTS FOR PERSONAL IDENTIFICATION IN SUDANESE POPULATION

AUTHOR(s): AHMED, A. A.

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ABSTRACT:
The presence of multiple isolated commingled fleshy limbs or limb parts generates a significant challenge for forensic investigators in wars, mass disasters, and criminal assaults in the process of identification. Although upper limb measurements have been used to establish individual identity in terms of sex and stature with high success, there is a scarcity of data concerning the correlations within upper limb parts. Hence, this study aims to assess the relationships within upper limb parts and develop regression formulae to reconstruct the parts from one another. The study participants were 376 Sudanese adults (187 males and 189 females). The results of this study indicated significant sexual dimorphism for all variables. The results indicated a significant correlation within the upper limb parts. Linear and multiple regression equations were developed to reconstruct the upper limb parts in the presence of a single or multiple dimension(s) from the identical limb. Multiple regression equations generated better reconstructions than simple equations. These results are significant in forensics and orthopedic reconstructive surgery...

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Intracellular Adenosine Formation and Release by Freshly-Isolated Vascular Endothelial Cells from Rat Skeletal Muscle: Effects of Hypoxia and/or Acidosis

Author(s): Le, G. Y., Essackjee, H. C., & Ballard, H. J.

Affiliation: Department of Physiology, The University of Hong Kong, Pokfulam, Hong Kong; King Saud Bin AbdulAziz University for Health Sciences, College of Basic Sciences, Riyadh, Saudi Arabia

Abstract:
Previous studies suggested indirectly that vascular endothelial cells (VECs) might be able to release intracellularly-formed adenosine. We isolated VECs from the rat soleus muscle using collagenase digestion and magnetic-activated cell sorting (MACS). The VEC preparation had >90% purity based on cell morphology, fluorescence immunostaining, and RT-PCR of endothelial markers. The kinetic properties of endothelial cytosolic 5'-nucleotidase suggested it was the AMP-preferring N-I isoform: its catalytic activity was 4 times higher than ecto-5'nucleotidase. Adenosine kinase had 50 times greater catalytic activity than adenosine deaminase, suggesting that adenosine removal in VECs is mainly through incorporation into adenine nucleotides. The maximal activities of cytosolic 5'-nucleotidase and adenosine kinase were similar. Adenosine and ATP accumulated in the medium surrounding VECs in primary culture. Hypoxia doubled the adenosine, but ATP was unchanged; AOPCP did not alter medium adenosine, suggesting that hypoxic VECs had released intracellularly-formed adenosine. Acidosis increased medium ATP, but extracellular conversion of ATP to AMP was inhibited, and adenosine remained unchanged. Acidosis in the buffer-perfused rat gracilis muscle elevated AMP and adenosine in the venous effluent, but AOPCP abolished the increase in adenosine, suggesting that adenosine is formed extracellularly by non-endothelial tissues during acidosis in vivo. Hypoxia plus acidosis increased medium ATP by a similar amount to acidosis alone and adenosine 6-fold; AOPCP returned the medium adenosine to the level seen with hypoxia alone. These data suggest that VECs release intracellularly formed adenosine in hypoxia, ATP during acidosis, and both under simulated ischaemic conditions, with further extracellular conversion of ATP to adenosine...[View Link Below for More]

Shortlink: 1.usa.gov/1i9LCmF
TWO NOVEL ALLELES HLA-DRB1*11:150 AND HLA-DRB1*14:145 IDENTIFIED IN SAUDI INDIVIDUALS

AUTHOR(S): FAKHOURY, H. A., CEREB, N., JAWDAT, D., AL JUMAH, M., ALASKAR, A. S. ET AL

AFFILIATION: DEPARTMENT OF BASIC SCIENCES, COLLEGE OF SCIENCE AND HEALTH PROFESSIONS, KING SAUD BIN ABDULAZIZ UNIVERSITY FOR HEALTH SCIENCES, NATIONAL GUARD HEALTH AFFAIRS, RIYADH, SAUDI ARABIA.

ABSTRACT:
Two new HLA-DRB1 alleles were identified by sequence-based typing method (SBT) in 1100 participants in the Saudi Stem Cell Donor Registry. HLA-DRB1*11:150 differs from HLA-DRB1*11:01:01G by a single C to A substitution at nucleotide position 5580 in exon 2, resulting in an amino acid change from alanine to glutamic acid at position 74. HLA-DRB1*14:145 differs from HLA-DRB1*14:04 by a C to G substitution at nucleotide position 5511 in exon 2, resulting in an amino acid change from threonine to arginine at position 51...

[View Link Below for More]
TWO NOVEL ALLELES HLA-A*02:433 AND HLA-A*02:434 IDENTIFIED IN SAUDI BONE MARROW DONORS USING SEQUENCE-BASED TYPING


AFFILIATION: DEPARTMENT OF BASIC SCIENCES, COLLEGE OF SCIENCE AND HEALTH PROFESSIONS, KING SAUD BIN ABDULAZIZ UNIVERSITY FOR HEALTH SCIENCES, NATIONAL GUARD HEALTH AFFAIRS, RIYADH, SAUDI ARABIA; KING ABDULLAH INTERNATIONAL MEDICAL RESEARCH CENTER.

ABSTRACT:
In this report, we present two novel HLA-A alleles: HLA-A*02:433 and HLA-A*02:434. These alleles were identified by sequence-based typing method (SBT), in two donors for the Saudi Bone Marrow Donor Registry (SBMDR). Allele A*02:433 is identical to A*02:05:01G except for a G to A substitution at nucleotide position 449 in exon 2. This substitution results in glycine to serine substitution at position 83. Whereas, allele A*02:434 is identical to A*02:01:01G except for a C to A substitution at nucleotide position 245 in exon 2, which results in phenylalanine to threonine substitution at position 15. The generation of both alleles appears to be the result of nucleotide point mutation involving 02:01:01 and 02:05:01. [...View Link Below for More]
RESVERATROL REVERSES CADMIUM CHLORIDE-INDUCED TESTICULAR DAMAGE AND SUBFERTILITY BY DOWNREGULATING P53 AND BAX AND UPREGULATING GONADOTROPINS AND BCL-2 GENE EXPRESSION


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ABSTRACT:
This study was performed to investigate the protective and therapeutic effects of resveratrol (RES) against CdCl2-induced toxicity in rat testes. Seven experimental groups of adult male rats were formulated as follows: A) controls+NS, B) control+vehicle (saline solution of hydroxypropyl cyclodextrin), C) RES treated, D) CdCl2+NS, E) CdCl2+vehicle, F) RES followed by CdCl2 and M) CdCl2 followed by RES. At the end of the protocol, serum levels of FSH, LH and testosterone were measured in all groups, and testicular levels of TBARS and superoxide dismutase (SOD) activity were measured. Epididymal semen analysis was performed, and testicular expression of Bcl-2, p53 and Bax was assessed by RT-PCR. Also, histopathological changes of the testes were examined microscopically. Administration of RES before or after cadmium chloride in rats improved semen parameters including count, motility, daily sperm production and morphology, increased serum concentrations of gonadotropins and testosterone... [View Link Below for More]

SHORTLINK: bit.ly/1OBL8PW
Memory is greatly influenced by factors like food, stress and quality of sleep, hence present study was designed to evaluate the effect of Citrus limon and Pomegranate juices on memory of mice using Harvard Panlab Passive Avoidance response apparatus controlled through LE2708 Programmer. Passive avoidance is fear-motivated tests used to assess short or long-term memory of small animals, which measures latency to enter into the black compartment. Animals at MCLD showed highly significant and significant increase in latency to enter into the black compartment after 3 and 24 hours respectively than control, animals at HCLD showed significant increase in latency only after 3 hours. Animals both at low and moderate doses of pomegranate showed significant increase in test latency after 3 hours, while animals at high dose showed highly significant and significant increase in latency after 3 and 24 hours respectively. There was highly significant and significant increase in latency in animals at CPJ-1 combination after 3 and 24 hours respectively; however animals received CPJ-2 combination showed significant increase in latency only after 3 hours as compare to control. These results suggest that Citrus limon and Pomegranate has phytochemicals and essential nutrients which boost memory, particularly short term memory. Hence it may be concluded that flavonoids in these juices may be responsible for memory enhancing effects and a synergistic effect is observed by CPJ-1 and CPJ-2 combinations...[View Link Below for More]
DNA MISMATCH REPAIR MSH2 GENE-BASED SNP ASSOCIATED WITH DIFFERENT POPULATIONS

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ABSTRACT:
We screened for the major essential single-nucleotide polymorphism (SNP) variant that might be associated with the MSH2 gene based on the data available from three types of human tissue samples [156 lymphoblastoid cell variations (LCL), 160 epidermis, 166 fat]. An association analysis confirmed that the KCNK12 SNP variant (rs748780) was highly associated (p value 9 x 10(-4)) with the MSH2 gene for all three samples. Using SNP identification, we further found that the recognized SNP was also relevant among Hapmap populations. Techniques that display specific SNPs associated with the gene of interest or nearby genes provide more reliable genetic associations than techniques that rely on data from individual SNPs. We investigated the MSH2 gene regional linkage association with the determined SNP (rs748780), KCNK12 variant (Allele T>C) in the intronic region, in HapMap3 full dataset populations, Yoruba in Ibadan, Nigeria (YRI), Utah residents with ancestry from northern Europe (CEU), Han Chinese in Beijing, China (CHB), and a population of Mexican ancestry in Los Angeles, California (MEX). A gene-based SNP association analysis analyzes the combined impact of every variant within the gene while creating referrals to linkage disequilibrium or connections between markers. Our results indicated that among the four populations studied, this association was highest in the MEX population based on the r (2) value; a similar pattern was also observed in the other three populations. The relevant SNP rs748780 in KCNK12 is related to a superfamily of potassium channel pore-forming P-domain proteins as well as to other non-pore-forming proteins and has been shown to be relevant to neurological disorder predisposition in MEX as well as in other populations...[View Link Below for More]
EVIDENCE OF TREM2 VARIANT ASSOCIATED WITH TRIPLE RISK OF ALZHEIMER'S DISEASE

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ABSTRACT:
Alzheimer’s disease is one of the main causes of dementia among elderly individuals and leads to the neurodegeneration of different areas of the brain, resulting in memory impairments and loss of cognitive functions. Recently, a rare variant that is associated with 3-fold higher risk of Alzheimer’s disease onset has been found. The rare variant discovered is a missense mutation in the loop region of exon 2 of Trem2 (rs75932628-T, Arg47His).

The aim of this study was to investigate the evidence for potential structural and functional significance of Trem2 gene variant (Arg47His) through molecular dynamics simulations. Our results showed the alteration caused due to the variant in TREM2 protein has significant effect on the ligand binding affinity as well as structural configuration. Based on molecular dynamics (MD) simulation under salvation, the results confirmed that native form of the variant (Arg47His) might be responsible for improved compactness, hence thereby improved protein folding. Protein simulation was carried out at different temperatures. At 300K, the deviation of the theoretical model of TREM2 protein increased from 2.0 Å at 10 ns. In contrast, the deviation of the Arg47His mutation was maintained at 1.2 Å until the end of the simulation (t = 10 ns), which indicated that Arg47His had reached its folded state. The mutant residue was a highly conserved region and was similar to “immunoglobulin V-set” and “immunoglobulin-like folds”. Taken together, the result from this study provides a biophysical insight on how the studied variant could contribute to the genetic susceptibility to Alzheimer’s disease.

SHORTLINK: bit.ly/1JJ36g2
ABSTRACT:

Objective: To determine the immune abnormalities and occurrence of infections in transfusion-dependent β-thalassemia major patients receiving oral iron chelator deferasirox (DFX). Study Design: An observational study.

Place and Duration of Study: Hematology Clinics, King Khalid University Hospital, Riyadh, Saudi Arabia, from July to December 2010.

Methodology: Seventeen patients with β-thalassemia major (12 females, median age 26 years) receiving deferasirox (DFX) for a median duration of 27 months were observed for any infections and had their immune status determined. Immune parameters studied included serum immunoglobulins and IgG subclasses, serum complement (C3 and C4) and anti-nuclear antibody (ANA) level, total B and T-lymphocytes, CD4+ and CD8+ counts, CD4+/CD8+ ratio, and natural killer (NK) cells. Immunological parameters of the patients were compared with age, gender, serum ferritin level and splenectomy status. Lymphocyte subsets were also compared with age and gender matched normal controls.

Results: A considerable reduction in serum ferritin was achieved by DFX from a median level of 2528 to 1875 µmol/l. Serum IgG levels were increased in 7 patients. Low C4 levels were found in 9 patients. Total B and T-lymphocytes were increased in 14 patients each, while CD4+, CD8+ and NK cells were increased ... [View Link Below for More]
A COMPREHENSIVE ANALYSIS OF BREAKPOINT CLUSTER REGION-ABELSON FUSION ONCOGENE SPLICE VARIANTS IN CHRONIC MYELOID LEUKEMIA AND THEIR CORRELATION WITH DISEASE BIOLOGY

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ABSTRACT:

Background: BCR-ABL fusion oncogene is a hallmark of Chronic Myeloid Leukemia (CML). It results due to translocation between chromosome 22 and chromosome 9 [t (9; 22)(q34; q11)]. It gives rise to translation of a 210 KDa chimeric protein (p210), leading to enhanced tyrosine kinase activity and activation of leukemogenic pathways, ultimately causing onset of CML. In case of CML, the classic fusions are b2a2 or b3a2, fusing exon 13 (b2) or exon 14 (b3) of BCR, respectively, to exon 2 (a2) of ABL. The type of BCR-ABL transcripts are thought to be have different prognosis and hence useful in clinical decision-making. The frequencies of different fusion oncogenes associated with leukemia can vary in different ethnic groups and geographical regions due to interplay of genetic variation in different ethnic populations, diverse environmental factors and living style. Moreover, earlier relevant studies from our region were carried out in small subset of patients. Therefore, objective of this study was to find out frequencies of different BCR-ABL splice variants in larger subset of CML patients.

Methods: A nested reverse transcriptase polymerase chain reaction (RT-PCR) was established to detect BCR-ABL splice variants in 130 CML patients. Sensitivity of RT-PCR and ability to detect BCR-ABL fusion gene in least possible time was studied.

Results: BCR-ABL detection using our optimized RT-PCR protocol could be completed in 8 hours, starting from RNA extraction to Gel electrophoresis. Sensitivity of RT-PCR assay was of the order of 10−6. Out of 130 Pakistani patients, 83 (63.84%) expressed b3a2 while 47 (36.15%) expressed b2a2 transcript...[View Link Below for More]

SHORTLINK: 1.usa.gov/1FFcvUd
Molecular genetic studies on 167 pediatric ALL patients from different areas of Pakistan confirm a low frequency of the favorable prognosis fusion oncogene TEL-AML1 (t 12; 21) in underdeveloped countries of the region

Author(s): Iqbal, Z.

Affiliation: Department of Clinical Laboratory Sciences, College of Applied Medical Sciences, King Saud Bin Abdulaziz University of Health Sciences, Riyadh, Saudi Arabia

Abstract:
TEL-AML1 fusion oncogene (t 12; 21) is the most common chromosomal abnormality in childhood acute lymphoblastic leukemia (ALL). This translocation is associated with a good prognosis and rarely shows chemotherapeutic resistance to 3-drug based remission induction phase of treatment as well as overall treatment. Thus, the higher the frequency of this fusion oncogene, the easier to manage childhood ALL in a given region with less intensive chemotherapy. Although global frequency of TEL-AML1 has been reported to be 20-30%, a very low frequency has been found in some geographical regions, including one study from Lahore, Punjab, Pakistan and others from India. The objective of present study was to investigate if this low frequency of TEL-AML1 in pediatric ALL is only in Lahore region or similar situation exists at other representative oncology centers of Pakistan. A total of 167 pediatric ALL patients were recruited from major pediatric oncology centers situated in Lahore, Faisalabad, Peshawar and Islamabad. Patients were tested for TEL-AML1 using nested reverse transcription polymerase chain reaction (RT-PCR). Only 17 out of 167 (10.2%) patients were found to be TEL-AML1 positive. TEL-AML1+ALL patients had favorable prognosis, most of them (82.4%, 14/17) showing early remission and good overall survival. Thus, our findings indicate an overall low frequency of TEL-AML1 in Pakistan pediatric ALL patients, in accordance with lower representation of this prognostically important genetic abnormality in other less developed countries, specifically in south Asia, thus associating it with poor living standards in these ethnic groups. It also indicates ethnic and geographical differences in the...[View Link Below for More]
SELF-REPORTED ATTITUDES AND BEHAVIOURS OF MEDICAL STUDENTS IN PAKISTAN REGARDING ACADEMIC MISCONDUCT: A CROSS-SECTIONAL STUDY

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ABSTRACT:
Background: Honesty and integrity are key attributes of an ethically competent physician. However, academic misconduct, which includes but is not limited to plagiarism, cheating, and falsifying documentation, is common in medical colleges across the world. The purpose of this study is to describe differences in the self-reported attitudes and behaviours of medical students regarding academic misconduct depending on gender, year of study and type of medical institution in Pakistan.

Methods: A cross sectional study was conducted with medical students from one private and one public sector medical college. A pre-coded questionnaire about attitudes and behaviours regarding plagiarism, lying, cheating and falsifying documentation was completed anonymously by the students.

Results: A total of 465 medical students filled the questionnaire. 53% of private medical college students reported that they recognize copying an assignment verbatim and listing sources as references as wrong compared to 35% of public medical college students. 26% of private medical college students self-report this behaviour as compared to 42% of public medical college students. 22% of private versus 15% of public medical college students and 21% of students in clinical years compared to 17% in basic science ... [View Link Below for More]
Modified cytoplasmic Ca\textsuperscript{2+} sequestration contributes to spinal cord injury-induced augmentation of nerve-evoked contractions in the rat tail artery

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**Abstract:**

In rat tail artery (RTA), spinal cord injury (SCI) increases nerve-evoked contractions and the contribution of L-type Ca\textsuperscript{2+} channels to these responses. In RTAs from unoperated rats, these channels play a minor role in contractions and Bay K8644 (L-type channel agonist) mimics the effects of SCI. Here we investigated the mechanisms underlying the facilitatory actions of SCI and Bay K8644 on nerve-evoked contractions of RTAs and the hypothesis that Ca\textsuperscript{2+} entering via L-type Ca\textsuperscript{2+} channels is rapidly sequestered by the sarcoplasmic reticulum (SR) limiting its role in contraction. In situ electrochemical detection of noradrenaline was used to assess if Bay K8644 increased noradrenaline release. Perforated patch recordings were used to assess if SCI changed the Ca\textsuperscript{2+} current recorded in RTA myocytes. Wire myography was used to assess if SCI modified the effects of Bay K8644 and of interrupting SR Ca\textsuperscript{2+} uptake on nerve-evoked contractions. Bay K8644 did not change noradrenaline-induced oxidation currents. Neither the size nor gating of Ca\textsuperscript{2+} currents differed between myocytes from sham-operated (control) and SCI rats. Bay K8644 increased nerve-evoked contractions in RTAs from both control and SCI rats, but the magnitude of this effect was reduced by SCI. By contrast, depleting SR Ca\textsuperscript{2+} stores with ryanodine or cyclopiazonic acid selectively increased nerve-evoked contractions in control RTAs. Cyclopiazonic acid also selectively increased the blockade of these responses by nifedipine (L-type channel blocker) in control RTAs, whereas ryanodine increased the blockade produced by nifedipine in both groups of RTAs. These findings suggest that Ca\textsuperscript{2+} entering via L-type channels is normally rapidly sequestered limiting its access to the contractile mechanism. Furthermore, the findings suggest SCI reduces the role of this mechanism....[View Link Below for More]

**Shortlink:** bit.ly/1KjgACU
NEONATAL GRAVES' DISEASE WITH UNUSUAL METABOLIC ASSOCIATION FROM PRESENTATION TO RESOLUTION

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ABSTRACT:
Neonatal Graves' disease is a rare disorder seen in 1 in 25 000 births and in 1% of the offspring of mothers with either established or cured Graves' disease. This is due to transplacental passage of thyroid-stimulating immunoglobulins (TSIs). A higher TSI titre in maternal serum makes hyperthyroidism more likely in the fetus or newborn; however, not all fetuses born by women with positive TSIs develop overt hyperthyroidism. In spite of its rarity, its serious nature (if not treated) and its association with multisystem abnormalities justifies careful clinical screening and management. We report a preterm 30 weeks neonate with neonatal thyrotoxicosis secondary to untreated maternal Graves' disease who, in addition to the typical hyperthyroidism symptoms, had unusual metabolic associations of neonatal cholestasis and hyperammonaemia. The patient was treated accordingly with a good response. This report supports previous reports on the association between neonatal hyperthyroidism and cholestatic liver disease. However, it is the second case report to describe the unusual association of hyperammonaemia and neonatal Graves' disease...[View Link Below for More]
Cerebral venous sinus thrombosis is a rare serious neurological disorder that may cause vital or morbid consequences if not diagnosed and treated promptly. It is a unique cerebrovascular disorder that predominantly affects adults in their third and fourth decades. The incidence of CVST in adults is estimated to be 4 cases per million of the population, and 7 cases per million in children. In the last 2 decades, the awareness and prognosis of the disease have improved due to development of sophisticated neuroimaging techniques and effective treatment. This comprehensive review of the topic aims to improve knowledge among neurologists and internists who are involved in the management of these patients...[View Link Below for More]

SHORTLINK: bit.ly/1KkTBaA
GENERALIZED MYOCLONUS AND SPASTICITY INDUCED BY LAMOTRIGINE TOXICITY: A CASE REPORT AND LITERATURE REVIEW


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

AUTHOR(S): ALGAHTANI, H. A., ALDARMAHI, A. A., AL-RABIA, M. W., & BAEESA, S. S.

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

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ABSTRACT:
Dyke Davidoff Masson syndrome (DDMS) refers to atrophy or hypoplasia of one cerebral hemisphere following a prior fetal or childhood insult. It has characteristics of clinical and radiological changes. These changes include hemiparesis, seizures, facial asymmetry, and mental retardation. We present a 25-year-old man with crossed cerebrocerebellar atrophy and DDMS. His seizures were well controlled using a combination of antiepileptic drugs...[View Link Below for More]
TUMOUR-LIKE PRESENTATION OF CENTRAL NERVOUS SYSTEM TUBERCULOSIS: A RETROSPECTIVE STUDY IN KINGDOM OF SAUDI ARABIA

AUTHOR(S): ALGAHTANI, H. A., ALDARMAHI, A. A., ALGAHTANI, A. Y., AL-RABIA, M. W., & SAMKARI, A. M.

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ABSTRACT:

Objective: To differentiate the tumour-like presentation of central nervous system (CNS) tuberculosis (TB) from CNS tumours.

Methods: We conducted a retrospective chart review of all cases of CNS TB seen at King Abdulaziz Medical City, Jeddah, between January 2002 and January 2012. No symptoms or signs of pulmonary or systemic TB were found. Of the 125 patients with CNS TB, 9 (7.2%) presented with clinical and radiological features suggestive of a brain tumour.

Results: A diagnosis of tuberculoma was established either intraoperatively in frozen sections (three patients) or postoperatively when the masses were resected (six patients). After surgery, seven patients recovered after receiving anti-TB treatment; one patient died, and another developed a severe neurological deficit.

Conclusion: CNS TB is a great mimicker of brain tumours, and the index of suspicion should be high, especially in endemic areas. A diagnosis is based on clinical presentation and the results of investigations. In patients with CNS TB that present with a mass lesion, a biopsy should be taken to avoid morbidity and mortality from an unnecessary surgical intervention. Greater use should be made of magnetic resonance spectroscopy in the evaluation of brain space-occupying lesions, and CNS TB should be included in the differential diagnosis of such lesions in all areas endemic for TB. The absence of ...[View Link Below for More]
SPIROMETRIC REFERENCE VALUES FOR HEALTHY NONSMOKING SAUDI ADULTS

AUTHOR(S): AL GHOBAIN, M. O., ALHAMAD, E. H., ALORAINY, H. S., AL HAZMI, M., AL MOAMARY, M. S., ET AL.

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ABSTRACT:

Objectives: To derive prediction equations of spirometric values of healthy Saudi adults and to compare the derived equations with equations reported in selected population.

Methods: Cross-sectional study of healthy nonsmoking men and women Saudi adults. The measured spirometric values were the forced vital capacity (FVC), forced expiratory volume in 1 s (FEV1), peak expiratory flow (PEF) and forced mid-expiratory flow (FEF 25%–75%).

Results: A total of 621 spirometric tests were done. The prediction equations were derived using the following formula: Predicted spirometric value = constant + (b1 × age) + (b2 × height (cm)), where b1 and b2 represent the regression coefficients for age and height, respectively.

The means of the measured FVC and FEV1 were significantly lower than the predicted values derived by the American equations of −7.2% and −4.6% among males, respectively (P value < 0.00001), and −4.7%, and −5.26% among females, respectively (P value < 0.00001).

Conclusion: The reference spirometric values derived in our study were significantly lower than the predicted values derived by the American equations....[View Link Below for More]
MODULATION OF INSULIN/IGFs PATHWAYS BY SIRTUIN-7 INHIBITION IN DRUG-INDUCED CHEMOREISTANCE

AUTHOR(s): ALJADA, A., SALEH, A., & ALSUWAIDAN, S.

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ABSTRACT:

Background: Insulin and insulin-like growth factors (IGFs) are key regulators of metabolism and growth. Recent evidences suggest a key role of these pathways in non-classical tissues and the metabolic pathways by which these hormones exert their effects in neoplasia is unclear.

Aims: To study insulin/IGFs pathways in drug sensitive and resistant cancer cells representing breast cancer (MCF-7), osteosarcoma (SaOS-2), and ovarian cancer (A2780) and to examine the effect of Sirtuin-7 (Sirt7) inhibition on insulin/IGFs pathways in MCF-7 cell line.

Methods: Drug resistant cells were generated by continuous incubation of parental cell lines with stepwise increases in Doxorubicin or Cisplatin over a period of 3 to 6 months. MCF-7 cells were transfected with cloned hairpin siRNA template for Sirt7 using the Amaxa GmbH transfection system. mRNA expression of Sirt7, INSR, IRS-1, IRS-2, IRS-4, IGF-1, IGF-2, MDR-1, MRP-1, BCRP was measured by qPCR and Sirt7 by standard Western blotting. FITC-insulin uptake was imaged with Leica Confocal Microscope.

Results: Insulin receptor (INSR), insulin receptor substrate-1 (IRS-1) were inhibited in drug-induced resistance, whereas IRS-2 was significantly induced in all the chemoresistant cells tested when compared to their parental counterparts. IGF-1 and IGF-2 were also upregulated in all the drug resistant cells tested. ...

SHORTLINK: bit.ly/1QjJDXZ
PULMONARY REHABILITATION: A REGIONAL PERSPECTIVE EVIDENCED-BASED REVIEW

AUTHOR(S): AL MOAMARY, M., ALORINY, H., & AL-HAJJAJ, M.

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ABSTRACT:
Pulmonary rehabilitation (PR) is an integral component of the comprehensive management plan of patients with chronic lung diseases by addressing their functional and psychological deficits. PR is generally recommended to symptomatic patients with chronic lung diseases who develop shortness of breath on their own pace at level ground while receiving optimum therapy. From a regional perspective, this review covers the description of a PR program, its establishment and outcome assessment...

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**Abstract:**
The Saudi Thoracic Society (STS) launched the Saudi Initiative for Chronic Airway Diseases (SICAD) to develop a guideline for the diagnosis and management of chronic obstructive pulmonary disease (COPD). This guideline is primarily aimed for internists and general practitioners. Though there is scanty epidemiological data related to COPD, the SICAD panel believes that COPD prevalence is increasing in Saudi Arabia due to increasing prevalence of tobacco smoking among men and women. To overcome the issue of underutilization of spirometry for diagnosing COPD, handheld spirometry is recommended to screen individuals at risk for COPD. A unique feature about this guideline is the simplified practical approach to classify COPD into three classes based on the symptoms as per COPD Assessment Test (CAT) and the risk of exacerbations and hospitalization. Those patients with low risk of exacerbation (<2 in the past year) can be classified as either Class I when they have less symptoms (CAT < 10) or Class II when they have more symptoms (CAT ≥ 10). High-risk COPD patients, as manifested with ≥2 exacerbation or hospitalization in the past year irrespective of the baseline symptoms, are classified as Class III. Class I and II patients require bronchodilators for symptom relief, while Class III patients are recommended to use medications that reduce the risks of exacerbations. The guideline recommends screening for co-morbidities and suggests a comprehensive management approach including pulmonary...[View Link Below for More]
WILL ANY FUTURE INCREASE IN CIGARETTE PRICE REDUCE SMOKING IN SAUDI ARABIA?

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ABSTRACT:

Background: Insulin and insulin-like growth factors (IGFs) are key regulators of metabolism and growth. Recent evidences suggest a key role of these pathways in non-classical tissues and the metabolic pathways by which these hormones exert their effects in neoplasia is unclear.

Aims: To study insulin/IGFs pathways in drug sensitive and resistant cancer cells representing breast cancer (MCF-7), osteosarcoma (SaOS-2), and ovarian cancer (A2780) and to examine the effect of Sirtuin-7 (Sirt7) inhibition on insulin/IGFs pathways in MCF-7 cell line.

Methods: Drug resistant cells were generated by continuous incubation of parental cell lines with stepwise increases in Doxorubicin or Cisplatin over a period of 3 to 6 months. MCF-7 cells were transfected with cloned hairpin siRNA template for Sirt7 using the Amaxa GmbH transfection system. mRNA expression of Sirt7, INSR, IRS-1, IRS-2, IRS-4, IGF-1, IGF-2, MDR-1, MRP-1, BCRP was measured by qPCR and Sirt7 by standard Western blotting. FITC-insulin uptake was imaged with Leica Confocal Microscope....[View Link Below for More]
CEREBRAL SINUS VENOUS THROMBOSIS IN A CHILD WITH NEPHROTIC SYNDROME

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ABSTRACT:
Cerebral venous thrombosis (CVT) as a complication in children with nephrotic syndrome is rarely reported. Although clinical characteristics are increasingly recognized, therapeutic management and clinical outcomes are not well documented. This case report presents a 10-year-old female who presented with dehydration associated with headache and decreased level of consciousness, which required intubation. Brain imaging revealed CVT. Thrombolytic therapy was started, and she showed a good clinical, as well as radiological recovery. The literature was reviewed to highlight the benefit of such therapy in cases with life threatening complications...[View Link Below for More]

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Clinical, Pathologic, and Mutational Spectrum of Dystroglycanopathy Caused by LARGE Mutations


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Abstract:
Dystroglycanopathies are a subtype of congenital muscular dystrophy of varying severity that can affect the brain and eyes, ranging from Walker-Warburg syndrome with severe brain malformation to milder congenital muscular dystrophy presentations with affected or normal cognition and later onset. Mutations in dystroglycanopathy genes affect a specific glycoepitope on [alpha]-dystroglycan; of the 14 genes implicated to date, LARGE encodes the glycosyltransferase that adds the final xylose and glucuronic acid, allowing [alpha]-dystroglycan to bind ligands, including laminin 211 and neurexin. Only 11 patients with LARGE mutations have been reported. We report the clinical, neuroimaging, and genetic features of 4 additional patients. We confirm that gross deletions and rearrangements are...

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PREDICTORS AND OUTCOMES OF CANDIDA BLOODSTREAM INFECTION: EIGHT-YEAR SURVEILLANCE, WESTERN SAUDI ARABIA

AUTHOR(S): Al Thaqafi, A. H. O., Farahat, F. M., Al Harbi, M. I., Al Amri, A. F. W., & Perfect, J. R.

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ABSTRACT:

Objectives: To assess the epidemiological pattern of Candida bloodstream infection (BSI) over an 8-year period (2002–2009) in King Abdulaziz Medical City, western Saudi Arabia.

Method: A retrospective chart review was performed.

Results: A total of 258 BSI were identified in 134 males (53.2%) and 118 females (46.8%). More than half of the patients were admitted to intensive care units (ICUs) (54.8%) [Au?1]. There were 86 (34.1%) cases of Candida albicans and 166 (65.9%) non-albicans Candida species. Malignancy was independently associated with the development of candidemia by non-albicans Candida species (odds ratio 3.24, 95% confidence interval 1.25–8.41).

Fluconazole in vitro susceptibility was 38.5% for C. albicans and 52.5% for other Candida species. The overall, crude 12-month mortality rate was 50% for C. albicans and 57.8% for non-albicans Candida species....[View Link Below for More]
Giant prolactinomas: clinical manifestations and outcomes of 16 Arab cases

Author(s): Almalki, M. H., Buhary, B., Alzahrani, S., Alshahrani, F., Alsherbeni, S., et al

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Abstract:

Background: The management of giant prolactinomas remains a major challenge, despite dopamine agonists being the first line of treatment, owing to its efficacy to normalize prolactin levels and reduce tumor volume. The aim of this study is to characterize the therapeutic aspects, manifestations and outcomes of 16 cases of giant prolactinomas admitted at a single tertiary center in Riyadh, Saudi Arabia.

Methods: Retrospective data collection involving 16 Saudi patients diagnosed with giant prolactinoma at the Pituitary Clinic in King Fahad Medical City, Riyadh, Saudi Arabia between January 2006 and July 2012.

Results: A total of 16 patients (ten males; six females) with age of diagnosis between 21 and 55 years (mean 34.9 years) were included in the analysis. The most common presenting features include headache, visual defects and sexual dysfunction. Baseline mean serum prolactin level were extremely high for both sexes which eventually decreased by as much as 97% after cabergoline treatment. Serum prolactin concentrations completely normalized in six patients and significantly decreased in five patients 3-5 times that of normal range. Tumor volume also decreased by an average of 86% for males and 87% for females. Two patients had no tumor size change with cabergoline and required surgery.

Conclusion: Findings indicate that cabergoline provides dramatic clinical improvements with excellent safety profile. Cabergoline should therefore be considered as the primary therapy for giant prolactinomas. [View Link Below for More]
EXERCISE PROTECTS AGAINST OBESITY INDUCED SEMEN ABNORMALITIES VIA DOWNREGULATING STEM CELL FACTOR, UPREGULATING GHRELIN AND NORMALIZING OXIDATIVE STRESS

AUTHOR(s): ALHASHEM, F., ALKHATEEB, M., ALSHAHRANI, M., ELREFAY, H., ALSUNAIDI, M., KHALIL, M., et al


ABSTRACT:

Increased oxidative stress and hormonal imbalance have been hypothesized to underlie infertility in obese animals. However, recent evidence suggests that Ghrelin and Stem Cell Factor (SCF) play an important role in fertility, in lean individuals. Therefore, this study aimed at investigating whether changes in the levels of Ghrelin and SCF in rat testes underlie semen abnormal parameters observed in obese rats, and secondly, whether endurance exercise or Orlistat can protect against changes in Ghrelin, SCF, and/or semen parameters in diet induced obese rats. Obesity was modelled in male Wistar rats using High Fat Diet (HFD) 12-week protocol. Eight week-old rats (n=40) were divided into four groups, namely, Group I: fed with a standard diet (12 % of calories as fat); Group II: fed HFD (40 % of calories as fat); Group III: fed the HFD with a concomitant dose of Orlistat (200 mg/kg); and Group IV: fed the HFD ...[View Link Below for More]
EVALUATION OF HYPOGLYCEMIC AND HYPOLIPIDEMIC ACTIVITY OF METHANOL EXTRACT OF BRASSICA OLERACEA

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ABSTRACT:

Aim: The hypoglycemic and hypolipidemic effects of the methanol extract of Brassica oleracea var. capitata (MEB) was evaluated in alloxan-induced diabetic rabbits.

Method: The study was conducted on twenty-eight healthy white rabbits of either sex. All animals were equally divided into four groups. After confirmation of hyperglycemia, the animals of the treated and standard groups were administered MEB (500 mg·kg(-1)) and glibenclamide (10 mg·kg(-1)), respectively for 15 and 30 days. The animals of the normal and diabetic controls received normal saline 1 mL/day equivalent to the volume of doses given to the test and standard animals. Biochemical tests were performed at the end of dosing, i.e. the 16(th) and 31(st) days.

Results: The MEB revealed a decrease of 106.6 mg·dL(-1) in fasting blood glucose as compared to diabetic control, which was almost comparable to glibenclamide; both of these changes were highly significant. The decrease in total cholesterol and low density lipoprotein was 94.3 and 96.5 mg·dL(-1), respectively, whereas the high-density lipoprotein was increased by 26.7 mg·dL(-1), as compared to diabetic control. All of the changes in lipid profile were statistically significant.

Conclusion: These results suggest the potential of MEB as a hypoglycemic and hypolipidemic agent.

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EFFECT OF CARTHAMUS TINCTORIUS (SAFFLOWER) ON FASTING BLOOD GLUCOSE AND INSULIN LEVELS IN ALLOXAN INDUCED DIABETIC RABBITS

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ABSTRACT:
Diabetes mellitus is a major threat to present and future generations. The role of herbal medication has emerged as a safe alternative to currently available medication due to its decreased potential to produce side effects, hence effect of Carthamus tinctorius was observed on fasting blood glucose and insulin levels in alloxan induced diabetic rabbits. Thirty five healthy male rabbits were divided into 5 groups with 7 rabbits in each (Normal control, diabetic control, diabetic treated with glibenclamide, diabetic treated with Carthamus tinctorius extract at doses of 200 and 300mg/kg of body weight). Drug and extract were given orally for 30 days and the values for blood glucose levels were observed after 15th and 30th day of treatment by using standard reagent kits provided by Human Germany. While insulin levels were checked at the end of the study by using Architect i1000 by Abbott Diagnostics USA. Animals were also observed for any gross toxicity during the study. Results revealed that Carthamus tinctorius has significant hypoglycemic effect at 200mg/kg and 300mg/kg doses as compared to diabetic control group. Insulin levels were significantly increased in Glibenclamide treated as well as Carthamus tinctorius treated groups as compared to diabetic control...[View Link Below for More]
IS ENVIRONMENTAL TEMPERATURE RELATED TO RENAL SYMPTOMS, SERUM LITHIUM LEVELS, AND OTHER LABORATORY TEST RESULTS IN CURRENT LITHIUM USERS

AUTHOR(S): REJ, S., ALAQEEL, B., SEGAL, M., LOW, N. C. P., MUCSI, I., ET AL.

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ABSTRACT:

Objective Lithium continues to be an important mood disorder treatment. Although patients exposed to higher environmental temperatures may have serum lithium level elevations due to dehydration, there is conflicting data in the literature. In addition, no study has assessed the association between temperature and other renal laboratory tests and symptoms in lithium users. Methods This is a cross-sectional analysis of 63 current lithium users who participated in the McGill Geriatric Lithium-induced Diabetes Insipidus Clinical Study. The relationship between mean daily temperature with diabetes insipidus symptoms, glomerular filtration rate, urine osmolality, serum sodium, lithium level, and lithium dose–level ratio was assessed. Results Although a higher temperature on the day of laboratory testing trended toward being independently associated with a lower lithium dose–level ratio (Beta = 0.17, p = 0.08), this was not found when using a dichotomous measure of temperature (T > 20°C). No association was observed between temperature and other renal parameters. Conclusions The association of temperature with lithium levels, renal symptoms, and laboratory tests appears to be of relatively little clinical importance in lithium users in temperate climates. However, future research should re-examine patients living in climates with extreme temperatures (e.g., >40°C), who may theoretically be at higher risk...

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IN VITRO/IN VIVO EFFECT OF CITRUS LIMON (L. BURM. F.) JUICE ON BLOOD PARAMETERS, COAGULATION AND ANTICOAGULATION FACTORS IN RABBITS

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ABSTRACT:
The genus Citrus of the family Rutaceae includes many species e.g. Citrus indica, Citrus aurantifolia and Citrus limon, among which Citrus limon L. Burm. f. has been reported to have highest antimicrobial activity. It is used as antidote against certain venom, due to its platelet inhibitory effect and also reported to have hypocholesterolemic effect. However its anticoagulant and thrombolytic effect were not been investigated, hence a prospective in-vitro/in-vivo study was designed to determine the effect of Citrus limon on blood parameters, coagulation and anticoagulation factors. Invitro tests revealed highly significant increase in thrombin time and activated partial thromboplastin time by Citrus limon, whereas fibrinogen concentration was significantly reduced in comparison to control, however prothrombin time was not affected significantly. In-vivo testing of Citrus limon was done at three different doses i.e. 0.2ml/kg, 0.4ml/kg and 0.6ml/kg in healthy rabbits. Significant changes were observed in hematological parameters such as erythrocytes, hemoglobin and mean corpuscular hemoglobin concentration. Bleeding time and thrombin time was significantly prolonged and there was increase in protein C and thrombin antithrombin complex levels. These results may be due to inactivation of thrombin because it significantly decreases fibrinogen concentration and inhibit platelet aggregation. Citrus limon showed maximal anticoagulant effect at 0.4ml/kg, which suggest that Citrus limon possesses an antithrombin component and could prevent thrombosis playing a cardio protective role....[View Link Below for More]

SHORTLINK: bit.ly/1MaQwcP
IFN-gamma and TNF associated with severe falciparum malaria infection in Saudi pregnant women

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Abstract:

Background: Tumour necrosis factor (TNF) and interferon gamma (IFN-γ), encoded by TNF-836 C/A (rs 1800630) and IFN-γ-1616 C/T (rs2069705) genes, are key immunological mediators that are believed to both play protective and pathological roles in malaria. The aim of this study was to investigate the relationship between TNF-836 C/A and IFN-γ-1616 C/T polymorphism and susceptibility to severe malaria in pregnant women.

Methods: A prospective cohort (cross-sectional) study was conducted in pregnant women attending the out-patient clinic in King Fahad Specialist Hospital in Jazan (KFSHJ), with a clinical diagnosis of malaria. A total of one hundred and eighty six pregnant women were genotyped for single nucleotide polymorphism (SNP) for TNF and IFN-γ using Taqman® MGB Probes. Serum cytokine concentrations were measured by sandwich ELISA method.

Results: A hospital case–control study of severe malaria in a Saudi population identified strong associations with individual single-nucleotide polymorphisms in the TNF and IFN-γ genes, and defined TNF-836 C and IFN-γ-1616 T genotypes and alleles which were statistically significantly associated with ...[View Link Below for More]

Shortlink: bit.ly/1M8D4pB
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ABSTRACT:
Progressive Multifocal Leucoencephalopathy (PML) is a demyelinating disorder caused by the reactivation of a latent virus in immunosuppressed individuals (usually as a result of Human Immune Deficiency virus infection [HIV] or Acquired Immune Deficiency Syndrome [AIDS]). This report highlights the case of a young man with PML who initially presented with psychosis but was, in fact, in a state of delirium. This was followed by a rapid global cognitive decline and eventually a terminal state. The case is interesting as an unusual diagnosis underlying a common clinical presentation....[View Link Below for More]
Recent technological advances are causing traditional teaching methods to evolve, resulting in considerable changes to the classroom environment. Thanks to new technologies, learning and teaching are no longer bounded to specific geographical locations. Distance learning is increasingly used to supplement traditional classroom learning in an effort to enhance the learning experience and help students learn more (Fillion, Limayem & Bouchard, 1999). Distance education uses information and communication technologies in order to provide educational opportunities to students who want to learn despite being unable to attend the academic institution due to time constraints or distance (Hassandoust & Kazerouni, 2011; Fillion, Limayem & Bouchard, 1999). Video conferencing is one of a number of useful technologies that can be used in distance education settings (Willis, 1996). Video conferencing is, first and foremost, an information technology created through the merging of telecommunications and computer science (Fillion, Limayem & Bouchard, 1999). It can provide students with access to education even if they live away from campus or cannot travel, for any number of reasons, to the university site (Woodruff & Mosby, 1996; Brady, 1997). It supports the use of traditional equipment that is normally used in an interactive classroom, such as blackboards, white boards, documents and projectors (Reed & Woodruff, 1996; Brady, 1997). Video conferencing has been successfully used to support collaborative learning environments for distance education in universities worldwide. Recently, the King Saud bin Abdulaziz University of Health Science (KSAU-HS) began using video conferencing for its postgraduate programs for health informatics and medical education, in order to enhance communication between instructors and students. This study examines the effectiveness of using video conferencing, or the functionality of the “video conference classroom,” in terms of the interactions it facilitates in the context of postgraduate health informatics courses. A detailed exploration of the technology... [View Link Below for More]
EFFECT OF PAKISTANI MEDICINAL PLANTS ON
IGE/ANTIGEN- AND IONOPHORE-INDUCED MUCOSAL
MAST CELLS DEGRANULATION

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HEALTH CARE, JINNAH UNIVERSITY FOR WOMEN, KARACHI, PAKISTAN.

ABSTRACT:
Cumulative evidence has now demonstrated the stimulation of mucosal mast cells by both
allergic and non-allergic triggers and their inhibition as a potential therapeutic target in
many diseases like food allergy and ulcerative colitis. Hence, we screened medicinal plants
from Pakistan against antigen- and ionophore-induced degranulation of mucosal mast
cells. Aqueous ethanol extracts were screened. IgE/antigen- and A23187-
induced degranulation of mucosal-type murine bone marrow derived mast cells (mBMMCs) were
screening assays and β-hexosaminidase released from degranulated mBMMCs was
measured. Real time-polymerase chain reaction was employed to examine the expression
of TNF-α and IL-4 mRNA. Acetoxychavicol acetate, was examined by degranulation assays
and real time-PCR. Among the ten plants screened against IgE/antigen stimulated
degranulation, five plants; Alpinia galangal, Mentha arvensis, Myrtus communis,
Polygonum bistorta and Syzygium aromaticum demonstrated significant (p<0.01)
suppression of the degranulation at 100 μg/ml. Of them, Alpinia galangal showed
significant (p<0.01) inhibition at 32 mg/ml. In A23187-induced degranulation, all plants
showed significant (p<0.01) inhibition at 100 μg/ml except Tamarix dioica. Again Alpinia
galangal exhibited significant (p<0.01) suppression at 32 μg/ml. In a concentration
dependent assay, Alpinia galangal revealed significant suppression at 10 μg/ml against
A23187-stimulated degranulation. ... [View Link Below for More]
A NEW CLASSIFICATION OF ENDODONTIC-PERIODONTAL LESIONS

AUTHOR(s): Al-Fouzan, K. S.

AFFILIATION: College of Dentistry, King Saud Bin Abdulaziz University, King Abdulaziz Medical City, Riyadh, Saudi Arabia

ABSTRACT:
The interrelationship between periodontal and endodontic disease has always aroused confusion, queries, and controversy. Differentiating between a periodontal and an endodontic problem can be difficult. A symptomatic tooth may have pain of periodontal and/or pulpal origin. The nature of that pain is often the first clue in determining the etiology of such a problem. Radiographic and clinical evaluation can help clarify the nature of the problem. In some cases, the influence of pulpal pathology may cause the periodontal involvement and vice versa. The simultaneous existence of pulpal problems and inflammatory periodontal disease can complicate diagnosis and treatment planning. An endo-perio lesion can have a varied pathogenesis which ranges from simple to relatively complex one. The differential diagnosis of endodontic and periodontal diseases can sometimes be difficult, but it is of vital importance to make a correct diagnosis for providing the appropriate treatment. This paper aims to discuss a modified clinical classification to be considered for accurately diagnosing and treating endo-perio lesion... [View Link Below for More]
THE EFFECT OF ORTHODONTIC THERAPY ON PERIODONTAL HEALTH: A REVIEW OF THE LITERATURE

AUTHOR(S): ALFURJJI, S., ALHAZMI, N., ALHAMLAN, N., AL-EHAIDEB, A., ALRUWAITHI, M., ET AL.

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ABSTRACT:
Objectives: This review aims to evaluate the effect of orthodontic therapy on periodontal health.

Data: Original articles that reported on the effect of orthodontic therapy on periodontal health were included. The reference lists of potentially relevant review articles were also sought.

Sources: A literature search was conducted using the databases, Medline, EMBASE, Cochrane Library, Web of Science, Google Scholar, and Scopus databases for relevant studies. The search was carried out by using a combined text and the MeSH search strategies: using the key words in different combinations: “periodontal disease,” “orthodontics” and “root resorption.” This was supplemented by hand-searching in peer-reviewed journals and cross-referenced with the articles accessed. Articles published only in English language were included. Letters to the Editor, historical reviews and unpublished articles were not sought.

[View Link Below for More]
Ultrasound-guided core biopsy in the diagnostic work-up of tuberculous lymphadenitis in Saudi Arabia, refining the diagnostic approach. Case series and review of literature

**Author(s):** Altuwairgi, O., Baharoon, S., Alkabab, Y., Alsafi, E., Almoweqel, M., et al

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**Abstract:**

**Objective:** Tuberculous cervical lymphadenitis is the most common presentation of extrapulmonary tuberculosis (TB) in Saudi Arabia and worldwide. Obtaining a tissue biopsy for culture and histopathology is frequently needed to establish the diagnosis. The available diagnostic tools include excisional surgical biopsy, fine needle aspiration (FNA) and ultrasound-guided core lymph node biopsy. We present a single center experience of the use of ultrasound-guided core lymph node biopsy as a diagnostic tool for tuberculous lymphadenitis.

**Methods:** A retrospective review of the interventional radiology database for all of the patients with cervical lymphadenopathy undergoing ultrasound-guided core biopsy at King Abdulaziz Medical City-Riyadh, Saudi Arabia from January 1 2008 to December 30 2011. The data were the patient demographics, clinical characteristics, biopsy method and pathological and clinical diagnoses.

**Results:** Five cases underwent ultrasound-guided cervical lymph node biopsy during the study period. A total of 55 cases underwent excisional cervical lymph node biopsy in the same period. The age of the patients who underwent the core biopsy ranged from 18 to 76 years old. All of the biopsies were ... [View Link Below for More]
ROOT SURFACE STRAIN DURING CANAL SHAPING AND ITS INFLUENCE ON APICAL MICROCRACK DEVELOPMENT: A PRELIMINARY INVESTIGATION


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ABSTRACT:

Aim: To determine the root surface strain (RSS) generated during root canal shaping and its effects on apical microcrack development.

Methodology: Twenty-five extracted human mandibular premolars were selected and decoronated. The teeth were instrumented with either the ProTaper (PT) or WaveOne (WO) (Dentsply Maillefer) NiTi rotary systems (n = 10 per group) or used as controls (n = 5). Instrumented root canals were enlarged to ProTaper F4 (size 40, 0.06 taper) or using WaveOne LARGE (size 40, 0.08 taper) instruments according to the manufacturer's instructions. An electrical strain gage (KFG02-120-C1-16, Kyowa Dengyo, Tokyo, Japan) was fixed on the proximal root surface and connected to a strain amplifier via a bridge box in order to measure RSS. During canal shaping, the strain output of the amplifier was recorded. The instantaneous RSS induced by each instrument and the maximum RSSs were determined. All teeth were then stained with contrast media and imaged with micro-computed tomography (micro-CT) at an isotropic resolution of 10 μm to detect microcracks. The mean maximum RSS values (microstrain) and mean number of microcracks recorded for both groups were tested for ... [View Link Below for More]

SHORTLINK: bit.ly/1O8Hn7v
ENDODONTIC INSTRUMENTS AFTER TORSIONAL FAILURE: NANOINDENTATION TEST

AUTHOR(S): JAMLEH, A., SADR, A., NOMURA, N., EBIHARA, A., YAHATA, Y., ET AL

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ABSTRACT:

This study aimed to evaluate effects of torsional loading on the mechanical properties of endodontic instruments using the nanoindentation technique. ProFile (PF; size 30, taper 04; Dentsply Maillefer, Switzerland) and stainless steel (SS; size 30, taper 02; Mani, Japan) instruments were subjected to torsional test. Nanoindentation was then performed adjacent to the edge of fracture (edge) and at the cutting part beside the shank (shank). Hardness and elastic modulus were measured under 100-mN force on 100 locations at each region, and compared to those obtained from the same regions on new instruments. It showed that PF and SS instruments failed at 559 ± 67 and 596 ± 73 rotation degrees and mean maximum torque of 0.90 ± 0.07 and 0.99 ± 0.05 N-cm, respectively. Hardness and elastic modulus ranged 4.8-6.7 and 118-339 GPa in SS, and 2.7-3.2 and 52-81 GPa in PF. Significant differences between torsion-fractured and new instruments in hardness and elastic modulus were detected in the SS system used. While in PF system, the edge region after torsional fracture had significantly lower hardness and elastic modulus compared to new instruments. The local hardness and modulus of elasticity of endodontic instruments adjacent to the fracture edge are significantly reduced by torsional loading.... [View Link Below for More]

SHORTLINK: bit.ly/1F6zi0d
COMMON PERIODONTAL DISEASES OF CHILDREN AND ADOLESCENTS

AUTHOR(S): Al-Ghutaimel, H., Riba, H., Al-Kahtani, S., & Al-Duhaimi, S.

AFFILIATION: Department of Pediatric Dentistry, King Saud Bin Abdulaziz University for Health Science, Riyadh, Saudi Arabia

ABSTRACT:
Background: Since 2000, studies, experiments, and clinical observations revealed high prevalence of periodontal diseases among children and adolescents. Therefore, this paper was designed to provide an update for dental practitioners on epidemiology, microbiology, pathology, prevention, diagnosis, and treatment of periodontal diseases in children and adolescents.

Methods: This paper reviews the current literature concerning periodontal diseases in pediatric dentistry. It includes MEDLINE database search using key terms: “periodontal diseases in children,” “Periodontal diseases in adolescents,” “periodontal diseases risk factors,” “microbiology of periodontal diseases,” “classification of periodontal diseases,” “epidemiology of periodontal diseases,” and “treatment of periodontal diseases.” Articles were evaluated by title and/or abstract and relevance to pediatric dentistry. Sixty-five citations were selected by this method and by the references within the chosen articles. A review of the comprehensive textbooks on pediatric dentistry and periodontology was done. Some recommendations were based on the opinions of experienced researchers and clinicians, when data were inconclusive. [View Link Below for More]

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KING ABDULLAH INTERNATIONAL MEDICAL RESEARCH CENTER ANNUAL PUBLICATION BOOK 2014
A CHILD WITH LEUKEMIA AND BEHAVIORAL CHANGES

AUTHOR(S): Abulaban, A. A., Algahtani, H. A., & Alharthi, A.

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ABSTRACT:
A 12-year-old Saudi girl, known case of T-cell leukemia with CNS relapse. She was diagnosed 2 years ago. Multiple cycles of chemotherapy had been used (Fludarabine, Cytarabine, Methotrexate, Cyclosporine, and Mercaptopurine). She was admitted electively for cord blood transplantation. Afterward, she developed visual, and behavioral change followed by seizure. [View Link Below for More]

SHORTLINK: bit.ly/1fUrtyS
COMPARISON OF THE YIELD OF DIFFERENT DIAGNOSTIC PROCEDURES FOR CELLULAR DIFFERENTIATION AND GENETIC PROFILING OF NON-SMALL-CELL LUNG CANCER

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ABSTRACT:
Introduction: As treatments for non-small-cell lung cancer (NSCLC) become personalized, cellular and molecular differentiation of the tumor is becoming the standard of care. Our objective is to compare the yield of different diagnostic procedures for cellular differentiation of NSCLC and analysis of epidermal growth factor receptor (EGFR) mutation.

Methods: We evaluated all patients diagnosed with NSCLC from January 2004 to September 2010 at the Jewish General Hospital, Montreal. Diagnostic procedures included surgical biopsies, nonsurgical histologic biopsies (endobronchial and core needle), transbronchial needle aspirate (TBNA) and transthoracic needle aspirate (TTNA), bronchoalveolar lavage (BAL), and pleural fluid samples.

Results: We included 702 subjects investigated for histopathologic differentiation of NSCLC. Of these, 269 were also investigated for EGFR mutation. Failure to ascertain the cellular subtype and EGFR mutation status was least likely with surgical specimens (0% and 1.8%, respectively); followed by TTNA (14% and 10%, respectively) and histologic biopsy (18% for both); and was frequent with TBNA (39% and 30%, respectively). Although BAL and pleural fluid specimens provided reasonable yield for cellular differentiation (20% and 11%, respectively), their results were not accurate in 6% of their samples when compared with concurrent or subsequent surgical specimens (reference standard) performed in a subgroup of patients... [View Link Below for More]
PREVALENCE OF PORTOPULMONARY HYPERTENSION AMONG LIVER TRANSPLANT CANDIDATES IN A REGION HIGHLY ENDEMIC FOR VIRAL HEPATITIS


AFFILIATION: Department of Medicine, Pulmonary Division, King Saud bin Abdulaziz University for Health Sciences, King Abdulaziz Medical City, Riyadh, Saudi Arabia; Department of Hepatobiliary Surgery and Liver Transplantation, King Saud bin Abdulaziz University for Health Sciences, King Abdulaziz Medical City, Riyadh, Saudi Arabia; Department of Cardiology, King Saud bin Abdulaziz University for Health Sciences, King Abdulaziz Medical City, Riyadh, Saudi Arabia

ABSTRACT:

Background: Portopulmonary hypertension (POPH) is rarely encountered in the setting of end-stage liver disease (ESLD) and, if severe, may preclude patients from undergoing liver transplantation. The aim of the present study was to determine the prevalence of POPH in the setting of ESLD for patients who were referred to King Abdulaziz Medical City-Riyadh (Riyadh, Saudi Arabia) for assessment for liver transplantation.

Material/Methods: The medical records of all patients evaluated for liver transplantation between 1993 and 2009 were retrospectively reviewed. Pulmonary hypertension (PH) was defined as an echocardiographically estimated right ventricular systolic pressure ≥40 mmHg and a mean pulmonary arterial pressure >25 mmHg measured using right heart catheterization.

Results: A total of 542 consecutive subjects with ESLD who underwent assessment for liver transplantation were identified; however, medical records for 18 were missing. The final cohort, therefore, consisted of 524 subjects with a mean (±SD) age of 49±13.9 years, 60% were male, and 70% had viral hepatitis. PH was detected by echocardiography in 64 (12%) of the 524 subjects. Hemodynamic data obtained from intraoperative right heart catheterization or as part of the pre-transplantation evaluation were available for 248 subjects, including 57 of the 64 who had echocardiographically ...

[View Link Below for More]
MICROCYSTIC ADnexAL CARCINOMA: UNUSUAL PRESENTATION

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AFFILIATION: DERMATOLOGY DEPARTMENT, KING SAUD BIN ABDULAZIZ UNIVERSITY FOR HEALTH SCIENCES, JEDDAH; DERMATOLOGY DEPARTMENT, KING ABDUL AZIZ HOSPITAL, MAKKAH; DERMATOLOGY DEPARTMENT, KING ABDUL AZIZ MEDICAL CITY FOR NATIONAL GUARD, JEDDAH; GENERAL SURGERY DEPARTMENT, KING ABDUL AZIZ HOSPITAL, MAKKAH, SAUDI ARABIA

ABSTRACT:
A 60-year-old otherwise healthy female presented with 1 year history of an asymptomatic slowly progressing skin mass on her right thigh that appeared at the periphery of an old hypopigmented area. Two years prior to the appearance of the mass, a similar but flatter skin lesion appeared in the same area and persisted for 8 months. Medical advice was not sought for that lesion. Herbal remedies were applied to the lesion for several months causing the lesion to heal, leaving a hypopigmented area. Systemic review and past medical/surgical histories were unremarkable. Skin examination revealed a fleshy to brownish firm plaque measuring 4.9 x 4 cm with central ulceration on her right thigh at the periphery of an old postinflammatory hypopigmented patch (Fig. 1). No lymphadenopathy or organomegaly. A skin punch biopsy (4 mm) showed a poorly circumscribed, deeply infiltrative, asymmetric tumor composed of squamoid or basaloïd nests, infiltrating cords and ductular structures set in desmoplastic stroma (Fig. 2). The immunohistochemical analysis showed positivity for CEA, CK7, EGFR and S100. The BerEP4 and PHLDA1 stains were negative. The diagnosis of microcystic adnexal carcinoma was made. Complete blood count with differentials, ESR, liver enzymes, urea, creatinine, electrolytes, CT scan of the chest, abdomen and pelvis were all normal. A surgeon carried out complete surgical excision of the lesion with wider margins. Radiotherapy was considered but the patient refused. The patient did not pursue further follow-up.

Microcystic adnexal carcinoma (MAC) is a very rare cancer of the skin that demonstrates follicular and eccrine differentiation. It was first described by Goldstein et al. in 1982.

MAC is primarily a locally aggressive tumor. Metastasis to the lymph nodes or other sites remains uncommon.

Microcystic adnexal .... [View Link Below for More]

SHORTLINK: bit.ly/1OpjJD9
Lower vitamin D status is more common among Saudi adults with diabetes mellitus type


Affiliation: Biomarkers Research Program, Biochemistry Department, College of Science, King Saud University, Riyadh, Saudi Arabia; Prince Mutaib Chair for Biomarkers for Osteoporosis, Biochemistry Department, College of Science, King Saud University, Riyadh, Saudi Arabia; Center of Excellence in Biotechnology Research Center, College of Science, King Saud University, Riyadh, Saudi Arabia; College of Pharmacy, King Saud University, Riyadh, Saudi Arabia; Faculty of Medicine, King Saud bin Abdulaziz University for Health Sciences, King Fahad Medical City, Riyadh, Saudi Arabia; et al.

Abstract:
Background: Vitamin D deficiency is an increasingly recognized comorbidity in patients with type 1 diabetes mellitus (DMT1), suggesting that vitamin D deficiency might play a role in DMT1. We aimed to determine and compare the vitamin D status of Saudi adults with and without DMT1.

Methods: A total of 60 Saudi adults with DMT1 from the Diabetes Clinics and 60 non-DM, healthy controls were included in the study. The mean age for those with DMT1 was 25.9 ± 16.1 years versus 36.7 ± 3.6 years among the controls. We measured serum 25-hydroxy vitamin D (25OHD), calcium, cholesterol, blood glucose, HDL, and triglycerides and compared the results between the DMT1 group and control subjects... [View Link Below for More]
A 6-MONTH "SELF-MONITORING" LIFESTYLE MODIFICATION WITH INCREASED SUNLIGHT EXPOSURE MODESTLY IMPROVES VITAMIN D STATUS, LIPID PROFILE AND GLYCEMIC STATUS IN OVERWEIGHT AND OBESE SAUDI ADULTS WITH VARYING GLYCEMIC LEVELS

AUTHOR(S): Al-Daghri, N. M., Alfawaz, H., Aljohani, N. J., Al-Saleh, Y., Wani, K., ET AL.

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ABSTRACT:

Background: The over-all age-adjusted prevalence of diabetes mellitus type 2 (DMT2) in Saudi Arabia is unprecedented at 31%. Aggressive measures should be done to curb down increasing incidence. In this prospective 6-month study we aim to determine whether a self-monitoring, life-style modification program that includes increased sunlight exposure confer improvement in vitamin D status and health benefits among adult Saudi overweight and obese patients with varying glycemic status.

Methods: A total of 150 overweight and obese Saudi adults with varying glycemic status aged 30–60 years were included in this study. They were divided into 3 groups (Non-DMT2, Pre-diabetes and DMT2). Baseline anthropometrics and blood glucose were taken at baseline and after 6 months. Fasting blood sugar, lipid profile, calcium, albumin and phosphate were measured routinely. Serum 25(OH) vitamin D was measured using standard assays. Within the time period they were instructed to reduce total intake of fat, .... [View Link Below for More]
NON-HIGH-DENSITY LIPOPROTEIN CHOLESTEROL AND OTHER LIPID INDICES VS ELEVATED GLUCOSE RISK IN ARAB ADOLESCENTS

AUTHOR(S): AL-DAGHRI, N. M., ALJOHANI, N. J., AL-ATTAS, O. S., AL-SALEH, Y., WANI, K., ET AL.

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ABSTRACT:
Background: Non-high-density lipoprotein cholesterol (non-HDL-C) has been identified as a significant predictor of various cardiovascular events in adults. Limited studies have been conducted in the pediatric population with diverse results, depending on ethnic origin. None has been conducted in the Arabic adolescent population so far; this study aims to fill this gap.

Methods: In this cross-sectional study, 1690 Saudi school adolescents (968 boys [mean age 14.8 ± 1.7] and 722 girls [mean age 14.6 ± 1.7]) were recruited. Anthropometrics were obtained. Fasting blood glucose and lipid profiles were quantified routinely. Non-HDL-C was calculated and screening was done for dyslipidemia using cutoffs obtained from the cohort and elevated fasting glucose.... [View Link Below for More]
INFLAMMATORY AND BONE TURNOVER MARKERS IN RELATION TO PTH AND VITAMIN D STATUS AMONG SAUDI POSTMENOPAUSAL WOMEN WITH AND WITHOUT OSTEOPOROSIS

AUTHOR(S): AL-DAGHRI, N. M., YAKOUT, S., AL-SHEHRI, E., AL-FAWAZ, H. A., ALJOHANI, N., ET AL.

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ABSTRACT:
Postmenopausal osteoporosis is characterized by rapid bone loss occurring in the postmenopausal period. The bone loss predominantly involves the trabecular bone and is brought about by an imbalance between the bone remodeling process which can be influenced by factors that could cause or contribute to osteoporosis. Pro-inflammatory cytokines (IL-1β, IL-6, IL-8 and TNF-α) have been implicated in the regulation of bone cells and play a critical role in bone remodeling. They act both directly and indirectly to increase bone resorption, and/or inhibit bone formation. The aim of the study is to determine whether pro-inflammatory cytokines correlate with bone turnover markers (BTM) in a cohort of Saudi post-menopausal women with or without osteoporosis and which BTMs will correlate with PTH and Vitamin D for use in osteoporosis diagnosis. The study is composed of 100 post-menopausal patients and 100 controls aged 50 years and above. Serum concentrations of pro-inflammatory and BTMs as well as PTH and vitamin D were determined by ELISA, Luminex and electrochemilu.... [View Link Below for More]
FACTORS ASSOCIATED WITH POOR ASTHMA CONTROL AMONG ASTHMATIC PATIENT VISITING EMERGENCY DEPARTMENT

AUTHOR(S): AHMED, A. E., AL-JAHDALI, H., AL-HARBI, A., KHAN, M., ALI, Y., ET AL.

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ABSTRACT:

Introduction: Bronchial asthma is a common chronic disease that affects people of all ages. Insufficient asthma control may cause frequent emergency department (ED) visit by patients who seek crisis management of their asthma.

Objectives: This study aims to identify the factors associated with poor asthma control. Methods: We enrolled 450 participants who visited (ED) for asthma management. Besides assessing the asthma severity classification, we assess each participant for asthma control over the months preceding ED visit using Asthma Control Test score. We employed an independent t-test and ANOVA to assess if the differences in asthma control scores by demographic and clinical characteristics are statistically significant. The dependence of asthma control scores on demographic and clinical characteristics had been investigated with stepwise regression model.

Results: There are differences in asthma control scores by the number of ED visits and severity of asthma classification (P values = 0.001). It was found that participant age, multiple ED visits, severe persistent, moderate persistent, mild persistent, received education about asthma medication and.... [View Link Below for More]
VALIDATION OF THE ARABIC VERSION OF THE
EPWORTH SLEEPINESS SCALE


AFFILIATION: Department of Epidemiology and Biostatistics, College of Public Health and Health Informatics, King Saud Bin Abdulaziz University for Health Sciences, Saudi Arabia; College of Public Health and Health Informatics, King Saud Bin Abdulaziz University for Health Sciences, Saudi Arabia; Department of Medicine, Pulmonary Division, Sleep Disorders Center, King Saud Bin Abdulaziz University for Health Sciences, Saudi Arabia

ABSTRACT:
Background: The Epworth Sleepiness Scale (ESS) is a questionnaire widely used in developed countries to measure daytime sleepiness and diagnose sleep disorders.

Objective: This study aimed to develop an ESS questionnaire for the Arabic population (ArESS), to determine ArESS internal consistency, and to measure ArESS test–retest reproducibility. It also investigated whether the normal range of ESS scores of healthy people in different cultures are similar.

Methods: The original ESS questionnaire was translated from English to Arabic and back-translated to English. In both the English and Arabic translations of the survey, ESS consists of eight different situations. The subject was asked to rate the chance of dozing in each situation on a scale of 0–3 with total scores ranging between 0 (normal sleep) and 24 (very sleepy). An Arabic translation of the ESS questionnaire was administered to 90 healthy subjects.

Results: Item analysis revealed high internal consistency within ArESS questionnaire (Cronbach’s alpha = 0.86 in the initial test, and 0.89 in the retest). The test–retest intra-class correlation coefficient (ICC) shows that the test–retest reliability was substantially high: ICC = 0.86 (95% confidence interval: 0.789–0.909, p-value < 0.001). The difference in ArESS scores between the initial test and retest was not significantly different from zero (average difference = −0.19, t = −0.51, df = 89, p-value = 0.611). In this.... [View Link Below for More]

SHORTLINK: bit.ly/1KzVmCT
MALIGNANT TRANSFORMATION OF PERSISTENT ENDOMETRIOSIS AFTER HYSTERECTOMY

AUTHOR(S): Bawazeer, N. A., Al-Jifree, H. M., & Gari, A. M.

AFFILIATION: Department of Obstetrics and Gynecology, Faculty of Medicine, Umm Alqura University, Makkah; Faculty of Medicine King Saud bin Abdulaziz University for Health Sciences, Jeddah, Kingdom of Saudi Arabia

ABSTRACT:
The malignant transformation of persistent endometriotic implants into endometrioid adenocarcinoma is rare, especially after remote hysterectomy and salpingo-oophorectomy (TAH-BSO), and there are few cases reported in the English language literature. Patients receiving estrogen replacement therapy are common among the reported cases. We present a case that demonstrates the possibility of malignant transformation in a 53-year-old female, known case of endometriosis, who underwent total abdominal hysterectomy and bilateral salpingo-oophorectomy with no evidence of malignancy in the final pathology report. After 9 years, she presented with lower abdominal mass, and histopathological studies confirmed the diagnosis of well-differentiated endometrioid adenocarcinoma. The possibility of malignant transformation and possible risk factors are discussed with a brief literature review.

SHORTLINK: bit.ly/1L15LWO
TRANSPORT EXPOSURE TO CHLAMYDIA TRACHOMATIS CAN INDUCE ALTERATION OF SPERM FUNCTION WHICH CANNOT BE STOPPED BY SPERM WASHING

AUTHOR(S): AL-MOUSLY, N., & ELEY, A.


ABSTRACT:

Background: Previous experiments have shown that Chlamydia trachomatis can directly affect sperm function and therefore may be an unrecognized contributor to male subfertility. However, the precise mechanism of sperm–chlamydial interaction remains unknown.

Aim: This experimental study attempted to replicate a transient exposure of sperm to C. trachomatis that might occur prior to assisted conception.

Methods: Six ejaculates from sperm donors were spiked with C. trachomatis serovar E and subjected to density centrifugation one hour later using a standard sperm washing technique. At 0, 6, and 24 h post-wash, the recovered motile suspension was evaluated for sperm motility, viability, phosphatidylserine externalization, DNA fragmentation and tyrosine phosphorylation.

Results: The results show that even after a relatively short exposure to C. trachomatis, changes in sperm motility, viability, phosphatidylserine externalization and sperm DNA fragmentation were detected up to 24 h later. Only tyrosine phosphorylation was unaffected.

Conclusion: These results suggest that sperm washing cannot protect sperm from the deleterious effects of C. trachomatis exposure and this may explain some cases of poor IVF outcome or fertilization failure. We suggest that all patients should be screened and ... [View Link Below for More]
Undergraduate Medical Students’ Perceptions on the Quality of Feedback Received During Clinical Rotations

Author(s): Al-Mously, N., Nabil, N. M., Al-Babtain, S. A., & Abbas, M. A. F.

Affiliation: Faculty of Medicine, King Fahad Medical City, King Saud bin Abdulaziz University for Health Sciences, Riyadh, Saudi Arabia

Abstract:

Objective: This study aims to report undergraduate medical students’ evaluation of the frequency and the quality of feedback received on their clinical performance during their clerkships.

Methods: This is a prospective observational study with a cross-sectional design including students from two cohorts (fifth and sixth years). In a structured interview, a questionnaire was used to report students’ perception on feedback.

Results: In all, 53.3% and 66% of the students (fifth, sixth years, respectively) had rarely received feedback from clinical teachers, and only around 18% of them had corrective feedback during patient encounter. Students rated feedback on domains of communication skills with patients, and investigations requested as poorly acknowledged. Students appreciate the impact of feedback, however, 85% and 94% of them (fifth, sixth years, respectively) had poor feedback seeking attitude. The overall process of feedback was rated by the two cohorts collectively as 43.6% poor and 24.5% fair.

Conclusion: Results demonstrate that feedback on students’ clinical performance is often not forthcoming and when offered it is deficient and fails to concentrate on the development of different clinical skills. This highlights the critical challenges that need to be addressed by teachers, medical education unit and all hospital departments in order to enhance giving effective and structured feedback to medical students during clerkships. Results also raise the extreme need for the establishment and enhancement of a culture that supports feedback among all levels of clinical supervisors.

Shortlink: bit.ly/1K6iRkN
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ABSTRACT:
Mitochondria are found in all nucleated human cells and generate most of the cellular energy. Mitochondrial disorders result from dysfunctional mitochondria that are unable to generate sufficient ATP to meet the energy needs of various organs. Mitochondrial encephalomyopathy, lactic acidosis, and stroke-like episodes (MELAS) syndrome is a frequent maternally inherited mitochondrial disorder. There is growing evidence that nitric oxide (NO) deficiency occurs in MELAS syndrome and results in impaired blood perfusion that contributes significantly to several complications including stroke-like episodes, myopathy, and lactic acidosis. Both arginine and citrulline act as NO precursors and their administration results in increased NO production and hence can potentially have therapeutic utility in MELAS syndrome. Citrulline raises NO production to a greater extent than arginine, therefore, citrulline may have a better therapeutic effect. Controlled studies assessing the effects of arginine or citrulline supplementation on different clinical aspects of MELAS syndrome are needed.

SHORTLINK: bit.ly/1FxBj0s

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ABSTRACT:
Using vignettes of real cases and the SimulConsult diagnostic decision support software, neurologists listed a differential diagnosis and workup before and after using the decision support. Using the software, there was a significant reduction in error, up to 75% for diagnosis and 56% for workup. This error reduction occurred despite the baseline being one in which testers were allowed to use narrative resources and Web searching. A key factor that improved performance was taking enough time (>2 minutes) to enter clinical findings into the software accurately. Under these conditions and for instances in which the diagnoses changed based on using the software, diagnostic accuracy improved in 96% of instances. There was a 6% decrease in the number of workup items accompanied by a 34% increase in relevance. The authors conclude that decision support for a neurological diagnosis can reduce errors and save on unnecessary testing...

SHORTLINK: bit.ly/1FfzM4f

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ABSTRACT:
We evaluated whether TAP1-rs1135216 (p.637D>G) and PSMB9-rs17587 (p.60R>H) were significantly associated with the risk and severity of vitiligo among Saudi patients. One hundred seventy-two subjects were genotyped for the TAP1-rs1135216 and PSMB9-rs17587 variants using endonuclease digestions of amplified genomic DNA. The TAP1-rs1135216 and PSMB9-rs17587 mutant alleles were strongly associated with vitiligo, with odds ratios showing five-fold and two-fold risks (and, resp.). In TAP1-rs1135216, the 637G mutant allele was more frequent in cases (74%) than in healthy controls. In cases, the 60H mutant allele PSMB9-rs17587 was less frequent (42%) than the wild-type 60R allele (58%). Vitiligo vulgaris was the most common type of disease, associated with the DG (55%) and GG (46%) genotypes for rs1135216 and with the RH genotype (59%) for rs17587. The heterozygous 637DG and 60RH genotypes were each linked with active phenotypes in 64% of cases. In conclusion, the TAP1-rs1135216 and PSMB9-rs17587 variants are significantly associated with vitiligo, and even one copy of these mutant alleles can influence the risk among Saudis. ... [View Link Below for More]
OPEN VERSUS ENDOVASCULAR STENT GRAFT REPAIR OF ABDOMINAL AORTIC ANEURYSMS: DO WE NEED MORE RANDOMIZED CLINICAL TRIALS?


**AFFILIATION:** Department of Internal Medicine, University of Missouri, Columbia, MO, USA; Copenhagen Trial Unit, Center for Clinical Intervention Research, Rigshospitalet, Copenhagen University Hospital, Copenhagen, Denmark; Department of Family Medicine, King Saud Bin Abdulaziz University for Health Sciences, National and Gulf Center for Evidence-Based Health Practice, Riyadh, Saudi Arabia; Department of Internal Medicine, University of Missouri, Columbia, MO, USA; Division of Cardiology, University of Missouri, Columbia, MO, USA; Division of Vascular Surgery, Cardiovascular Institute, Mount Sinai Medical Center, Mount Sinai School of Medicine, New York, NY, USA; et al.

**ABSTRACT:**
We performed an analysis to assess the need for conducting additional randomized controlled trials (RCTs) comparing open and endovascular aneurysm repair (EVAR) for abdominal aortic aneurysm (AAA). Trial sequential analysis (TSA) is a statistical methodology that can calculate the required information size of a meta-analysis and assess the risk of random errors similar to interim analysis in a single optimally powered trial. It helps to decide whether we have obtained sufficient evidence or whether further RCTs are required. For short-term mortality reintervention rates, TSA showed firm evidence that there would be no extra benefit in conducting more RCTs to detect the effectiveness of EVAR versus open repair. For long-term mortality, TSA revealed either inconclusive evidence to support or refute endovascular or open repair; so, further RCTs should be performed to investigate long-term, all-cause mortality after AAA repair... [View Link Below for More]

**SHORTLINK:** bit.ly/1Mdvz3H
RATES, LEVELS, AND DETERMINANTS OF ELECTRONIC HEALTH RECORD SYSTEM ADOPTION: A STUDY OF HOSPITALS IN RIYADH, SAUDI ARABIA

AUTHOR(S): Aldosari, B.

AFFILIATION: Department of Health Informatics, King Saud Bin AbdulAziz University

ABSTRACT:
Objective: Outside a small number of OECD countries, little information exists regarding the rates, levels, and determinants of hospital electronic health record (EHR) system adoption. This study examines EHR system adoption in Riyadh, Saudi Arabia.

Materials and methods: Respondents from 22 hospitals were surveyed regarding the implementation, maintenance, and improvement phases of EHR system adoption. Thirty-seven items were graded on a three-point scale of preparedness/completion. Measured determinants included hospital size, level of care, ownership, and EHR system development team composition.

Results: Eleven of the hospitals had implemented fully functioning EHR systems, eight had systems in progress, and three had not adopted a system. Sixteen different systems were being used across the 19 adopting hospitals. Differential adoption levels were positively related to hospital size and negatively to the level of care (secondary versus tertiary). Hospital ownership (nonprofit versus private) and development team composition showed mixed effects depending on the particular adoption phase being considered.

Discussion: Adoption rates compare favourably with those reported from other countries and other districts in Saudi Arabia, but wide variations exist among hospitals in the levels of adoption of individual items. General weaknesses in the implementation phase concern the legacy of paper data systems, including document scanning and data conversion; in the maintenance phase concern updating/maintaining software; and in the improvement phase concern the communication and exchange of health information... [View Link Below for More]
THERAPEUTIC HYPOTHERMIA AFTER CARDIAC ARREST

AUTHOR(S): ALSHIMEMERI, A.

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ABSTRACT:
Prognosis following out-of-hospital cardiac arrest is generally poor, which is mostly due to the severity of neuronal damage. Recently, the use of therapeutic hypothermia has gradually occupied an important role in managing neuronal injuries in some cases of cardiac arrests. Some of the clinical trials conducted in comatose post-resuscitation cardiac arrest patients within the last decade have shown induced hypothermia to be effective in facilitating neuronal function recovery. This method has since been adopted in a number of guidelines and protocols as the standard method of treatment in carefully selected patient groups. Patient inclusion criteria ensure that hypothermia-associated complications are kept to a minimum while at the same time maximizing the treatment benefits. In the present work, we have examined different aspects in the use of therapeutic hypothermia as a means of managing comatose patients following cardiac arrest. Key words: Cardiac arrest; Cooling; Hypothermia; Outcome; Ventricular fibrillation... [View Link Below for More]

SHORTLINK: bit.ly/1M7ZASh
ABSTRACT:

Background: Professionalism is a core competency in the medical profession worldwide. Numerous studies investigate how this competency is taught and learned. However, there are few reports on the students’ views and experiences with professionalism especially in the Arab world. Our aim was to explore the experiences and views of Kuwait final-year medical students on professionalism.

Methods: This was a questionnaire study of final-year medical students at Kuwait University (n = 95). Open- and close-ended questions were used to determine the students’ experiences and views on: definition, teaching, learning, and assessment of professionalism.

Results: Eighty-five of the students completed the questionnaire (89.5%). A total of 252 attributes defining professionalism were listed by our respondents. The majority (98.0%) of these attributes were categorized under the CanMEDS theme describing professionalism as commitment to patients, profession, and society through ethical practice. The most helpful methods in learning about professionalism for the students were contact with positive role models, patients and families, and with their own families, relatives and peers. The students’ rating of the quality and quantity of teaching professionalism in the institution was quite variable. Despite this, 68.2% of the students felt very or somewhat comfortable explaining the meaning of medical professionalism to junior medical students. Almost half of the students felt that their education had always or sometimes helped them deal with professionally-challenging situations. Majority (77.6%) of the students thought that their academic ... [View Link Below for More]
OBJECTIVES: To measure the students' perceptions of educational environment of a medical school, to compare the perceptions of high, average and low academic achievers, and to explore the relation between these perceptions and their academic achievements in order to identify specific problem areas.

METHODS: The cross-sectional study was conducted at Ziauddin University, Karachi, during the mid of the 2010-11 academic year using Dundee Ready Education Environment Measure inventory. Data was collected from 200 undergraduate medical students of all five years. Analysis was performed using both Inventory guidelines on SPSS19.0.

RESULTS: Of the 200 students initially enrolled, completed forms were received from 168(84%). The overall mean score was 117+/-8.3. Mean comparison of their perceptions on the overall score was significantly less (p<0.001) for the low achievers across all 5 years. Moderate positive correlation (r= 0.417) was found between perceptions and academic achievements.

CONCLUSIONS: Students' perceptions of their educational environment were reasonably positive, indicating adequate satisfaction in most areas. Emphasis needs to be paid on the implementation of strong student support system across all medical schools to initiate timely remedial measures where needed. The learning environment should be evaluated regularly for quality improvement purposes...

[View Link Below for More]
EXPLORING THE TRUSTWORTHINESS AND RELIABILITY OF FOCUS GROUPS FOR OBTAINING USEFUL FEEDBACK FOR EVALUATION OF ACADEMIC PROGRAMS

AUTHOR(S): RAUF, A., BAIG, L., JAFFERY, T., & SHAFI, R.

AFFILIATION: DEPARTMENTS OF HEALTH PROFESSIONS EDUCATION, MEDICINE, PHYSIOLOGY, SHIFA COLLEGE OF MEDICINE, ISLAMABAD, PAKISTAN; MEDICAL EDUCATION, KING SAUD BIN ABDULAZIZ UNIVERSITY OF HEALTH SCIENCES, RIYADH, SAUDI ARABIA

ABSTRACT:

Background: At Shifa College of Medicine, evaluation is an integral part of the curriculum. We used focus groups as a tool to obtain in-depth information regarding students' experience with the new integrated, system-based curriculum. The purpose of this study was to explore the usefulness of focus groups in identifying important issues for curriculum improvement and to explore the trustworthiness and representativeness of data obtained through this strategy. Methods: In 2012, we used focus groups to seek feedback from students regarding their experience with the integrated curriculum. One course of each of the three preclinical years was selected for this purpose. Three parallel focus groups were conducted for each selected course. Each focus group was audio recorded, and the moderator and a volunteer student took additional notes during the session. The audio recordings were transcribed and data obtained from the three sources were analyzed, coded, and categorized independently by three investigators. Both manifest and latent themes were identified, using an inductive approach. Final agreement on themes was reached by comparison of the independently done thematic analysis by the three researchers. Reliability of data was established by comparing responses from the three parallel focus groups of each course. Trustworthiness of inferences was ensured by multiple coding, audit trail and member checking with focus group participants who reviewed the themes for validity. Results: Most of the data on students' perceptions of their courses from each of the parallel groups were in agreement: Similar themes were seen within groups of the same class as well as across the three preclinical years. Conclusion: Focus groups can be a useful tool for collecting trustworthy and reliable ... [View Link Below for More]
COMPARISON OF HYPOGLYCAEMIA EPISODES IN PEOPLE WITH TYPE-2 DIABETES FASTING IN RAMAZAN, TREATED WITH VILDAGLIPTON OR SULPHONYLUREA: RESULTS OF THE PAKISTANI COHORT OF THE VIRTUE STUDY

AUTHOR(s): MAHAR, S. A., HASAN, M. I., KHAN, M. I. H., FAWWAD, A., HUSSAIN, S., ET AL.

AFFILIATION: LIAQUAT NATIONAL HOSPITAL AND MEDICAL COLLEGE, KARACHI; DIABETES INSTITUTE OF PAKISTAN (DIP) LAHORE; DIABETES ENDOCRINE AND METABOLIC CENTRE POSTGRADUATE MEDICAL INSTITUTE/LAHORE GENERAL HOSPITAL, LAHORE; BAQAI INSTITUTE OF DIABETES & ENDOCRINOLOGY, KARACHI; AGA KHAN HOSPITAL KHARADAR, KARACHI, PAKISTAN; DEPARTMENT OF MEDICAL EDUCATION, KING SAUD BIN ABDULAZIZ UNIVERSITY, RIYADH, KINGDOM OF SAUDI ARABIA.

ABSTRACT:
Objectives: To assess the effect of vildagliptin in comparison to sulphonylurea (SU) on hypoglycaemia in Muslim patients with type 2 diabetes mellitus fasting during Ramadan.

Methods: VIRTUE was a multicenter, prospective, observational study, which enrolled 244 patients from Pakistan who were re-analysed. All included patients were treated with vildagliptin (n=121) or SU (n=121) as add-on to metformin or as monotherapy for 16 weeks. The primary outcome of interest was to compare the proportion of patients with ≥1 hypoglycaemic event (HE) during fasting between vildagliptin and SU cohort. Changes in HbA1c and body weight and treatment adherence were also measured.

Results: Of the 244 patients enrolled, 120 patients in the vildagliptin cohort (99.2%) and 119 patients in the SU cohort (98.3%) completed the study. Patients experiencing at least one HE were fewer with vildagliptin when compared with SUs (5.8% vs. 14.2%; p<0.033). The reduction in HbA1c was 0.3% with vildagliptin from a baseline of 7.6% and 0.1% with SU from a baseline of 7.4% (between-treatment difference: -0.1% p<0.054 ... [View Link Below for More]
Efficacy and tolerability of carbamazepine for the treatment of painful diabetic neuropathy in adults: A 12-week, open-label, multicenter study


**Affiliation:** Pakistan Telecommunication Company Ltd, Karachi, Pakistan; Cavalary Hospital, Gulberg, Lahore, Pakistan; Faaji Foundation Hospital, Rawalpindi, Pakistan; Dr Riaz Shahid Clinic, Peshawar Cantt, Peshawar, Pakistan; Punjab Employs Social Security Institution, Islamabad, Pakistan; Medical B Unit, Hayat Abad Medical Complex, Peshawar, Pakistan; Novartis Pharma Pakistan, Karachi, Pakistan; Department of Medical Education, King Saud bin Abdulaziz University, Riyadh, Kingdom of Saudi Arabia

**Abstract:**

Objective: Anticonvulsants are increasingly being used in the symptomatic management of several neuropathic pain disorders. The present observational study was designed to evaluate the efficacy, tolerability, and quality of life (QoL) of carbamazepine use for 12 weeks in patients with painful diabetic neuropathy, in Pakistan. Methods: This was a 12-week, multicenter, open-label, uncontrolled trial in adult type 2 diabetic patients (aged 18–65 years) suffering from clinically confirmed neuropathic pain (Douleur Neuropathique en 4 [DN4] score $\geq 4$). Change in neuropathic pain at week 12 compared with baseline was assessed using the Brief Pain Inventory Scale–Short Form (pain severity score and pain interference score). QoL was determined by the American Chronic Pain Association QoL scale. Safety was assessed based on patient reported adverse events (AEs) and serious AEs. Results: Of the total 500 screened patients, 452 enrolled and completed the study. The mean (± standard deviation [SD]) pain interference score decreased from 4.5±2.0 at baseline to 3.1±1.9 at week 12 (P<0.001). The mean (± SD) pain severity score decreased from 5.8±2.0 at baseline to 3.6±2.2 at week 12 (P<0.001). There was a decrease of $\geq 30\%$ in the pain severity score between visits. The mean (± SD) QoL scale score improved from 5.9±1.6 at baseline to 8.0±1.7 at week 12. A total of ten (2.2%) patients reported AEs during the ... [View Link Below for More]
PREOPERATIVE DIAGNOSIS OF BICIPITORADIAL BURSITIS: A CASE REPORT

AUTHOR(s): Aldhilan, A. S.

AFFILIATION: Medical Imaging Department King Abdul Aziz Medical City for National Guard, Riyadh, Saudi Arabia

ABSTRACT:
Inflammation of the bicipitoradial bursa is a rare condition and only few reports can be found in literature. Several causes for a cubital bursitis have been suggested in the past. The need to include a malignant lesion in the differential diagnosis has only been mentioned in one of these reports. May main objective in reporting this case is to make this pathological entity better known... [View Link Below for More]
EFFECT OF EDUCATION AND CLINICAL ASSESSMENT ON THE ACCURACY OF POST PARTUM BLOOD LOSS


AFFILIATION: Department of Obstetrics and Gynaecology, King Abdulaziz Medical City, King Saud bin Abdulaziz University for Health Sciences, Riyadh, Saudi Arabia; Department of Anaesthesia, King Abdulaziz Medical City, King Saud bin Abdulaziz University for Health Sciences, Riyadh, Saudi Arabia; Nursing Services, King Abdulaziz Medical City, Riyadh, Saudi Arabia; Department of Medical Education, College of Medicine, King Saud bin Abdulaziz University for Health Sciences, Riyadh, Saudi Arabia

ABSTRACT:

Background: This research aimed to assess the effect of health care provider education on the accuracy of post partum blood loss estimation.

Methods: A non-randomized observational study that was conducted at King Abdulaziz Medical City, Riyadh, Saudi Arabia between January 1, 2011 and June 30, 2011. Hundred and twenty three health care providers who are involved in the estimation of post partum blood loss were eligible to participate. The participants were subjected to three research phases and an educational intervention. They have assessed a total of 30 different simulated blood loss stations, with 10 stations in each of the research phases. These phases took place before and after educational sessions on how to visually estimate blood loss and how to best utilize patient data in clinical scenarios. We have assessed the differences between the estimated blood loss and the actual measure. P-values were calculated to assess the differences between the three research phases estimations.

Results: The participants significantly under-estimated post partum blood loss. The accuracy was improved after training (p-value < 0.0001) and after analysing each patient’s clinical information (p-value = 0.042). The overall results were not affected by the participants’ clinical backgrounds or their years of experience. Under-estimation was more prominent in cases where more than average excessive blood losses were simulated while over-estimations or accurate estimations were more prominent in less than average blood loss incidents... [View Link Below for More]

Shortlink: bit.ly/1Fwanya
TERTIARY CARE AVAILABILITY AND ADOLESCENT PREGNANCY CHARACTERISTICS IN SAUDI ARABIA

AUTHOR(S): AL-KADRI, H. M., MADKHALI, A., AL-KADI, M. T., BAKHSH, H., ALRUWAILI, N. N., ET AL.

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ABSTRACT:
Background: In this study, we aimed to assess the rate of adolescent delivery in a Saudi tertiary health care center and to investigate the association between maternal age and fetal, neonatal, and maternal complications where a professional tertiary medical care service is provided.

Methods: A cross-sectional study was performed between 2005 and 2010 at King Abdulaziz Medical City, Riyadh, Saudi Arabia. All primigravid Saudi women greater than or equal to 24 weeks gestation, carrying a singleton pregnancy, aged ≥16 years, and with no chronic medical problems were eligible. Women were divided into three groups based on their age, ie, group 1 (G1) ≥16 years, group 2 (G2) greater than or equal to 16 up to 19 years, and group 3 (G3) greater than or equal to 19 up to 35 years. Data were collected from maternal and neonatal medical records. We calculated the association between the different age groups and maternal characteristics, as well as events and complications during the antenatal period, labor, and delivery.

Results: The rates of adolescent delivery were 20.0 and 16.3 per 1,000 births in 2009 and 2010, respectively. Compared with G1 and G2 women, G3 women tended to have a higher body mass index, a longer first and second stage of labor, more blood loss at delivery, and a longer hospital stay. Compared with G1 and G2 women, respectively, G3 women had a 42% and a 67% increased risk of cesarean section, and had a 52% increased risk of instrumental delivery. G3 women were more likely to develop gestational diabetes or anemia, G2 women had a three-fold increased risk of premature delivery (odds ratio 2.81), and G3 neonates had a 50% increased overall risk of neonatal complications (odds ratio 0.51)... [View Link Below for More]
SSRIs for Hot Flashes: A Systematic Review and Meta-Analysis of Randomized Trials


Affiliation: National and Gulf Center for Evidence-Based Health Practice, King Saud Bin Abdulaziz University for Health Sciences, Riyadh, Saudi Arabia; Department of Obstetrics and Gynecology, King Saud Bin Abdulaziz University for Health Sciences, Riyadh, Saudi Arabia; Department of Internal Medicine, University of Missouri, Columbia, MO, USA; Knowledge and Evaluation Research Unit, Mayo Clinic, Rochester, MN, USA; Department of Nursing, King Saud Bin Abdulaziz University for Health Sciences, Riyadh, Saudi Arabia; Department of Family Medicine, King Saud Bin Abdulaziz University for Health Sciences, Riyadh, Saudi Arabia; Division of Preventive Medicine, Mayo Clinic, Rochester, MN, USA

Abstract:
Background: Hot flashes are the most commonly reported vasomotor symptom during the peri- and early post-menopausal period.

Objective: To systematically review, appraise and summarize the evidence of the impact of different SSRIs on peri-menopausal hot flashes in healthy women in randomized, controlled trials.

Methods: A comprehensive literature search was conducted of MEDLINE™, EMBASE, the Cochrane Central Register of Controlled Trials, Web of Science and Scopus through March 2013. Two independent reviewers selected studies and extracted data. Random effects meta-analysis was used to pool outcomes across studies, and Bayesian mixed treatment methods were used to rank SSRIs in terms of effectiveness.

Results: We included a total of 11 randomized controlled trials with good methodological quality enrolling 2,069 menopausal and post-menopausal women (follow-up 1–9 months, mean age 36–76 years, mean time since menopause 2.3–6.6 years). Compared with placebo, SSRIs were associated with a statistically significant decrease in hot flash frequency (difference in means −0.93; 95% CI −1.46 to ... [View Link Below for More]
Does Alveolar Corticotomy Accelerate Orthodontic Tooth Movement When Retracting Upper Canines? A Split-Mouth Design Randomized Controlled Trial

Author(s): Al-Naoum, F., Hajeer, M. Y., & Al-Jundi, A.

Affiliation: University of Al-Baath Dental School, Hamah, Syria; Department of Orthodontics, University of Damascus Dental School, Damascus, Syria; Department of Orthodontics, King Saud Bin Abdulaziz University for Health Sciences, Riyadh, Kingdom of Saudi Arabia.

Abstract:
Purpose: To evaluate the efficacy of alveolar corticotomy on orthodontic tooth movement when retracting upper canines compared with the conventional technique and to evaluate patients’ pain and discomfort levels after corticotomy.

Materials and Methods: A split-mouth design randomized controlled trial at the Department of Orthodontics (University Al-Baath Dental School) was performed. A total of 30 patients whose orthodontic treatment required canine retraction were included. The predictor variable was the use of corticotomy to facilitate tooth movement. The velocity of space closure was evaluated as the primary outcome variable by measuring the distance between the canine and first molar on each side of the mouth immediately after corticotomy and at 1, 2, 4, 8, and 12 weeks after corticotomy. The levels of pain and discomfort were evaluated as the secondary outcome variables using a questionnaire administered 4 times during the first week after corticotomy. Paired t tests or Wilcoxon matched-pairs signed-rank tests were used to detect significant differences.

Results: A total of 30 patients (15 males and 15 females) were recruited with a mean age of 20.04±3.6 years (range 15 to 24). The space closure velocity after corticotomy was significantly faster on the experimental side than on the control side (x = 0.74 mm/week vs 0.20 mm/week between 1 week after and immediately after corticotomy, respectively; P < .001). The pain encountered during eating was high, with 50% and 30% of patients reporting severe pain at 1 and 3 days postoperatively, respectively. No significant differences were detected between the male and female patients regarding the tooth movement velocity on the experimental side... [View Link Below for More]

Shortlink: bit.ly/1No2rHc
Pigmented villonodular synovitis of the knee in a 12-month-old girl

Author(s): Jawadi, A. H.

Affiliation: King Saud Bin Abdulaziz University for Health Sciences, King Abdulaziz Medical City, Division of Orthopedic Surgery, Riyadh, Kingdom of Saudi Arabia

Abstract:
A 12-month-old girl presented with a chronic localised mass on the knee, discomfort and gradually increasing right genu valgum. A diagnosis of pigmented villonodular synovitis was suggested by magnetic resonance imaging and confirmed at the time of surgical excision of the mass. The patient showed no recurrence after 3 years of follow up, and she required no further management. Pigmented villonodular synovitis should be considered in the differential diagnosis of chronic knee swelling in children... [View Link Below for More]

Shortlink: bit.ly/1QxvYwH
HOW ACCURATE ARE PLACENTAL GROWTH FACTOR, URATE, LACTATE DEHYDROGENASE AND PROTEINURIA IN DIAGNOSING PREECLAMPSIA AND ITS SEVERITY?


AFFILIATION: DEPARTMENT OF OBSTETRICS AND GYNECOLOGY, SECURITY FORCES HOSPITAL, RIYADH, SAUDI ARABIA; FACULTY OF MEDICINE, MENOUFIYA UNIVERSITY, EGYPT; DEPARTMENT OF OBSTETRICS AND GYNECOLOGY, SECURITY FORCES HOSPITAL, RIYADH, SAUDI ARABIA; DEPARTMENT OF PEDIATRICS, SECURITY FORCES HOSPITAL, RIYADH, SAUDI ARABIA; DIVISION OF CLINICAL CHEMISTRY, DEPARTMENT OF PATHOLOGY AND LAB MEDICINE, KING FAHAD NATIONAL GUARD HOSPITAL, KING SAUD BIN ABDULAZIZ UNIVERSITY FOR HEALTH SCIENCES, RIYADH, SAUDI ARABIA.

ABSTRACT:

Objective: The objective was to assess the diagnostic accuracy of serum and urinary placental growth factor (sPlGF and uPlGF, respectively), urate, lactate dehydrogenase (LDH), and proteinuria for diagnosing and differentiating between women with preeclampsia and women with a normal healthy pregnancy, gestational hypertension, and gestational proteinuria.

Study Design: Urine and blood samples were taken from pregnant women diagnosed with late-onset severe preeclampsia (30 patients), mild preeclampsia (30 patients), gestational hypertension without meeting the criteria for preeclampsia (30 patients), gestational proteinuria without meeting the criteria for preeclampsia (30 patients), and healthy pregnant control women (30 patients). A receiver operating characteristic (ROC) curves analysis was performed to evaluate the diagnostic accuracy and to select the optimal cutoff points for different markers... [View Link Below for More]
AUTHOR(S): AL-HUSSAINI, A. A., ALZAHARNI, M. D., ALENIZI, A. S., SULIMAN, N. M., KHAN, M. A., ET AL.

AFFILIATION: DEPARTMENT OF PEDIATRICS AT KING FAHAD MEDICAL CITY, RIYADH, SAUDI ARABIA; DEPARTMENT OF PEDIATRICS AT KING SAUD MEDICAL CITY, RIYADH, SAUDI ARABIA; DEPARTMENT OF RADIOLOGY AT KING SAUD MEDICAL CITY, KINGDOM OF SAUDI ARABIA; DEPARTMENT OF IMMUNOLOGY, PATHOLOGY, CLINICAL LABORATORY MEDICINE AT KING FAHAD MEDICAL CITY, RIYADH, SAUDI ARABIA; DIVISION OF PEDIATRIC GASTROENTEROLOGY, HEPATOLOGY & NUTRITION, UNIVERSITY OF KING SAUD BIN ABDULAZIZ FOR HEALTH SCIENCES, CHILDREN'S HOSPITAL, KING FAHAD MEDICAL CITY, RIYADH, SAUDI ARABIA; ET AL.

ABSTRACT:
Background and Objectives: The frequency of Type 1 diabetes (T1D)-related autoantibodies was determined in children with autoimmune hepatitis. However, the incidence of autoimmune hepatitis related autoantibodies in children with T1D has been poorly investigated. The aim of the present cross sectional prospective study was to determine the occurrence of autoimmune hepatitis-related autoantibodies in children with T1D.

Methods: Children with T1D following in diabetic clinic in our center were screened for existence of liver related autoantibodies from November 2010 to November 2011. The patients’ sera were analyzed for the existence of autoantibodies such as anti-nuclear antibody, anti-smooth muscle antibody, and anti-Liver Kidney microsomal antibody, using enzyme linked immunoassay and indirect immunofluorescence methods. A titer of anti-nuclear antibody ≥1/40 was considered positive and titer of < 1/40 was considered negative. Anti-liver kidney microsomal antibody titer of < 3 U/ml was considered negative, 3 – 5 U/ml borderlines, and > 5 U/ml was considered positive.

Results: 106 children with T1D have been examined over a one-year period: age ranges between 8 months to 15.5 years, sixty two patients were females. Autoantibody screen revealed a girl with positive anti-liver kidney microsomal antibody (1%) and 8 children had positive anti-nuclear antibody (7.5%).

SHORTLINK: bit.ly/1JP4gXA
HEPATIC FIBRINOGEN STORAGE DISEASE DUE TO THE FIBRINOGEN GAMMA 375 Arg > Trp MUTATION

“FIBRINOGEN AGUADILLA” IS PRESENT IN ARABS

AUTHOR(S): AL-HUSSAINI, A., ALTALHI, A., EL HAG, I., AL-HUSSAINI, H., FRANCALANCI, P., ET AL.

AFFILIATION: DIVISION OF PEDIATRIC GASTROENTEROLOGY, HEPATOLOGY AND NUTRITION, CHILDREN’S HOSPITAL, KING FAHAD MEDICAL CITY; DIVISION OF NEPHROLOGY, CHILDREN’S HOSPITAL, KING SAUD MEDICAL CITY; DEPARTMENT OF PATHOLOGY AND LABORATORY MEDICINE, PRINCE SULTAN MILITARY MEDICAL CITY, RIYADH, KINGDOM OF SAUDI ARABIA; DEPARTMENT OF PATHOLOGY AND LABORATORY MEDICINE, CHILDREN’S HOSPITAL BAMINO GESÙ IRCCS, ROME, ITALY

ABSTRACT:

The mutation γ375Arg → Trp (fibrinogen Aguadilla) is one of four mutations (Brescia, Aguadilla, Angers, and Al duPont) capable of causing hepatic storage of fibrinogen. It has been observed in four children from the Caribbean, Europe, and Japan, suffering from cryptogenic liver disease. We report the first case of hepatic fibrinogen storage disease in Arabs due to a mutation in the fibrinogen γ-chain gene in a 3-year-old Syrian girl presenting with elevated liver enzymes. The finding of an impressive accumulation of fibrinogen in liver cells raised the suspicion of endoplasmic reticulum storage disease. Sequencing of the fibrinogen genes revealed a γ375Arg → Trp mutation (fibrinogen Aguadilla) in the child and in her father. In conclusion, when confronted with chronic hepatitis of unknown origin, one should check the plasma fibrinogen level and look carefully for the presence of hepatocellular intracytoplasmic globular inclusions to exclude hepatic fibrinogen storage disease...

[View Link Below for More]
CLINICAL AND MOLECULAR CHARACTERISTICS OF MITOCHONDRIAL DNA DEPLETION SYNDROME ASSOCIATED WITH NEONATAL CHOLESTASIS AND LIVER FAILURE

AUTHOR(S): AL-HUSSAINI, A., FAQEIH, E., EL-HATTAB, A. W., ALFADHEL, M., ASERY, A., ET AL.

AFFILIATION: DIVISIONS OF PEDIATRIC GASTROENTEROLOGY AND MEDICAL GENETICS, THE CHILDREN’S HOSPITAL, KING FAHAD MEDICAL CITY, COLLEGE OF MEDICINE, KING SAUD BIN ABDULAZIZ UNIVERSITY FOR HEALTH SCIENCES; DIVISION OF GENETICS, DEPARTMENT OF PEDIATRICS, KING SAUD BIN ABDULAZIZ UNIVERSITY FOR HEALTH SCIENCES, KING ABDULAZIZ MEDICAL CITY; DEPARTMENT OF RADIOLOGY, KING SAUD BIN ABDULAZIZ UNIVERSITY FOR HEALTH SCIENCES, KING FAHAD MEDICAL CITY; DEPARTMENT OF PATHOLOGY, KING ABDULLAH INTERNATIONAL MEDICAL RESEARCH CENTER, KING SAUD BIN ABDULAZIZ UNIVERSITY FOR HEALTH SCIENCES, KING ABDULAZIZ MEDICAL CITY, RIYADH, SAUDI ARABIA; ET AL.

ABSTRACT:
Objective: To determine the frequency of mitochondrial DNA depletion syndrome (MDS) in infants with cholestasis and liver failure and to further clarify the clinical, biochemical, radiologic, histopathologic, and molecular features associated with MDS due to deoxyguanosine kinase (DGUOK) and MPV17 gene mutations.

Study Design: We studied 20 infants with suspected hepatocerebral MDS referred to our tertiary care center between 2007 and 2013. Genomic DNA was isolated from blood leukocytes, liver, and/or skeletal muscle samples by standard methods. Mitochondrial DNA copy number relative to nuclear DNA levels was determined in muscle and/or liver DNA using real-time quantitative polymerase chain reaction and compared with age-matched controls. Nuclear candidate genes, including polymeraseg, MPV17, and DGUOK were sequenced using standard analyses.

... [View Link Below for More]

SHORTLINK: bit.ly/1VLBpef
A NOVEL MPV17 GENE MUTATION IN A SAUDI INFANT CAUSING FATAL PROGRESSIVE LIVER FAILURE

AUTHOR(S): AL SARKHY, A., AL-SUNAID, A., ABDULLAH, A., ALFADHEL, M., & EIYAD, W.

AFFILIATION: KING ABDULAZIZ MEDICAL CITY/DEPARTMENT OF PATHOLOGY; KING ABDULAZIZ MEDICAL CITY, KING KHALID UNIVERSITY HOSPITAL/PEDIATRIC DEPARTMENT; KING ABDULAZIZ MEDICAL CITY/PEDIATRIC DEPARTMENT, RIYADH, SAUDI ARABIA

ABSTRACT:
We describe in this report the clinical, biochemical, and molecular features of a Saudi infant with hepatocerebral MDS secondary to a novel homozygous mutation in the MPV17 gene. An automated sequencing of the nuclear MPV17 gene was performed. The coding region (7 exons) of the MPV17 gene was amplified using an M13-tagged intronic primer and screened by direct sequencing of the PCR-amplified products (GenBank Association Number NM_002437.4). The sequencing of the entire coding region and intron-exon boundaries of MPV17 gene revealed a single homozygous variant, c.278A > C(p.Q93P), which predicts the substitution of a highly conserved amino acid. This particular sequence variant has not been previously reported as a single-nucleotide polymorphism (SNP) or pathogenic mutation. Diagnostic workup for neonatal liver disorders should include mutation screening for known genes. The new advances in molecular genetics can help clinicians establish the diagnosis in a timely fashion, which may prevent a child from undergoing invasive and expensive investigations.... [View Link Below for More]
INCIDENCE OF PEDIATRIC INFLAMMATORY BOWEL DISEASE IN SAUDI ARABIA: A MULTICENTER NATIONAL STUDY


AFFILIATION: Department of Pediatrics, Division of Gastroenterology, King Khalid University Hospital, King Saud University, Riyadh, Saudi Arabia; Department of Pediatrics, Division of Gastroenterology, King Abdulaziz University Hospital, King Abdulaziz University, Jeddah, Saudi Arabia; Department of Pediatrics, Division of Gastroenterology, King Faisal Specialist Hospital and Research Center, Riyadh, Saudi Arabia; Department of Pediatrics, Division of Gastroenterology, Dhahran Health Center, Saudi Aramco Medical Services Organization, Dhahran, Saudi Arabia; Department of Pediatrics, Division of Gastroenterology, King Abdulaziz Medical City, National Guard Health Affairs, Jeddah, Saudi Arabia

ABSTRACT:
Pediatric inflammatory bowel disease (IBD) is increasingly recognized in developing countries; however, the incidence and trend over time have not been reported.

Methods: This retrospective study included children diagnosed with IBD in gastroenterology centers in the Kingdom of Saudi Arabia between 2003 and 2012. The date of birth, date and age at diagnosis, gender, and final diagnosis were collected on special forms. Clinical, laboratory, imaging, endoscopy, and histopathology results were reviewed to confirm the final diagnosis. Descriptive statistics were used to compare ulcerative colitis and Crohn’s disease in different age groups, and significance was assessed by the chi-square test. Incidence rates and trend over time were analyzed with the assumption of Poisson distribution. The incidence rate over time was compared in 2 periods (2003-2007 and 2008-2012). A P value of <0.05 and 95% confidence intervals were used to assess the significance and precision of the estimates.... [View Link Below for More]
VISUAL DIAGNOSIS: CHRONIC DIARRHEA AND FAILURE TO THRIVE IN A 5-YEAR-OLD GIRL

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ABSTRACT:
A 5-year-old girl presents to the clinic with a history of chronic diarrhea and failure to thrive of 6 months’ duration. She had a known history of hemophagocytic lymphohistiocytosis diagnosed at age 2 months. Six months later, she underwent allogeneic bone marrow transplantation (BMT) (unrelated peripheral blood stem cell). The mother describes the diarrhea as mucousy and bloody. The diarrhea (8 loose bowel movements per day) is associated with weight loss. She has a poor appetite but no vomiting or abdominal distension. She has no rashes. She was a product of full-term, normal pregnancy. Her review of system findings were unremarkable. Physical examination reveals that her weight and height are both below the fifth percentile for age. Vital signs are normal. She is listless and dehydrated. The rest of physical examination findings are normal. The laboratory study findings include a hemoglobin level of 9.2 g/dL (92 g/L) (reference range, 12.2–15.3 g/dL [122–153 g/L]) and normal white blood cell, platelet, C-reactive protein, bilirubin, alkaline phosphatase, alanine transaminase and aspartate aminotransferase values. The stool samples contains many white blood cells, but her stool culture results are negative. Sigmoidoscopy reveals erythematous mucosa and multiple ulcers (Figure 1). The histopathologic biopsy of the sigmoid reveals crypt apoptotic epithelial cells (Figure 2). A diagnosis is made based on clinical, endoscopic, and pathologic findings... [View Link Below for More]

SHORTLINK: bit.ly/1KG7YIO
**IGG4-related Sclerosing Mesenteritis in a 7-Year-Old Saudi Girl**


**Affiliation:** Department of Pediatric Gastroenterology, King Saud Bin Abdulaziz University for Health Sciences, National Guard Health Affairs, Jeddah, Kingdom of Saudi Arabia

**Abstract:**
Sclerosing mesenteritis (SM) is a rare, benign inflammatory disorder of unknown etiology, affecting the membranes of the digestive tract that involves lymphoplasmacytic inflammation, fat necrosis, and fibrosis of the mesentery. We report a child patient with a history of recurrent abdominal pain and fever who was found to have an intra-abdominal mass suspicious for malignancy. A tissue biopsy revealed the diagnosis of SM associated with IgG4-related systemic disease. The patient is currently maintained on 5 mg prednisone daily and no recurrence of symptoms was noted during the 24-month follow-up period. We emphasize, therefore, that SM can present clinical challenges and the presence of SM should cue clinicians to search for other coexisting autoimmune disorders that can have various outcomes. [View Link Below for More]
Efficacy of Antibacterial Prophylaxis for Preventing Urinary Tract Infections in Renal Transplant Recipients


Affiliation: Pharmaceutical Sciences Department, College of Pharmacy, King Saud bin Abdulaziz University for Health Sciences; Pharmacy Practice Department, College of Pharmacy, King Saud bin Abdulaziz University for Health Sciences, King Abdulaziz Medical City, National Guard Health Affairs; Department of Medicinal Chemistry and Pharmacognosy, Jordan University of Science and Technology

Abstract:
Background: The increased incidence of urinary tract infections (UTIs) following organ transplantation necessitates the use of antibacterial prophylaxis. The goal of this review is to describe observational studies concerning the use of antibacterial prophylaxis to prevent UTIs in renal transplant recipient (RTRs). Methods and Findings: Materials were gathered through a structured search of the databases available at the King Saud bin Abdulaziz University for Health Sciences on-line library for articles published between 2007 and 2013. However, due to the scarcity of prospective trials in this topic during this period, this review will be comprehensive rather than systematic. The increased recurrent UTIs in RTRs were associated with immunosuppressive therapy, which necessitates the use of antibacterial prophylaxis to reduce during the first year post-transplantation. However, the efficacy and optimal duration of anti-bacterial prophylaxis for UTIs remains debatable.

Conclusions: Although many studies have agreed on the importance of routine antibacterial therapy, UTI prevalence in RTRs is high. Reducing infection complications may be accomplished by properly choosing of immunosuppressants and antibacterials to achieve a correct balance. However, there was no sufficient evidence to confirm the potential efficacy of antibacterial prophylaxis, hence; more research is needed to further delineate the consequences of using antibacterials in RTRs.... [View Link Below for More]
PHARMACISTS’ PERCEIVED BARRIERS TO PATIENT COUNSELING

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ABSTRACT:
The aim of this study was to investigate the prevalence and nature of patient counseling barriers as perceived by pharmacists. The data was collected by adding a question about the existence and nature of counseling barriers, if they exist, to the standard patient counseling form used by pharmacists. The prevalence of counseling barriers was 12.5%. The major counseling barrier was counseling the caregiver instead of the patient (27.8%), followed by low level of education, lack of privacy, lack of interest/time and partial consciousness of the patient (16.7% each) and hearing impairment (11.1%). Finally gender and delay of discharge order were the least reported (5.26% each). This study recommends that a special counseling protocol should be implemented for patients with low level of education and partial hearing impairment and that a proper setting for counseling and strict implementation of policies should be provided by the institution.... [View Link Below for More]
HEALTH CARE PROFESSIONALS' AWARENESS OF, KNOWLEDGE ABOUT AND ATTITUDE TO INFLUENZA VACCINATION

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AFFILIATION: COLLEGE OF PHARMACY, HAIL UNIVERSITY, HAIL, SAUDI ARABIA; MEDICATION SAFETY RESEARCH CHAIR, KING SAUD UNIVERSITY, RIYADH, SAUDI ARABIA; COLLEGE OF PHARMACY, KING SAUD BIN ABDULAZIZ UNIVERSITY FOR HEALTH SCIENCES, RIYADH, SAUDI ARABIA; PRINCE MOHAMMAD BIN ABDULAZIZ HOSPITAL, SAUDI ARABIA; MEDICATION SAFETY RESEARCH CHAIR, KING SAUD UNIVERSITY, RIYADH, SAUDI ARABIA; COLLEGE OF PHARMACY, KING SAUD UNIVERSITY, RIYADH, SAUDI ARABIA

ABSTRACT:

Objectives: Influenza vaccination is recommended to all health care professionals (HCPs). However, vaccination rate among HCPs is low and may be due to uncertainty about the effectiveness of the vaccine and fear of its adverse effects. Therefore, this study aimed to investigate the awareness, knowledge, and attitude of HCPs towards influenza vaccination and we ascertain reasons for not getting vaccinated.

Method: A cross-sectional conducted in 6 major hospitals in Saudi Arabia. 245 anonymous questionnaires were distributed to a convenient sample of staff during the 2012-2013 influenza season. The validated questionnaire consists of five sections that collect information about: demographics, attitude towards influenza vaccination, knowledge about influenza virus and vaccination, current practice and awareness of published guidelines.

Results: 242 completed questionnaires were received, a response rate of 98%. 38% of HCPs reported getting vaccinated. The most common reasons given by HCPs for not getting vaccinated were: fear of contracting illness (16%), belief that they are not at risk from influenza because they are young and healthy (13%) and being unaware of vaccine availability (13%).... [View Link Below for More]
VITAMIN D STATUS AMONG PATIENTS VISITING A TERTIARY CARE CENTER IN RIYADH, SAUDI ARABIA: A RETROSPECTIVE REVIEW OF 3475 CASES

AUTHOR(S): ALFAWAZ, H., TAMIM, H., ALHARBI, S., ALJASER, S., & TAMIMI, W.

AFFILIATION: DEPARTMENT OF FOOD SCIENCE AND NUTRITION, COLLEGE OF FOOD SCIENCE AND AGRICULTURE KING SAUD UNIVERSITY, RIYADH, SAUDI ARABIA; DEPARTMENT, COLLEGE OF SCIENCE, PRINCE MUTAIB CHAIR FOR BIOMARKERS OF OSTEOPOROSIS, BIOCHEMISTRY, KING SAUD UNIVERSITY, RIYADH, SAUDI ARABIA; DEPARTMENT OF INTERNAL MEDICINE, CLINICAL RESEARCH INSTITUTE, AMERICAN UNIVERSITY OF BEIRUT MEDICAL CENTER, BEIRUT, LEBANON; PHARMACEUTICAL CARE DEPARTMENT, COLLEGE OF PHARMACY, KING SAUD BIN ABDULAZIZ UNIVERSITY FOR HEALTH SCIENCES, RIYADH, SAUDI ARABIA; ET AL.

ABSTRACT:

Background: Vitamin D deficiency has been implicated in several chronic, non-communicable diseases independent of its conventional role in bone and calcium homeostasis. In this retrospective study, we determined the prevalence of vitamin D deficiency and its association to several cardiometabolic indices among patients visiting King Abdulaziz Medical City (KAMC), a tertiary hospital in Riyadh, Saudi Arabia.

Methods: A total of 3475 charts of out-patient subjects who visited KAMC from September 2009 until December 2010 were reviewed and included. Variables of interest included measurements of vitamin D status, glycemic and renal profile, as well as trace elements (calcium and phosphorous).

Results: The over-all prevalence of vitamin D deficiency in the cohort studied was 78.1% in females and 72.4% in males. 25(OH) vitamin D was significantly associated with increasing age and weight (p-values < 0.0001 and 0.005, respectively). It was also positively associated with albumin, calcium and phosphorous (p-values < 0.0001, < 0.0001 and 0.0007, respectively) and negatively associated with alkaline phosphatase as well as circulating levels of PTH (p-values 0.0002 and 0.0007, respectively).... [View Link Below for More]
INVESTIGATION OF THE EFFECTIVENESS OF ANTIBACTERIAL PROPHYLAXIS IN RENAL TRANSPLANT RECIPIENTS


AFFILIATION: Pharmacy Practice Department, College of Pharmacy, King Saud bin Abdulaziz University for Health Sciences, Riyadh, Saudi Arabia; King Abdulaziz Medical City, National Guard Health Affairs, Riyadh, Saudi Arabia; College of Medicine, King Saud bin Abdulaziz University for Health Sciences, Riyadh, Saudi Arabia; Pharmaceutical Sciences Department, College of Pharmacy, King Saud bin Abdulaziz University for Health Sciences, Riyadh, Saudi Arabia; Department of Medicinal Chemistry and Pharmacognosy, Jordan University of Science and Technology, Irbid, Jordan

ABSTRACT:

Introduction: Bacterial urinary tract infections (UTIs) are very common complications in renal transplant recipients (RTRs). Methodology: This study is a follow-up to a previous investigation of post-renal transplant UTIs, which led to changes in the antibacterial agents used for prophylaxis and its duration. In this retrospective study of the medical records of 86 RTRs, the incidence, risk factors, causative bacteria, and duration prophylaxis were investigated. Results: The average age of the RTRs was 41.55 ± 14.06 years, and two-thirds of them were males. A total of 57.3% of the RTRs received cadaveric kidneys; the rest received kidneys from living related donors. The prescribed regimen (one month or three months of cotrimoxazole and norfloxacin) was completed by 75% of the RTRs. The incidence of UTIs in the RTRs who received this prophylaxis was 32.3%, which was significantly lower than the incidence with norfloxacin alone (56%). Female gender was found to be a risk factor for postrenal transplant UTIs. Escherichia coli was the most common pathogen (51.7%), followed by Klebsiella and Enterobacter (17.2% each). Most UTIs (86.2%) were detected within the first post-transplant month. Conclusions: There was no clear advantage to prescribing antibacterial prophylaxis for three months versus one month, as 86.2% of the UTIs occurred within the first month post-transplant regardless of prophylaxis duration.... [View Link Below for More]

SHORTLINK: bit.ly/1NXmb4q
MEDICATION ADHERENCE AMONG ADULT PATIENTS ON HEMODIALYSIS


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ABSTRACT:
Medication adherence was assessed in 89 patients on hemodialysis (HD) at the King Abdul Aziz Medical City using an Arabic version of the Morisky Medication Adherence Scale (MASS-8). The results of the study revealed that 31.46% and 40.45% of the participants showed low and medium adherence, respectively, while 28.09% showed high medication adherence. Accordingly, 71.91% of the patients visiting the dialysis unit were considered medication non-adherent. While being of older age (P = 0.012), being married (P = 0.012) increased the level of adherence, being of medium level of education (P = 0.024) decreased adherence levels. On the other hand, gender, presence of a caretaker, number of members in the household and employment status seems to have no effect on the level of medication adherence. These results call upon the practitioners in HD units to develop intervention programs that can increase the level of medication adherence..... [View Link Below for More]
POST MARKET RESEARCH OF ORAL ANTI-DIABETIC DRUGS: METFORMIN, GLIPIZIDE, AND PIOGLITAZONE


AFFILIATION: College of Pharmacy, King Saud Bin Abdulaziz University for Health Sciences, Riyadh, Saudi Arabia; Pharmaceutical Care Department, King Abdulaziz Medical City, National Guard Health Affairs, Riyadh, Saudi Arabia; Faculty of Pharmacy, Jordan University of Science and Technology, Irbid, Jordan; College of Pharmacy, University of Michigan, Ann Arbor, MI, USA

ABSTRACT:
The aims of this study were to document the post market research of the pharmaceutical industry and the effects of labeling revisions on post market studies and outcomes of oral anti-diabetics. A literature search identified post market studies of metformin, glipizide, and pioglitazone. Labeling revisions in MedWatch® were collected as indicators of the FDA’s response to post market drug safety. Data were analyzed by comparing industry and non-industry sponsored studies for the number of pre- and post-market studies, study sponsorship, drug labeling revisions, and outcomes after the drugs became generic. The number of industry versus non-industry sponsored studies was 149 (49%) and 155 (51%) for metformin; 33 (44%) and 42 (56%) for glipizide; and 85 (80.2%) versus 21 (19.8%) for pioglitazone. The differences in favorable results between industry and non-industry sponsored studies were similar for metformin and glipizide. The number of industry-sponsored studies with favorable results did not significantly increase after metformin or glipizide became generic. Studies sponsored by the manufacturer of glipizide reported significantly more favorable outcomes in comparison to studies sponsored by industry competitors (90% favorable, 10% neutral, 0% unfavorable, P < 0.05). For pioglitazone, significantly more favorable results were reported in industry-sponsored studies (88.2%) as compared to non-industry (66.7%) (p = 0.008) sponsored studies. A significant correlation exists between the number of pioglitazone’s labeling revisions and the number of post market studies (p = 0.008). Post market research is guided by the pharmaceutical industry and by individual researchers’ interests. [View Link Below for More]

SHORTLINK: bit.ly/1IT0HxR
INFLUENCE OF DRUG SOLUBILITY AND POLYMERS SUPPLY SOURCE ON THE PHYSICAL PERFORMANCE OF MATRIX TABLETS

AUTHOR(S): MUSTAFA, M. E., NUR, A. O., OSMAN, Z. A., & AHMED, S. A.

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ABSTRACT:

Objective: The aim of this study is to explore the possible effects of drug solubility and commercial supply sources of HPMC and PVP on physical properties of matrix tablets.

Methods: Two different supply sources (A and B) for Hydroxy Propyl Methyl Cellulose (HPMC) as matrix forming polymer and Polyvinyl Pyrrilidone (PVP) as matrix supportive polymer were used with either Chlorphenaramine maleate (CPM), as a water soluble drug or Atenolol(ATN), as a water insoluble drug, to produce a series of matrix formulations using direct compression according to a 23.

Results: Matrix hardness and friability properties demonstrated to be influenced by PVP supply source as an individual factor alone or in combination with drug solubility factor, moreover, both properties were found to be less affected by drug solubility and HPMC supply source, as individual factors. Compared to other factors, drug solubility was found to have a substantial influence on drug dissolution efficiency (DE) and diffusion exponent of the drug release (n) of different matrices. full factorial design. Matrices were then qualified for friability, hardness, and drug release attributes.

Conclusion: Variation in commercial PVP supply source and drug solubility could possibly result in matrices with different physical performance.

Keywords: Drug solubility, HPMC supply source, PVP supply source, Matrix hardness, Matrix friability, Matrix release.... [View Link Below for More]
**NOVEL N-SUBSTITUTED AMINOBENZAMIDE SCAFFOLD DERIVATIVES TARGETING THE DIPEPTIDYL PEPTIDASE-IV ENZYME**

**AUTHOR(s):** AL-BALAS, Q. A., SOWAILEH, M. F., HASSAN, M. A., QANDIL, A. M., ALZOUBI, K. H., ET AL.

**AFFILIATION:** DEPARTMENT OF MEDICINAL CHEMISTRY AND PHARMACOGNOSY, FACULTY OF PHARMACY, JORDAN UNIVERSITY OF SCIENCE AND TECHNOLOGY, IRBID, JORDAN; PHARMACEUTICAL SCIENCES DEPARTMENT, COLLEGE OF PHARMACY, KING SAUD BIN ABDULAZIZ UNIVERSITY FOR HEALTH SCIENCES, RIYADH, SAUDI ARABIA; DEPARTMENT OF CLINICAL PHARMACY, FACULTY OF PHARMACY, JORDAN UNIVERSITY OF SCIENCE AND TECHNOLOGY, IRBID, JORDAN; DEPARTMENT OF PHARMACEUTICAL TECHNOLOGY, FACULTY OF PHARMACY, JORDAN UNIVERSITY OF SCIENCE AND TECHNOLOGY, IRBID, JORDAN; DEPARTMENT OF MEDICAL LABORATORY SCIENCES, FACULTY OF APPLIED MEDICAL SCIENCES, JORDAN UNIVERSITY OF SCIENCE AND TECHNOLOGY, IRBID, JORDAN

**ABSTRACT:**

**Background:** The dipeptidyl peptidase-IV (DPP-IV) enzyme is considered a pivotal target for controlling normal blood sugar levels in the body. Incretins secreted in response to ingestion of meals enhance insulin release to the blood, and DPP-IV inactivates these incretins within a short period and stops their action. Inhibition of this enzyme escalates the action of incretins and induces more insulin to achieve better glucose control in diabetic patients. Thus, inhibition of this enzyme will lead to better control of blood sugar levels.

**Methods:** In this study, computer-aided drug design was used to help establish a novel N-substituted aminobenzamide scaffold as a potential inhibitor of DPP-IV. CDOCKER software available from Discovery Studio 3.5 was used to evaluate a series of designed compounds and assess their mode of binding to the active site of the DPP-IV enzyme. The designed compounds were synthesized and tested against a DPP-IV enzyme kit provided by Enzo Life Sciences. The synthesized compounds were characterized using proton and carbon nuclear magnetic resonance, mass spectrometry, infrared spectroscopy, and determination of melting point. [View Link Below for More]

**SHORTLINK:** bit.ly/1EMdkiQ
Nanostructure-based platforms-current prospective in ophthalmic drug delivery

Author(s): Sharma, R., & Yassin, A. E.

Affiliation: Department of Pharmaceutics, College of Pharmacy, King Saud Bin Abdulaziz University for Health Sciences, Riyadh, Kingdom of Saudi Arabia

Abstract:
The topically applied drugs as drops are washed off from the eye in very short period, resulting in low ocular bioavailability of drugs. Number of approaches have been attempted to increase the bioavailability and the duration of action of ocular drugs. This review provides an insight into various novel approaches; hydrophilic nanogels, solid lipid nanoparticles, and nanosponges applied very recently in the delivery of insoluble drugs, prolonging the ocular residence time, minimize pre-corneal drug loss and, therefore, bioavailability and therapeutic efficacy of the drugs. Despite various scientific approaches, efficient ocular drug delivery remains a challenge for pharmaceutical scientists.... [View Link Below for More]
NOVEL SULPIRIDE-LOADED SOLID LIPID NANOPARTICLES WITH ENHANCED INTESTINAL PERMEABILITY

AUTHOR(S): IBRAHIM, W. M., ALOMRANI, A. H., & YASSIN, A. E. B.

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ABSTRACT:

Background: Solid lipid nanoparticles (SLN), novel drug delivery carriers, can be utilized in enhancing both intestinal permeability and dissolution of poorly absorbed drugs. The aim of this work was to enhance the intestinal permeability of sulpiride by loading into SLN.

Methods: A unique ultrasonic melt-emulsification method with minimum stress conditions was used for the preparation of SLN. The mixture of the drug and the melted lipids was simply dispersed in an aqueous solution of a surfactant at a temperature that was 10°C higher than the melting points of the lipids using probe sonication, and was then simultaneously dispersed in cold water. Several formulation parameters were optimized, including the drug-to-lipid ratio, and the types of lipids and surfactants used. The produced SLN were evaluated for their particle size and shape, surface charge, entrapment efficiency, crystallinity of the drug and lipids, and the drug release profile. The rat everted sac intestine model was utilized to evaluate the change in intestinal permeability of sulpiride by loading into SLN.

Results: The method adopted allowed successful preparation of SLN with a monodispersed particle size of 147.8-298.8 nm. Both scanning electron microscopic and atomic force microscopic images showed uniform spherical particles and confirmed the sizes determined by the light scattering technique. Combination of triglycerides with stearic acid resulted in a marked increase in zeta potential, entrapment efficiency, and drug loading; however, the particle size was increased. The type of surfactant used was critical for particle size, charge, drug loading, and entrapment efficiency. Generally,.... [View Link Below for More]

SHORTLINK: bit.ly/1UMD1Yf
EXPLORING THE MANAGEMENT OF CANNABIS USE AMONG WOMEN AND DURING PREGNANCY

AUTHOR(S): IBRAHIM, W. M., ALHARBI, F. F., ELGUEBALY, N.

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ABSTRACT:
Objective: Exploring the potential management of cannabis among women and during pregnancy, an expanding public health issue.

Method: A Medline search was conducted from 1982 to 2012 for articles highlighting drug abuse among women and during pregnancy, with particular emphasis on cannabis/marijuana use during pregnancy and delivery, its management, as well as the impact of the drug on the fetus.

Results: Cannabis is the most commonly used illicit drug among youth and pregnant women in western societies. Historically, cannabis has been used to alleviate nausea during pregnancy. On reviewing the literature on the use of medication and on psychosocial approaches in women and during pregnancy, clinical guidelines as well as a research agenda including prevalence estimates through urine screening were seen to emerge. The implication of a positive test should not be punitive. Clinical trials on pregnant women should also be conducted. The impact of [DELTA]9-tetrahydrocannabinol and other cannabinoids should be further investigated. Particular support of the infant and developing child born from a cannabis-consuming mother is warranted.

Conclusions: Compared with the preventive efforts targeting alcohol and tobacco use during pregnancy, the increasingly common use of cannabis is relatively neglected and in need of further specific investigations.... [View Link Below for More]

SHORTLINK: bit.ly/1g6lBkW

ADDICTIVE DISORDERS AND THEIR TREATMENT

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KING ABDULLAH INTERNATIONAL MEDICAL RESEARCH CENTER ANNUAL PUBLICATION BOOK 2014
TRENDS IN THE PREVALENCE OF TYPE 2 DIABETES MELLITUS AND OBESITY IN THE ARABIAN GULF STATES: SYSTEMATIC REVIEW AND META-ANALYSIS

AUTHOR(S): Alharbi, N. S., Almutari, R., Jones, S., Al-Daghri, N., Khunti, K., et al

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ABSTRACT:
We report trends in type 2 diabetes mellitus and obesity in adults residing in the Arabian Gulf States. Among the Saudi population, the prevalence of diabetes increased from 10.6% in 1989 to 32.1% in 2009. Prevalence of the disease increased faster among Saudi men than women, with growth rates of 0.8% and 0.6% per year, respectively.

Background & Aim: The prevalence of type 2 diabetes mellitus (T2DM) has increased rapidly in Arabic countries over the past 30 years. According to the International Diabetes Federation (IDF), three of the Arabian Gulf countries have the highest prevalence of T2DM anywhere in the world [1]. Obesity is one of the main factors affecting the prevalence of T2DM, which has also reached epidemic proportions in the Arabian Gulf States [2]. However, exact figures relating to the increasing prevalence of these diseases have yet to be collected, compared and analyzed for the region [3], [4] and [5]. We report how the prevalence of T2DM and obesity had changed over the last 30 years among adults residing in the Arabian Gulf States.... [View Link Below for More]
HOW ROBUST CAN A MACHINE LEARNING APPROACH BE FOR CLASSIFYING ENCRYPTED VOIP?

AUTHOR(S): Alshammari, R., & Zincir-Heywood, A. N.

AFFILIATION: College of Public Health and Health Informatics, King Saud Bin Abdulaziz University for Health Sciences, Riyadh, Kingdom of Saudi Arabia; Faculty of Computer Science, Dalhousie University, Halifax, Canada

ABSTRACT:
The classification of encrypted network traffic represents an important issue for network management and security tasks including quality of service, firewall enforcement, and security. Traffic classification becomes more challenging since the traditional techniques, such as port numbers or Deep Packet Inspection, are ineffective against Peer-to-Peer Voice over Internet Protocol (VoIP) applications, which used non-standard ports and encryption. Moreover, traffic classification also represents a particularly challenging application domain for machine learning (ML). Solutions should ideally be both simple—therefore efficient to deploy—and accurate. Recent advances in ML provide the opportunity to decompose the original problem into a subset of classifiers with non-overlapping behaviors, in effect providing further insight into the problem domain and increasing the throughput of solutions. In this work, we investigate the robustness of an ML approach to classify encrypted traffic on not only different network traffic but also against evasion attacks. Our ML based approach only employs statistical network traffic flow features without using the Internet Protocol addresses, source/destination ports, and payload information to unveil encrypted VoIP applications in network traffic. What we mean by robust signatures is that the signatures learned by training on one network are still valid when they are applied to traffic coming from totally different locations, networks, time periods, and also against evasion attacks. The results on different network traces, as well as on the evasion of a Skype classifier, demonstrate that the performance of the signatures are very promising, which implies that the statistical information based on the network layer with the use of ML can achieve high classification accuracy and produce robust signatures.... [View Link Below for More]
TIME TRENDS IN SINGLE VERSUS CONCOMITANT NECK AND BACK PAIN IN FINNISH ADOLESCENTS: RESULTS FROM NATIONAL CROSS-SECTIONAL SURVEYS FROM 1991 TO 2011

AUTHOR(S): STÄHL, M. K., EL-METWALLY, A. A. S., & RIPPELÄ, A. H.

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ABSTRACT:

Background: Previous studies, in late 20th century, suggest an increase in the prevalence of neck pain and low back pain among children and adolescents, when neck and low back pain were studied separately. This study investigated time trends in adolescent spinal pain between 1991 and 2011 by classifying pain into the following three classes: neck pain alone, low back pain alone, and concomitant neck and low back pain.


Results: The total number of respondents in these eight comparable cross-sectional surveys was 51,044 with a response proportion of 64%. The prevalence of concomitant neck and low back pain showed a steady increase from 1991 to 2009/2011; the prevalence almost quadrupled among 12-14-year-olds girls (from 2% to 7.5%), and more than doubled among 12-14-year-old boys (from 1.6% to 3.8%), and among 16-18-year-old boys (from 4.2 to 9.9%) and girls (6.9% to 15.9%).... [View Link Below for More]
The association between computer literacy and training on clinical productivity and user satisfaction in using the electronic medical record in Saudi Arabia education & training

Author(s): Alasmary, M., El Metwally, A., & Househ, M.

Affiliation: Prince Sultan Medical Military City (PSMMC), Riyadh, Kingdom of Saudi Arabia; College of Public Health and Health Informatics, King Saud Bin Abdulaziz University for Health Sciences, National Guard Health Affairs, Riyadh, Kingdom of Saudi Arabia

Abstract:
The association of computer literacy, training on clinical productivity and satisfaction of a recently implemented Electronic Medical Record (EMR) system in Prince Sultan Medical Military City ((PSMMC)) was investigated. The scope of this study was to explore the association between age, occupation and computer literacy and clinical productivity and users' satisfaction of the newly implemented EMR at PSMMC as well as the association of user satisfaction with age and position. A self-administrated questionnaire was distributed to all doctors and nurses working in Alwazarat Family and Community Center (a Health center in PSMMC). A convenience sample size of 112 healthcare providers (65 Nurses and 47 physicians) completed the questionnaire. A combination of correlation, One Way ANOVA and t-tests were used to answer the research questions. Participants had high levels of self-reported literacy on computers and satisfaction of the system. Both levels were higher among physicians than among nurses. A moderate but significant (at p≤0.01 level) correlation was found between computer literacy and users' satisfaction towards the system (R≤=0.343). Age was weakly, but significantly (at p≤0.05), positively correlated with satisfaction with the system (R≤=-0.29). Self-reported system productivity and satisfaction was statistically correlated at p≤.01 (R≤=-0.509). High level of satisfaction with training on using the system was not positively correlated with overall satisfaction of using the system. This study demonstrated that EMR users with high computer literacy skills were more satisfied with using the EMR than users with low computer literacy skills.

[View Link Below for More]
Empowering Patients through Social Media: The Benefits and Challenges

Author(s): Househ, M., Borycki, E., & Kushniruk, A.

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Abstract:
This article explores the range of social media platforms used by patients and examines the benefits and challenges of using these tools from a patient perspective. A literature review was performed to investigate the use of social media technology by patients. The MEDLINE database was searched using the terms “social media” and “patient.” The search was conducted in September 2012 and yielded 765 abstracts. Initially, 63 abstracts were selected. All articles dating from 2004 through 2012 were included. Only 12 articles were found to be relevant for the purposes of the review. The results of this research found that there appears to be an increase in the use of social media by patients across the healthcare spectrum. The research indicates a promising future for the use of social media by patients; however, evidence related to the efficacy and effectiveness of social media is currently limited. Various challenges have also been identified relating to privacy and security concerns, usability, the manipulation of identity, and misinformation. The use of social media technology is an emerging trend for patients who are seeking health information. Conclusions are that such technology holds promise for improving patient engagement and empowerment and community building. Social media has a future in healthcare, especially with regard to patient engagement and empowerment; however, there are several challenges to overcome before the technology can achieve its potential.... [View Link Below for More]
DEVELOPING A FRAMEWORK FOR MEANINGFUL USE OF PERSONAL HEALTH RECORDS (PHRs)

AUTHOR(s): Househ, M. S., Borycki, E. M., Rohrer, W. M., & Kushniruk, A. W.

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ABSTRACT:
Significant advancements have been made in the technological development of the personal health record (PHR). The goal of the PHR is to encourage patients and health consumers to take individual responsibility for their health by being more engaged in the health care process through the use of the PHR. Many PHR applications are extensions of the electronic health record (EHR) and have limited patient input in their design. As more patients and health consumers use PHRs, there is an increasing need to understand the ways in which patients or health consumers use them. The major objective of this paper is to introduce a framework for understanding meaningful use of PHRs and to discuss the associated challenges that may impede meaningful use. The primary challenges that may hinder meaningful use of PHRs relate to health system challenges such as health care regulatory and managerial policies and multiple institutional, societal, cultural, and economic issues. Additional challenges, such as technology, design, usability, and implementation, still exist that relate to socio-technical issues.... [View Link Below for More]
LEBANESE MEDICAL STUDENTS' INTENTION TO DELIVER SMOKING CESSATION ADVICE

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ABSTRACT:
Objectives: Objectives of this study were to examine the constructs of the Theory of Planned Behavior and determine how they predict Lebanese medical students' behavioral intention to advise patients to quit smoking.

Study Design: This was a cross-sectional study conducted among 191 medical students from six medical schools in Lebanon.

Methods: The instrument contained scales that measured attitudes toward the behavior, behavioral beliefs, subjective norms, and perceived behavioral control. Psychometric properties of the scale were examined. Item to total scale score correlations were determined and linear regression was conducted to predict the intention to advise smokers to quit.

Results: Respondents had a positive, but not very high, intention to deliver smoking cessation advice. Students reported a positive attitude toward advising patients to quit cigarette smoking and a strong belief in the physician's obligations in smoking cessation advising. The majority reported lack of time to provide smoking cessation advice, insufficient knowledge of pharmacological aids, and the lack of openness of the patient to receive the advice. The attitude scale was the only variable that yielded a significant prediction of the intended behavior.... [View Link Below for More]

SHORTLINK: bit.ly/1ip5SRI
MULTILEVEL FUSION FOR FAST ONLINE SIGNATURE RECOGNITION USING MULTI-SECTION VQ AND TIME

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ABSTRACT:
Signature recognition is one of the most important biometrics authentication methods, is an integral part of current business activities, and is considered a non-invasive and non-threatening process. This paper presents an online signature verification system using multi-section VQ. We have used multi-section codebooks for signature recognition by splitting the signature into several sections with every section having its own codebook. The final result is based on the score level fusion of the results of each codebook. Moreover, multilevel fusion is performed in this trial to improve the accuracy. We have used SVC database that contains skilled forgery samples. Our experimental results on SVC database have shown 100 % accuracy with 0.003 EER. [... View Link Below for More]
Ontological Case Base Engineering Methodology for Diabetes Management

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Abstract:
Ontology engineering covers issues related to ontology development and use. In Case Based Reasoning (CBR) system, ontology plays two main roles; the first as case base and the second as domain ontology. However, the ontology engineering literature does not provide adequate guidance on how to build, evaluate, and maintain ontologies. This paper proposes an ontology engineering methodology to generate case bases in the medical domain. It mainly focuses on the research of case representation in the form of ontology to support the case semantic retrieval and enhance all knowledge intensive CBR processes. A case study on diabetes diagnosis case base will be provided to evaluate the proposed methodology. [View Link Below for More]

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SYSTEMIC REVIEW OF THE EPIDEMIOLOGY OF AUTISM IN ARAB GULF COUNTRIES


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ABSTRACT:

Objective: To assess the current state of knowledge on the epidemiology of autism in Arab Gulf countries, and identify gaps for future research.

Methods: PubMed and ScienceDirect databases were used to identify relevant articles published until the 3rd of April 2013 (date of search). The search was conducted using the electronic library of King Saud Bin Abdulaziz University for Health Sciences, Riyadh, Saudi Arabia. Studies were eligible for inclusion if Neurosciences 2014; Vol. 19 (4) they concerned the epidemiology of autism, conducted in any Arab Gulf country, and published in English.

Results: Twelve articles met the inclusion criteria. Studies showed a prevalence ranging from 1.4 to 29 per 10,000 persons. Identified risk factors were metabolic, autoimmune, and environmental in nature. The following determinants were found as possible contributing factors for autism: suboptimal breast-feeding, advanced maternal and paternal age, cesarean section, and prenatal complications.

Conclusion: Only a few studies explored the epidemiology of autism in Arab Gulf countries and none have investigated the burden of the disease on the child, family, or society. More research is needed to better identify the burden and risk factors of autism in Gulf countries..... [View Link Below for More]

SHORTLINK: bit.ly/1JbmReS
Organic photomechanical materials

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Abstract:
Organic molecules can transform photons into Angstrom-scale motions by undergoing photochemical reactions. Ordered media, for example, liquid crystals or molecular crystals, can align these molecular-scale motions to produce motion on much larger (micron to millimeter) length scales. In this Review, we describe the basic principles that underlie organic photomechanical materials, starting with a brief survey of molecular photochromic systems that have been used as elements of photomechanical materials. We then describe various options for incorporating these active elements into a solid-state material, including dispersal in a polymer matrix, covalent attachment to a polymer chain, or self-assembly into molecular crystals. Particular emphasis is placed on ordered media, such as liquid-crystal elastomers and molecular crystals, that have been shown to produce motion on large (micron to millimeter) length scales. We also discuss other mechanisms for generating photomechanical motion that do not involve photochemical reactions, such as photothermal expansion and photoinduced charge transfer. Finally, we identify areas for future research, ranging from the study of basic phenomena in solid-state photochemistry, to molecular and host matrix design, and the optimization of photoexcitation conditions. The ultimate realization of photon-fueled micromachines will likely involve advances spanning the disciplines of chemistry, physics and engineering.... [View Link Below for More]

Chemphyschem

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PRESSURE DEPENDENCE OF THE FORWARD AND BACKWARD RATES OF 9-tert-BUTYLANTHRACENE DEWAR ISOMERIZATION


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**ABSTRACT:**
9-tert-Butylanthracene undergoes a photochemical reaction to form its strained Dewar isomer, which thermally back-reacts to reform the original molecule. When 9-tert-butylanthracene is dissolved in a polymer host, we find that both the forward and reverse isomerization rates are pressure-dependent. The forward photoreaction rate, which reflects the sum of contributions from photoperoxidation and Dewar isomerization, decreases by a factor of 1000 at high pressure (1.5 GPa). The back-reaction rate, on the other hand, increases by a factor of ~3 at high pressure. Despite being highly strained and higher volume, the back-reaction reaction rate of the Dewar isomer is at least 100× less sensitive to pressure than that of the bi(anthracene-9,10-dimethylene) photodimer studied previously by our group. These results suggest that the high pressure sensitivity of the bi(anthracene-9,10-dimethylene) photodimer reaction is not just due to the presence of strained four-membered rings but instead relies on the unique molecular geometry of this molecule.... [View Link Below for More]
IMPROVED SOLID-STATE PHOTOMECHANICAL MATERIALS BY FLUORINE SUBSTITUTION OF 9-ANTHRAENE CARBOXYLIC ACID


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ABSTRACT:
Four fluorinated derivatives of 9-anthracene carboxylic acid (9AC), a molecule that shows a reversible photomechanical response in its crystal form, have been synthesized and characterized. The spectroscopic properties and crystal structures of 4-fluoro-9-anthracene carboxylic acid (4F-9AC), 2-fluoro-9-anthracene carboxylic acid (2F-9AC), 10-fluoro-9-anthracene carboxylic acid (10F-9AC), and 2,6-difluoro-9-anthracene carboxylic acid (2DF-9AC) are all very similar to those of 9AC. However, their photomechanical properties vary widely. 405 nm light was used to induce [4 + 4] photodimerization and a mechanical response in crystalline microneedles and ribbons. Both the photodimer dissociation rate and the mechanical recovery varied by more than an order of magnitude, with 4F-9AC exhibiting the most rapid recovery time, on the order of 30 s. Nanoindentation measurements show that this crystal has a slightly reduced elastic modulus and a significantly reduced hardness, making it less brittle than the 9AC crystal. Large 4F-9AC crystals remain intact after irradiation, without fragmenting, while microneedles can undergo more than 100 mechanical bending cycles. Given the similarity of the crystal packing in all five molecules, the improved...

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CONSTRUCTIVE PERICARDITIS REQUIRING PERICARDIECTOMY AT GROOTE SCHUUR HOSPITAL, CAPE TOWN, SOUTH AFRICA: CAUSES AND PERIOPERATIVE OUTCOMES IN THE HIV ERA (1990-2012)


AFFILIATION: Department of Medicine, Groote Schuur Hospital and University of Cape Town, Cape Town, South Africa; Chris Barnard Division of Cardiothoracic Surgery, Department of Surgery, Groote Schuur Hospital and University of Cape Town, Cape Town, South Africa; College of Medicine, King Saud Bin Abdulaziz University for Health Sciences, Riyadh, Kingdom of Saudi Arabia

ABSTRACT:
Objective: The causes of constrictive pericarditis and predictors of perioperative outcome after pericardiectomy have not been clearly elucidated, especially in Africa, where the disease characteristics differ from those in developed countries. Furthermore, the effect of human immunodeficiency virus (HIV)/acquired immunodeficiency syndrome (AIDS) on pericardial constriction and outcomes after surgery is unknown. We investigated the causes of constrictive pericarditis, outcomes after pericardiectomy, and predictors of mortality in Cape Town, South Africa, during a 22-year period of high HIV/AIDS prevalence.

Methods: A retrospective review of the medical records of all patients who had undergone pericardiectomy for constrictive pericarditis at Groote Schuur Hospital from January 1, 1990 to December 31, 2012 was performed... [View Link Below for More]

AFFILIATION: Lung Infection and Immunity Unit, Division of Pulmonology and University of Cape Town Lung Institute, Department of Medicine, University of Cape Town, Cape Town, South Africa; Department of Internal Medicine, Emory University School of Medicine, Emory University, Atlanta, GA, USA; Department of Science and Technology and National Research Foundation Centre of Excellence for Biomedical Tuberculosis Research, and Medical Research Council Centre for Molecular and Cellular Biology, Division of Molecular Biology and Human Genetics, Faculty of Medicine and Health Sciences, Stellenbosch University, Tygerberg, South Africa; Gordonia Provincial Hospital, Upington, South Africa; Sizwe Tropical Diseases Hospital, Johannesburg, South Africa; College of Sciences and Health Professions, King Saud Bin Abdulaziz University for Health Sciences, Riyadh, Saudi Arabia; et al.

ABSTRACT:

Background: Long-term treatment-related outcomes in patients with extensively drug-resistant (XDR) tuberculosis are unknown. We followed up a cohort of patients to address knowledge gaps.

Methods: Between March, 2008, and August, 2012, we prospectively followed up a cohort of 107 patients from three provinces in South Africa, who had been diagnosed with XDR tuberculosis between August 2002, and February, 2008. Available isolates from 56 patients were genotyped to establish strain type and used for extended susceptibility testing.

... [View Link Below for More]
IMPACT OF CIGARETTE SMOKING ON HISTONE (H2B) TO PROTAMINE RATIO IN HUMAN SPERMATOZOA AND ITS RELATION TO SPERM PARAMETERS

AUTHOR(S): Hamad, M. F., Shelko, N., Kartarius, S., Montenarh, M., & Hammadeh, M. E.

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ABSTRACT:
Smoking is strongly associated with abnormalities in histone-to-protamine transition and with alteration of protamine expression in human spermatozoa. A proper protamine to histone ratio is, however, essential for sperm chromatin maturity and DNA integrity. Alterations in these sperm nuclear proteins were observed in infertile men. The present prospective study is aimed at evaluating the possible relationship among smoking, semen quality and the histone-to-protamine transition ratio in mature spermatozoa. Histone H2B and protamine 1 (P1) and 2 (P2) were quantified using acid-urea polyacrylamide gel electrophoresis in the spermatozoa of 35 smokers and 19 non-smokers. Levels of lipid peroxidation marker malondialdehyde (MDA) were measured in seminal plasma by thiobarbituric acid assay. Cotinine concentrations were determined in seminal plasma using an enzyme-linked immunosorbent assay. Histone H2B levels in smokers (292.27 ± 58.24 ng/10⁶) were significantly higher (p = 0.001) than that of non-smokers (109.1 ± 43.70 ng/10⁶), besides, a significant difference (p > 0.0001) was found for the P1 and P2 ratio between smokers (1.71 ± 0.071) and non-smokers (1.05 ± 0.033). The H2B/(H2B+P1 + P2) ratio (0.29 ± 0.71) of smokers were significantly higher (p = <0.0001) than that of non-smokers (0.12 ± 0.01). The concentrations of MDA (μm) (7.13 ± 1.15) and cotinine (ng/mL) (60.44 ± 31.32) in seminal plasma of smokers were significantly higher (p = 0.001) than those in the samples of the non-smoker group (4.42 ± 1.16 and 2.01 ± 2.84 respectively). In addition, smokers showed significantly (p ≤ 0.002)...

[View Link Below for More]
SPECTROSCOPIC AND THERMODYNAMIC PROPERTIES OF RECOMBINANT HEAT SHOCK PROTEIN A6 FROM CAMELUS DROMEDARIUS


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ABSTRACT:

Heat shock protein A6, also known as HSP70B', is a member of the Hsp70 family of molecular chaperones. Under stressed conditions, the level of HSPA6 increases substantially, and the protein has been targeted as a biomarker of cellular stress in several studies. We report the spectroscopic and thermodynamic properties of Arabian camel species cHSPA6, determined by measurement of intrinsic and extrinsic fluorescence emission, and use of far-UV circular dichroism and dynamic multimode spectroscopy. Our results showed that cHSPA6 has similar binding affinity for both ATP and ADP (KD = ~50 nM). Binding of ATP and ADP reduced the surface hydrophobicity of the protein, and slightly altered its secondary structure, suggesting localized conformational rearrangement after ATP or ADP binding. Dynamic multimode spectroscopy revealed that cHSPA6 unfolds through three transitions with melting points (Tm) of 42.3 ± 0.2, 61.3 ± 0.1, and 81.2 ± 0.2 °C. To the best of the author’s knowledge, and literature search, this is the first report of the spectroscopic and thermodynamic properties of the Arabian camel heat shock protein... [View Link Below for More]
INTERACTIONS OF ATENOLOL WITH ALPRAZOLAM/ESCITALOPRAM ON ANXIETY, DEPRESSION AND OXIDATIVE STRESS

AUTHOR(s): SHAHZAD, N., AHMAD, J., KHAN, W., AI-GHAMDI, S. S., AIN, M. R., ET AL.

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ABSTRACT:
Anxiety and depression are highly comorbid disorders possibly sharing a common neurobiological mechanism. The dysfunction of serotoninergic, noradrenergic and dopaminergic neurotransmission, abnormal regulation in the hypothalamic–pituitary–adrenal axis (HPA), disturbance of cellular plasticity including reduced neurogenesis, or chronic inflammation connected with high oxidative damage play a crucial role in the development of anxiety and depression. The present study was aimed to investigate the effects of atenolol alone and in combination with alprazolam/escitalopram on anxiety, depression and oxidative stress. Wistar albino rats were subjected to 21 day treatment of drugs then exposed to elevated-plus maze (EPM) and modified forced swim test (MFST), and oxidative stress markers were estimated in isolated brain tissue of all groups. The results indicated that atenolol in combination with alprazolam/escitalopram exhibited antidepressant effects by significantly decreasing the immobility and increasing the swimming behavior in the MFST and anti-anxiety effects by increasing the percentage preference and number of open arm entries as well as time spent in open arm in EPM. Pretreatment with atenolol alone and combination ... [View Link Below for More]
A FUCOSE CONTAINING POLYMER-RICH FRACTION FROM THE BROWN ALGA ASCOPHYLLUM NODOSUM MEDIATES LIFESPAN INCREASE AND THERMAL-TOLERANCE IN CAENORHABDITIS ELEGANS, BY DIFFERENTIAL EFFECTS ON GENE AND PROTEIN EXPRESSION

AUTHOR(S): KANDASAMY, S., KHAN, W., EVANS, F. D., CRITCHLEY, A. T., ZHANG, J., ET AL

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ABSTRACT:
The extracts of the brown alga, Ascophyllum nodosum, which contains several bioactive compounds, have been shown to impart biotic and abiotic stress tolerance properties when consumed by animals. However, the physiological, biochemical and molecular mechanism underlying such effects remain elusive. We investigated the effect of A. nodosum fucose-containing polymer (FCP) on tolerance to thermally induced stress using the invertebrate animal model, Caenorhabditis elegans. FCP at a concentration of 150 μg mL(-1) significantly improved the life span and tolerance against thermally induced stress in C. elegans. The treatment increased the C. elegans survival by approximately 24%, when the animals were under severe thermally induced stress (i.e. 35 °C) and 27% under mild stress (i.e. 30 °C) conditions. The FCP induced differential expression of genes and proteins is associated with stress response pathways. Under thermal stress, FCP treatment significantly altered the expression of 65 proteins (54 up-regulated & 11 down-regulated). Putative functional analysis of FCP-induced differential proteins signified an association of altered proteins in stress-related molecular and biochemical pathways of the model worm... [View Link Below for More]

SHORTLINK: rsc.li/1Mm63t5
A POSSIBLE ANTI NEOPLASTIC POTENTIAL OF SELECTIVE, IRREVERSIBLE PROTEASOME INHIBITOR, CARFILZOMIB ON CHEMICALLY INDUCED HEPATOCARCINOGENESIS IN RATS


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ABSTRACT:
The antineoplastic effect of carfilzomib (CFZ) against chemically induced hepatocarcinogenesis was studied. A total of 60 male Wistar albino rats were divided into six groups with 10 animals in each group. Rats in group 1 (control group) were given dimethylsulphoxide (DMSO) (0.4 mL/kg i.p) twice a week for 3 weeks from week 8 to week 10. Animals in groups 2 and 3 were given CFZ (2 and 4 mg/kg i.p) twice a week from week 8 to week 10, respectively. Rats in group 4 were given diethylnitrosamine (DENA) at a dose of 0.01% in drinking water for 10 weeks and received a DMSO (0.4 mL/kg i.p) twice a week from week 8 to week 10. Animals in groups 5 and 6 were given DENA at a dose of 0.01% in drinking water for 10 weeks and treated with CFZ (2 and 4 mg/kg i.p) twice a week from week 8 to week 10, respectively. CFZ succeeded in suppressing the elevated serum tumor marker α-fetoprotein and carcinoembryonic antigen. The antineoplastic effect of CFZ was also accompanied by normalization of elevated hepatic tissue growth factors, matrix metalloproteinase-2 and tissue inhibitor of metalloproteinase-1, and augmentation of hepatic endostatin and metallothionein. A histopathological examination of liver samples treated with CFZ after DENA intoxication correlated with the biochemical observation. Treatment with CFZ confers an antineoplastic activity against chemically induced hepatocarcinogenesis. These findings suggest that CFZ plays a pivotal role in the treatment of hepatocarcinogenesis...

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POSSIBLE ROLE OF SELECTIVE, IRREVERSIBLE, PROTEASOME INHIBITOR (CARFILZOMIB) IN THE TREATMENT OF RAT HEPATOCellular CARCINOMA

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ABSTRACT:

We investigated the possible therapeutic effect of irreversible proteasome inhibitor, carfilzomib against hepatocellular carcinoma induced chemically by chronic administration of diethylnitrosoamines (DENA). Hepatocellular carcinoma induced by DENA in male Wistar rats was manifested biochemically by significant elevation of serum α-feto protein (AFP) and carcinoembryonic antigen (CEA). In addition, hepatic cancer was further confirmed by a significant increase in hepatic tissue growth factors; vascular endothelial growth factor (VEGF), transforming growth factor β1 (TGF-β1) and basic fibroblast growth factor (FGF). Moreover a marked increase in matrix metalloproteinase-2 (MMP-2) and tissue inhibitor of metalloproteinase-1 (TIMP-1) content were also observed, along with a profound decrease in hepatic endostatin and metallothionein level. Treatment of rats with the selected doses of carfilzomib produced a significant protection against hepatic cancer. The present results claimed that chosen doses of carfilzomib succeeded in suppressing serum tumor markers level AFP and CEA. Furthermore, the drug reduced the elevated level of hepatic growth factors, MMP-2 and TIMP-1 induced by the carcinogen. The antitumor effect of carfilzomib was also accompanied by augmentation of hepatic content of endostatin and metallothionein. Histopathological examination of liver tissues also correlated with the biochemical observations. It could be concluded that treatment with carfilzomib confers a possible antitumor effect against hepatocellular carcinoma induced by DENA model in rats... [View Link Below for More]
CORNEAL CROSS-LINKING. EXPERT REVIEW OF OPHTHALMOLOGY

AUTHOR(S): Alkharashi, M., Alharbi, Z., & Daoud, Y. J.

AFFILIATION: King Saud University, Riyadh, Saudi Arabia, King Saud bin Abdulaziz University for Health Sciences, Riyadh, Saudi Arabia; The Wilmer Eye Institute, Johns Hopkins University, Baltimore, MD, USA

ABSTRACT:
Corneal collagen cross-linking (CXL) entails the use of ultraviolet light with a cross-linking agent to form cross bridges in the corneal collagen fibers with subsequent strengthening of the corneal stroma. CXL was first reported on humans in 2003 for patients with keratoconus. Since then, the procedure showed promising results in post-LASIK ectasia. One of the new applications of CXL is in infectious keratitis. In this review, the authors discuss the applications of CXL and cover the new advances in this field. CXL is still not US FDA approved in the USA...

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EXPERT REVIEW OF OPHTHALMOLOGY

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DOES VITAMIN E IMPROVE THE OUTCOMES OF PEDIATRIC NONALCOHOLIC FATTY LIVER DISEASE? A SYSTEMATIC REVIEW AND META-ANALYSIS

AUTHOR(S): SARKHY, A., AL-HUSSAINI, A., & NOBILI, V.

AFFILIATION: DEPARTMENT OF PEDIATRIC, GASTROENTEROLOGY UNIT, KING KHALID UNIVERSITY HOSPITAL, KING SAUD UNIVERSITY; CHILDREN’S HOSPITAL, KING FAHAD MEDICAL CITY, KING SAUD BIN ABDULAZIZ UNIVERSITY FOR HEALTH SCIENCES, RIYADH, SAUDI ARABIA; LIVER RESEARCH UNIT, BAMBINO GESÙ CHILDREN’S HOSPITAL AND RESEARCH

ABSTRACT:

Background and Aims: To systemically evaluate the efficacy of adjuvant vitamin E on the outcomes of nonalcoholic fatty liver disease (NAFLD) and/or nonalcoholic steatohepatitis (NASH) in children.

Materials and Methods: We searched MEDLINE, PUBMED, EMBASE, the Cochrane Central Register Controlled Trials, and the Cochrane Database of Systematic Reviews over the period between January 1980 and September 2012 for the studies that examined the role of adjuvant vitamin E given at any dose or duration, alone or in combination with other interventions, on the outcome of pediatric NAFLD. The outcomes are alanine aminotransferase (ALT) normalization and histological improvement.

Results: Five randomized trials were eligible to be included in our analysis, with a total of 270 participants. There was no statistically significant difference in the effect of adjuvant vitamin E on normalizing serum ALT [risk ratio (RR) =1.18, confidence interval (CI) =0.92-1.53, P = 0.77 for heterogeneity, I² = 0%]. Sensitivity analysis showed that using higher doses of vitamin E, a longer duration of therapy or adding vitamin C did not change the effect on the measured outcome. Only two studies looked at histological changes as an outcome. We observed substantial heterogeneity between the two studies.

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FOOT INJURIES AMONG HAJJ PILGRIMS WITH AND WITHOUT DIABETES MELLITUS: IMPLICATIONS FOR INFECTION MANAGEMENT

**AUTHOR(s):** ALFELALI, M., BARASHEED, O., ALSHEHRI, J., BOKHARY, H., ALSAEDI, S., ALJOHANI, N., ET AL.

**AFFILIATION:** DEPARTMENT OF FOOD SCIENCE AND NUTRITION, COLLEGE OF FOOD SCIENCE AND AGRICULTURE KING SAUD UNIVERSITY, RIYADH, SAUDI ARABIA; DEPARTMENT, COLLEGE OF SCIENCE, PRINCE MUTAIB CHAIR FOR BIOMARKERS OF OSTEOPOROSIS, BIOCHEMISTRY, KING SAUD UNIVERSITY, RIYADH, SAUDI ARABIA; DEPARTMENT OF INTERNAL MEDICINE, CLINICAL RESEARCH INSTITUTE, AMERICAN UNIVERSITY OF BEIRUT MEDICAL CENTER, BEIRUT, LEBANON; PHARMACEUTICAL CARE DEPARTMENT, COLLEGE OF PHARMACY, KING SAUD BIN ABDULAZIZ UNIVERSITY FOR HEALTH SCIENCES, RIYADH, SAUDI ARABIA; ET AL.

**ABSTRACT:**

Pilgrims attending Hajj in Makkah are at high risk of suffering from trauma and foot injury as they are required to make circuits barefooted on scorching marbles around the Holy Mosque, and march between two hillocks for hours. No study has systematically described the pattern of foot wounds among them. This observational study aimed to determine the spectrum of foot injuries among diabetic and non-diabetic Hajj pilgrims and the preventive measures adopted by them. Pilgrims who attended the Hajj 2013 and sought medical care for foot wounds at mobile podiatric clinics in Mina during the peak days of Hajj were invited to participate in the study and fill out a questionnaire while they were serviced. Podiatric carers noted down the significant signs of foot injuries. Out of 197 pilgrims from 21 different countries who participated in this study, 60 (31%) were diabetic. The two most common injuries observed were blisters (34%) and erythema (25%). Both diabetic and non-diabetic Hajj pilgrims were at high risk of developing infectious wounds, however a significantly higher proportion of diabetic pilgrims had callosities. Use of appropriately fitting protective footwear, and regularity in diets and drugs are highly recommended for pilgrims’ optimum foot care. Tailored educational advice on foot hygiene before and during travel could be beneficial for Hajj pilgrims... [View Link Below for More]
A PROSPECTIVE, OBSERVATIONAL, EPIDEMIOLOGICAL EVALUATION OF THE AETIOLOGY AND ANTIMICROBIAL SUSCEPTIBILITY OF ACUTE OTITIS MEDIA IN SAUDI CHILDREN YOUNGER THAN 5 YEARS OF AGE

Author(s): Al-Mazrou, K. A., Shibli, A. M., Kandeil, W., Pirçon, J. Y., & Marano, C.

Affiliation: King Saud University and King Saud bin Abdulaziz University for Health Sciences, Riyadh, Saudi Arabia; King Saud University, Riyadh, Saudi Arabia; GlaxoSmithKline Vaccines, Wavre, Belgium

Abstract:

Background: Information regarding acute otitis media (AOM) aetiology is important for developing effective vaccines. Here, bacterial aetiology and antimicrobial susceptibility of AOM were determined in young Saudi children.

Methods: Children aged 3–60 months with a new episode of AOM, who had not received antibiotics or had received antibiotics for 48–72 h but remained symptomatic, were enrolled in this prospective, observational, epidemiological study in Riyadh. Middle ear fluid (MEF) samples were collected by tympanocentesis or from spontaneous otorrhea, and tested for the presence of Streptococcus pneumoniae, Haemophilus influenzae, Streptococcus pyogenes and Moraxella catarrhalis. Antimicrobial susceptibility of the identified pathogens was assessed using E-tests.

Results: Between June 2009 and May 2011, 66 children were enrolled. S. pneumoniae was detected in 6 episodes and non-typeable H. influenzae (NTHi) in 8 episodes. Moreover, Staphylococcus aureus, which is an uncommon cause of AOM, was detected in 17 episodes. Pneumococcal serotypes were 7F (n = 2), 23F (n = 2), 19F (n = 1) and 15F (n = 1). Susceptibility to cefotaxime was observed in all pneumococcal and H. influenzae isolates, to cefuroxime in 4/6 pneumococcal and 8/8 H. influenzae isolates, and to penicillin in 5/6 pneumococcal isolates.

... [View Link Below for More]
Clinical Practice Guidelines for the Treatment of Invasive Aspergillus Infections in Adults in the Middle East Region: Expert Panel Recommendations


Affiliation: King Faisal Specialist Hospital and Research Centre, Riyadh, Saudi Arabia; King Saud bin Abdulaziz University for Health Sciences, Riyadh, Saudi Arabia; Arabian Gulf University, Ministry of Health, Bahrain; Saad Specialist Hospital, Al-Khobar, Saudi Arabia; Hamad Medical Corporation (HMC), Weill Cornell Medical College, Qatar; Sheikh Khalifa Medical City, Abu Dhabi, United Arab Emirates; King Saud bin Abdulaziz University for Health Sciences, Jeddah, Saudi Arabia; et al.

Abstract:
The incidence of invasive Aspergillus infections in the Middle East continues to rise with the increase in the number of immunocompromised patients, and carries significant morbidity and mortality. A panel of experts analysed the evidence from the most recent international guidelines and relevant published literature to reach consensus and develop clear clinical practice guidelines to aid diagnosis and treatment of invasive Aspergillus infections in the Middle East. Disease-specific recommendations were provided for the management of invasive aspergillosis. The expert panel acknowledged that these guidelines should be followed as closely as possible but used alongside clinical judgment...

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PRELIMINARY INVESTIGATIONS OF TWO TYPES OF SILICA-BASED DOSIMETER FOR SMALL-FIELD RADIOTHERAPY


AFFILIATION: Centre for Nuclear and Radiation Physics, Department of Physics, University of Surrey, Guildford, Surrey, UK; Physics Department, Faculty of Applied Sciences, Umm Al-Qura University, Makkah, Kingdom of Saudi Arabia; Radiology Department, Faculty of Medicine, Kabul Medical University, Kabul, Afghanistan; Department of Medical Physics and Clinical Engineering, Abertawe Bro Morgannwg UHB and School of Medicine, Swansea University, Swansea, UK; King Saud Bin Abdulaziz University for Health Science, Hofuf, Kingdom of Saudi Arabia; et al.

ABSTRACT:
Unified informations systems that can support clinical care, quality improvement, operations and research are very challenging to develop. This brief paper is a report on the progress King Abdulaziz Cardiac Center is making towards achieving this important goal...[View Link Below for More]
Glass beads and Ge-doped optical fibres as thermoluminescence dosimeters for small field photon dosimetry


Affiliation: Centre for Nuclear and Radiation Physics, Department of Physics, University of Surrey, Guildford, Surrey, UK; Radiology Department, Faculty of Medicine, Kabul Medical University, Kabul, Afghanistan; Physics Department, Faculty of Applied Sciences, Umm Al-Qura University, Makka, Kingdom of Saudi Arabia; Department of Medical Physics, Royal Surrey County Hospital NHS Trust, Guildford, Surrey, UK; School of Medicine, Swansea University, Swansea, UK; King Saud Bin Abdulaziz University for Health Science, Hofuf, Kingdom of Saudi Arabia; et al.

Abstract:
An investigation has been made of glass beads and optical fibres as novel dosimeters for small-field photon radiation therapy dosimetry. Commercially available glass beads of largest dimension 1.5 mm and GeO2-doped SiO2 optical fibres of 5 mm length and 120 µm diameter were characterized as thermoluminescence dosimeters. Results were compared against Monte-Carlo simulations with BEAMnrc/DOSXYZnrc, EBT3 Gafchromic film, and a high-resolution 2D-array of liquid-filled ionization chambers. Measurements included relative output factors and dose profiles for square-field sizes of 1, 2, 3, 4, and 10 cm. A customized Solid-Water® phantom was employed, and the beads and fibres were placed at defined positions along the longitudinal axis to allow accurate beam profile measurement. Output factors and the beam profile parameters were compared against those calculated by BEAMnrc/DOSXYZnrc. The output factors and field width measurements were found to be in agreement with reference measurements to within better than 3.5% for all field sizes down to 2 cm² for both dosimetric systems, with the beads showing a discrepancy of no more than 2.8% for all field sizes. The results confirm the potential of the beads and fibres as thermoluminescent dosimeters for use in small photon radiation field sizes.... [View Link Below for More]
DIABETES IN THE MIDDLE-EAST AND NORTH AFRICA: AN UPDATE

AUTHOR(S): MAJEED, A., EL-SAYED, A. A., KHOJA, T., ALSHAMSAN, R., MILLET, C., ET AL.

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ABSTRACT:
In recent decades, the prevalence of diabetes has risen dramatically in many countries of the International Diabetes Federation’s (IDF) Middle-East and North Africa (MENA) Region. This increase has been driven by a range of factors that include rapid economic development and urbanisation; changes in lifestyle that have led to reduced levels of physical activity, increased intake of refined carbohydrates, and a rise in obesity. These changes have resulted in the countries of MENA Region now having among the highest rates of diabetes prevalence in the world. The current prevalence of diabetes in adults in the Region is estimated to be around 9.2%. Of the 34 million people affected by diabetes, nearly 17 million were undiagnosed and therefore at considerable risk of diabetes complications and poor health outcomes. Enhanced research on the epidemiology of diabetes in the MENA Region needs to be combined with more effective primary prevention of diabetes; and early detection and improved management of patients with established diabetes, including an increased focus on self-management and management in primary care and community settings.... [View Link Below for More]
INFECTION PREVENTION AND CONTROL GUIDELINES FOR PATIENTS WITH MIDDLE EAST RESPIRATORY SYNDROME CORONAVIRUS (MERS-CoV) INFECTION

AUTHOR(S): Madani, T. A., Althaqafi, A. O., & Alraddadi, B. M.

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ABSTRACT:
Beginning in mid-March 2014, a sharp increase in reported cases of Middle East Respiratory Syndrome Coronavirus (MERS-CoV) in Saudi Arabia heightened international concern and raised fears of the potential for global transmission. At that point, a new Minister of Health, Engineer Adel Fakeih, was appointed on 21 April 2014. The MERS-CoV was obviously the top challenge and priority to address. He formed a Scientific Advisory Council to draw the roadmap for investigating and controlling the outbreak, and for preventing further transmission. Investigation of the outbreak by the Scientific Advisory Council confirmed that the vast majority of cases were healthcare-associated [unpublished data]. The Infectious Diseases and Control subcommittee of the Advisory Council subsequently reviewed the previous infection prevention and control guidelines, and developed the following revised guidelines to meet the urgent need for up-to-date information and evidence-based recommendations for the safe care of patients with suspected, probable, or confirmed MERS-CoV infection.... [View Link Below for More]
MYOPERICARDITIS IN TUBERCULOUS PERICARDIAL EFFUSION: PREVALENCE, PREDICTORS AND OUTCOME

AUTHOR(S): SYED, F. F., NTSEKHE, M., GUMEDZE, F., BADRI, M., & MAYOSI, B. M.

AFFILIATION: DIVISION OF CARDIOVASCULAR DISEASES, MAYO CLINIC, ROCHESTER, MINNESOTA, USA; DEPARTMENT OF MEDICINE, THE CARDIAC CLINIC, GROOTE SCHUUR HOSPITAL AND UNIVERSITY OF CAPE TOWN, CAPE TOWN, SOUTH AFRICA; DEPARTMENT OF STATISTICAL SCIENCES, UNIVERSITY OF CAPE TOWN, CAPE TOWN, SOUTH AFRICA; KING SAUD BIN ABDULAZIZ UNIVERSITY FOR HEALTH SCIENCES, RIYADH, SAUDI ARABIA

ABSTRACT:

Objective: The prevalence, predictors and outcome of myopericarditis in patients with tuberculous (TB) pericarditis are unknown.

Methods: Eighty-one patients (mean age±SD, 36.1 ±13.3 years; 54 (66.7%) men; 58 (71.6%) HIV seropositive) with TB pericarditis were recruited between January 2006 and September 2008. Myopericarditis was defined as echocardiographic LV systolic dysfunction (immediately after pericardiocentesis), elevated peripheral blood troponin T (>0.03 ng/mL), or elevated peripheral blood creatine kinase (CK >174 IU/L) with a CK:CKmyocardial band (MB) mass ratio of >6%. The outcome measure was case fatality rate at 6 months of follow-up.

Results: Myopericarditis was present in 43 (53.1%) patients. Patients with myopericarditis, as compared with those without, were more likely to be HIV seropositive (35 (81.4%) vs 23 (60.5%) respectively, p=0.038) and have lower peripheral CD4 count (median (IQR) 98 (54–290) vs 177 (104–429), p=0.026). Electrocardiographic ST segment elevation was more common in myopericarditis (15 (36.6%) vs 4 (10.8%), p=0.008) and predicted myopericarditis independently of CD4 count on multiple logistic regression analysis (OR 4.36, 95% CI 1.34 to 17.34, p=0.0132). At 6 months, 14 (18%) patients had died with no significant difference between those with or without myopericarditis (6/42 (14%) vs 8/36 (22%), respectively (p=0.363)).

SHORTLINK: bit.ly/1OYeBUw
A COMPARISON BETWEEN THE AASM 2012 AND 2007 DEFINITIONS FOR DETECTING HYPOPNEA

AUTHOR(S): BAHAMMAM, A. S., OBEIDAT, A., BARATAMAN, K., BAHAMMAM, S. A., OLAISH, A. H., ET AL.

AFFILIATION: UNIVERSITY SLEEP DISORDERS CENTER AND NATIONAL PLAN FOR SCIENCE AND TECHNOLOGY, COLLEGE OF MEDICINE, KING SAUD UNIVERSITY, RIYADH, SAUDI ARABIA

ABSTRACT:

Purpose: To compare the apnea-hypopnea indices (AHIs) derived using three hypopnea definitions published by the American Academy of Sleep Medicine (AASM) and to determine the impact of the new modifications of the definition on AHIs and the diagnosis of obstructive sleep apnea (OSA).

Methods: The study comprised 100 consecutive patients who were investigated for OSA using overnight diagnostic polysomnography (PSG). The hypopneas were scored in three passes by two certified sleep technologists; in the first pass, the hypopneas were scored using the 2007 AASM "Alternative" (H Alt) criteria. In the second pass, the hypopneas were scored using the 2007 AASM "Recommended" (H Rec) criteria. In the third pass, the hypopneas were scored according to the new AASM "2012" (H 2012) criteria. Agreement analysis of the results obtained using the three scoring criteria was performed using the Bland-Altman plot methodology.

Results: The studied group had a mean age of 45.5±12.6 years and a body mass index of 30.2±5.8 kg/m2. Using the H 2012, H Rec and H Alt criteria, the AHIs were 37.9±27.6, 14.8±22.4 and 29.6±27.0/h, respectively (p<0.05). The Bland-Altman analysis of the AHI demonstrated that more events were nearly always detected using the H 2012 definition.

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PERCEPTION OF STUDENTS AND TEACHERS OF AN UNDERGRADUATE MEDICAL COLLEGE

AUTHOR(S): Babar, S., & Baig, L.

AFFILIATION: King Saud Bin Abdulaziz University of Health Sciences

ABSTRACT:
Objectives: To explore the perception about usability of study guide from students and teachers of an undergraduate medical college.

Methods: The cross-sectional study was done at Bahria University Medical and Dental College, Karachi, in May 2012 and comprised 2nd, 3rd and 4th year medical students and faculty members. Data was analysed on SPSS 16. Analysis of variance was used for looking at differences in perceptions of the three groups of students and among different cadres of faculty, while tukeys test was used for individual differences.

Results: Of the 300 students initially enrolled, 257 (85.6%) represented the final study sample. There were 147 (57.2%) females and 110 (42.8%) males. Reliability of the questionnaire by Cronbach's alpha was 0.889. Besides, 150 (58.3%) students agreed that layout and content of the study guide helped in self-directed learning, while 128 (50%) said that information about books and resources was not mentioned in it. The faculty overall appreciated the study guide except on information about identification of resources in it.

Conclusion: The perception about the usability of study guide was well appreciated by both students and teachers. Their content will be reviewed and improved based on the results of this study.... [View Link Below for More]
INTERNATIONAL EVIDENCE-BASED RECOMMENDATIONS FOR FOCUSED CARDIAC ULTRASOUND


AFFILIATION: Servizio di Anestesia e Rianimazione 1, IRCCS Fondazione Policlinico San Matteo, Pavia, Italy; Cardiac Critical Care, King Abdulaziz Medical City, Ministry of National Guard Health, Riyadh, Saudi Arabia; Division of Emergency Medicine, University of the Witwatersrand, Netcare Union Hospital Emergency Department, Johannesburg, South Africa; Department of Emergency Medicine, Hennepin County Medical Center, University of Minnesota Medical School, Minneapolis, Minnesota; National & Gulf Center for Evidence Based Health Practice, King Saud University for Health Sciences, Riyadh, Saudi Arabia; Division of Emergency Ultrasound, Department of Emergency Medicine, Massachusetts General Hospital, Boston, Massachusetts; et al.

ABSTRACT:
Background: Focused cardiac ultrasound (FoCUS) is a simplified, clinician-performed application of echocardiography that is rapidly expanding in use, especially in emergency and critical care medicine. Performed by appropriately trained clinicians, typically not cardiologists, FoCUS ascertains the essential information needed in critical scenarios for time-sensitive clinical decision making. A need exists for quality evidence-based review and clinical recommendations on its use.

Methods: The World Interactive Network Focused on Critical UltraSound conducted an international, multispecialty, evidence-based, methodologically rigorous consensus process on FoCUS. Thirty-three experts from 16 countries were involved. A systematic multiple-database, double-track literature search (January 1980 to September 2013) was performed. The Grading of Recommendation, Assessment, Development and Evaluation method was used to determine the quality of available evidence and subsequent development of the recommendations. Evidence-based panel judgment and consensus was collected and analyzed by means of the RAND appropriateness method. [View Link Below for More]

SHORTLINK: bit.ly/1KRSq4O
THE INDEPENDENT EFFECTS OF MATERNAL OBESITY AND GESTATIONAL DIABETES ON THE PREGNANCY OUTCOMES


AFFILIATION: Sheikh Bahmdan Chair of Evidence-Based Healthcare and Knowledge Translation, College of Medicine, King Saud University, Riyadh, Kingdom of Saudi Arabia; King Saud Ben AbdulAziz University for Health Sciences, Riyadh, Kingdom of Saudi Arabia; High Institute of Public Health Alexandria University, Alexandria, Egypt; Department of Family and Community Medicine, King Saud University, Riyadh, Kingdom of Saudi Arabia

ABSTRACT:

Background: Obesity and gestational diabetes (GDM) in pregnancy are recognized risk factors for adverse outcomes, including cesarean section (CS), macrosomia and preeclampsia. The aim of this study was to investigate the independent effect of GDM and obesity on the adverse pregnancy outcomes at term.

Methods: A retrospective cohort of postpartum women, in King Khalid University Hospital, were stratified according to body mass index (obese ≥30 kg/m2, non-obese < 0.001, high birth weight, P < 0.001, CS, P < 0.001 and preeclampsia, P < 0.001 in women with GDM and obesity compared to the reference group. Obesity increased the estimated risk of CS delivery, odds ratio (OR) 2.16, confidence intervals (CI) 1.74-2.67. The combination of GDM and obesity increased the risk of macrosomia OR 3.45, CI 2.05-5.81 and the risk of CS delivery OR 2.26, CI 1.65-3.11. Conclusion: Maternal obesity and GDM were independently associated with adverse pregnancy outcomes. The combination of both conditions further increase the risk.

Keywords: Gestational diabetes, Maternal obesity, Cesarean section, Macrosomia

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PREVALENCE AND RISK FACTORS FOR INCONTINENCE AMONG EMIRATI WOMEN WITH DIABETES


AFFILIATION: UNIVERSITY OF SHARJAH, SHARJAH, UNITED ARAB EMIRATES; KING SAUD BIN ABDULAZIZ UNIVERSITY FOR HEALTH SCIENCES, JEDDAH, SAUDI ARABIA

ABSTRACT:

Purpose: To estimate the prevalence and risk factors for urinary incontinence among a sample of Emirati women with diabetes. Design: A cross-sectional survey design using probability sampling was employed to evaluate incontinence among 350 Emirati diabetic women. Age, body mass index, history of urinary tract infections, parity, diabetes duration, and type of diabetes management were evaluated as potential risk factors for incontinence. To assess type and frequency of incontinence, items from the National Health and Nutrition Examination Survey–Kidney Condition–Urology were used. Findings: A total of 225 (64.3%) participants reported incontinence, with 110 (31.4%) expressed having an episode once a week or more. Both stress (n = 197, 56.3%) and urge incontinence (n = 208, 59.4%) were seen; 96 (48.7%) reported at least weekly stress incontinence episodes, and 109 (52.4%) reported weekly or more urge episodes. Results of logistic regression indicated that diabetes duration was the most significant risk factor for incontinence. Conclusion: Prevalence of incontinence in Emirati women was higher than that reported by diabetic women in other cultures. Practice Implications: Clinicians working with Emirati diabetic women should endeavor to enhance screening for incontinence and design culturally appropriate strategies for teaching and treating this complication of diabetes.

Keywords: urinary incontinence, diabetes complications, risk factors, prevalence, United Arab Emirates, women’s health, screening of incontinence.... [View Link Below for More]

SHORTLINK: bit.ly/1EUjy0f
EFFECT OF REPEATED RAMADAN FASTING IN THE HOTTEST MONTHS OF THE YEAR ON RENAL GRAFT FUNCTION

AUTHOR(S): HEJAILI, F., QURASHI, S., BINSALIH, S., JARADT, M., & AL SAYYARI, A.

AFFILIATION: KING SAUD BIN ABDULAZIZ UNIVERSITY FOR HEALTH SCIENCES, RIYADH, SAUDI ARABIA; KING ABDULAZIZ MEDICAL CITY, RIYADH, SAUDI ARABIA

ABSTRACT:

Background: Adult Moslems are required to fast during the lunar month of Ramadan every year. Although the sick and travelers, as well as some other specified groups, are exempted from this requirement.

Objectives: To investigate the effect of repeated Ramadan fasting during the hottest months of the year on renal graft functions.

Patients and Methods: This was a prospective cohort study comparing two groups of renal transplant receivers; one group had fasted for two consecutive Ramadan months during 2011 and 2012, while the other group had not fasted. The baseline eGFR (estimated glomerular filtration rate) was compared to the eGFR carried out 19.6 ± 1.3 months later, within and between groups. Further subgroup analysis was done according to eGFR level; low (< 45 mL/min/1.73 m(2)), moderate 45-75 (mL/min/1.73 m(2)), and high (> 75 mL/min/1.73 m(2)).

Results: There were 43 fasting and 37 non-fasting participants with comparable; ages, gender, type of transplant, and baseline eGFR and serum creatinine (Scr). The fasting participants, however, had a longer elapsed time since their transplantation. In the fasting group, Scr and eGFR did not change from baseline after a mean follow-up period of 19.6 ± 1.3 months; Scr of 105.1 ± 55.4 and 114.2 ± 71.5 µmol/L, respectively (P-value = 0.8), and eGFR 75.6 ± 29.2 and 70.2 ± 28.1 mL/min/1.73 m(2), respectively (P-value = 0.09). Similarly, no significant changes were observed in the non-fasting group; Sr of 123.1 ± 67 and 115.8 ± 65.2 µmol/L, respectively (P-value = 0.6), and eGFR of 65.9 ± 25.9 and 68.8 ± 24.6 mL/min/1.73 m(2), respectively (P-value = 0.6). On subgroup analysis, according to the eGFR level, we found no significant differences in the eGFR, before and after 19.6 ± 1.3 months, in the severe and.... [View Link Below for More]
ROLE AND CHALLENGES OF SIMULATION IN UNDERGRADUATE CURRICULUM

AUTHOR(S): Nuzhat, A., Salem, R. O., Al Shehri, F. N., & Al Hamdan, N.

AFFILIATION: King Saud bin Abdulaziz University for Health Sciences, Riyadh, Saudi Arabia

ABSTRACT:
Rationale: Medical simulation is relatively a novel technology widely utilized for teaching and assessing students clinical skills. Students and faculty face many challenges when simulation sessions are introduced into undergraduate curriculum.

Objectives: The aim of this study is to obtain the opinion of undergraduate medical students and our faculty regarding the role of simulation in undergraduate curriculum, the simulation modalities used, and the perceived barriers in implementing simulation sessions.

Methods: A self-administered pilot tested questionnaire with 18 items using a 5-point Likert scale was distributed to undergraduate male (n = 125) and female students (n = 70) as well as to the faculty members (n = 14) at King Fahad Medical City, King Saud Bin Abdul Aziz University of Health Sciences, Saudi Arabia, to respond. Survey elements addressed the role of simulation, simulation modalities used, and perceived challenges to implementation of simulation sessions.... [View Link Below for More]
THE OPTICAL CHARACTER RECOGNITION OF URDU-LIKE CURSIVE SCRIPTS

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ABSTRACT:
We survey the optical character recognition (OCR) literature with reference to the Urdu-like cursive scripts. In particular, the Urdu, Pushto, and Sindhi languages are discussed, with the emphasis being on the Nasta’liq and Naskh scripts. Before detaining the OCR works, the peculiarities of the Urdu-like scripts are outlined, which are followed by the presentation of the available text image databases. For the sake of clarity, the various attempts are grouped into three parts, namely: (a) printed, (b) handwritten, and (c) online character recognition. Within each part, the works are analyzed par rapport a typical OCR pipeline with an emphasis on the preprocessing, segmentation, feature extraction, classification, and recognition.... [View Link Below for More]
CHALLENGES IN BASELINE DETECTION OF ARABIC SCRIPT BASED LANGUAGES

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ABSTRACT:
In this chapter, we present baseline detection challenges for Arabic script based languages and targeted Nastaliq and Naskh writing style. Baseline is an important step in the OCR as it directly affects the rest of the steps and increases the performance and efficiency of character segmentation and feature extraction in OCR process. Character recognition on Arabic script is relatively more difficult than Latin text due to the nature of Arabic script, which is cursive, context sensitive and different writing style. In this paper, we provide a comprehensive review of baseline detection methods for Urdu language. The aim of the chapter is to introduce the challenges during baseline detection in cursive script languages for Nastaliq and Naskh script... [View Link Below for More]
CHARACTERISTICS OF MULTIPLE SCLEROSIS IN THE MIDDLE EAST WITH SPECIAL REFERENCE TO THE APPLICABILITY OF


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ABSTRACT:
We have reviewed the clinical literature with reference to the local applicability of guidelines for the diagnosis and management of multiple sclerosis (MS) in the Middle East. There is a substantial burden of MS in the region: the prevalence of the disease appears to have increased markedly in recent decades, with a faster rate of increase in female vs. male patients. The aetiology and presentation of MS appears to be broadly similar in the Middle East to that in other regions. Interferon-β is the most commonly used treatment for MS in the Middle East, as elsewhere, although it is unclear to what extent economic constraints act as a barrier to accessing this treatment. Similarly, limited available data suggest that the availability of MRI scanners appears to be lower in the Middle East than in more developed nations. Little is known concerning other potential barriers to treatment. There is a need for further research on aspects of management of MS beyond the pharmacological aspects of treatment to assess fully the potential barriers to the adoption of international guidelines for the diagnosis and management of the disease in the Middle East.... [View Link Below for More]

SHORTLINK: bit.ly/1K7Ej7Y
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**ABSTRACT:**

*Background:* Resistance to anti-platelet therapy whether defined by the laboratory detection of platelet function or the recurrence of cardiovascular events, has received extensive coverage in the literature coming predominantly from developed countries and very scanty information comes from developing countries. We aim to document the prevalence of aspirin and clopidogrel resistance in Saudi patients with coronary heart disease (CHD) and to probe the possible responsible mechanism[s].

*Methods:* 238 patients with CHD were enrolled from the outpatient clinic and wards of King Khalid University Hospital, Riyadh. Platelet function testing was undertaken using both optical aggregometry in platelet rich plasma as well as the Platelet Function Analyzer [PFA100] which uses whole blood.

*Results:* Agonist-induced platelet aggregation in response to arachidonic acid-induction: The prevalence of residual activity was detected in 12.6% patients. Resistance to clopidogrel as reflected by the residual aggregation responses to ADP was detected in 25.7%. PFA100 closure time: Closure times for collagen and epinephrine cartridges that are shorter than the maximum for local reference of 84 - 198 seconds were detected in around 30% of patients on therapy. There was no significant relationship between diabetes mellitus, smoking, dyslipidemia, or consumption of non-steroidal anti-inflammatory drugs and the resistance to anti-platelet therapy. [View Link Below for More]
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