ABSTRACTS OF

KAU Publications in ISI Journals

2012

Faculty of Medicine

Prepared by
Deanship of Scientific Research
1. alpha-Synuclein Levels in Blood Plasma from LRRK2 Mutation Carriers ......................................................... 20
   Gorostidi A (Gorostidi, Ana); Bergareche A (Bergareche, Alberto); Ruiz-Martinez J (Ruiz-Martinez, Javier); Marti-Masso JF (Marti-Masso, Jose F.); Cruz M (Cruz, Maria); Varghese S (Varghese, Shiji); Qureshi MM (Qureshi, Mohamed M.); Alzahmi F (Alzahmi, Fatimah); Al-Hayani A (Al-Hayani, Abdulmonem); de Munain AL (Lopez de Munain, Adolfo); El-Agnaf OMA (El-Agnaf, Omar M. A.)

2. Structural alterations induced by botulinum toxin injection in juvenile versus adult rat muscle .......................................................................................................................... 21
   Hassan SM (Hassan, Sherif M.); Badawoud MH (Badawoud, Mohammed H.); Al-Hayani AA (Al-Hayani, Abdulmonem A.)

**DEPARTMENT: BIOCHEMISTRY**

1. APPLICATION OF HIGH PERFORMANCE THIN LAYER CHROMATOGRAPHY FOR DETERMINATION OF NICOTINE IN DIFFERENT BRANDS OF CIGARETTES......................................................... 24
   Badr JM (Badr, Jihan M.); Bamane FH (Bamane, Faida H.); El-Shaer NS (El-Shaer, Nagwa S.)

2. B-Cell Activating Factor (BAFF) in Systemic Lupus Erythematosus, Rheumatoid Arthritis, and Behcet’s Disease ........................................................................................................ 25
   Eldin AB (Eldin, Amina Badr); Sayed S (Sayed, Safaa); Hegazy G (Hegazy, Gehan); Shaker O (Shaker, Olfat)

3. BRAF mutations in thyroid tumors from an ethnically diverse group ............................................................... 26
   Schulten HJ (Schulten, Hans-Juergen); Salama S (Salama, Sherine); Al-Mansouri Z (Al-Mansouri, Zuhoor); Alotibi R (Alotibi, Reem); Al-Ghamdi K (Al-Ghamdi, Khalid); Al-Hamour OA (Al-Hamour, Osman Abdel); Sayadi H (Sayadi, Hassan); Al-Aradati H (Al-Aradati, Hosam); Al-Johari A (Al-Johari, Adel); Huwait E (Huwait, Etimad); Gari M (Gari, Mamdooh); Al-Qahtani MH (Al-Qahtani, Mohammed Hussain); Al-Maghrabi J (Al-Maghrabi, Jaudah)

4. Decreased serum sclerostin levels in patients with primary hyperparathyroidism: a cross-sectional and a longitudinal study ................................................................................................................. 28
   Ardawi MSM (Ardawi, Mohammed S. M.); Al-Sibiany AM (Al-Sibiany, A. M.); Bakhsh TM (Bakhsh, T. M.); Rouzi AA (Rouzi, A. A.); Qari MH (Qari, M. H.)

5. High prevalence of vitamin D deficiency among healthy Saudi Arabian men: relationship to bone mineral density, parathyroid hormone, bone turnover markers, and lifestyle factors ......................................................................................................................... 30
   Ardawi MSM (Ardawi, M. -S. M.); Sibiany AM (Sibiany, A. M.); Bakhsh TM (Bakhsh, T. M.); Qari MH (Qari, M. H.); Maimani AA (Maimani, A. A.)

6. High Serum Sclerostin Predicts the Occurrence of Osteoporotic Fractures in Postmenopausal Women: The Center of Excellence for Osteoporosis Research Study ......................................................... 32
   Ardawi MSM (Ardawi, Mohammed-Salleh M.); Rouzi AA (Rouzi, Abdulrahim A.); Al-Sibiany SA (Al-Sibiany, Sharifa A.); Al-Senani NS (Al-Senani, Nawal S.); Qari MH (Qari, Mohammed H.); Mousa SA (Mousa, Shaker A.)

7. Independent predictors of all osteoporosis-related fractures among healthy Saudi postmenopausal women: The CEOR Study ......................................................................................................................... 34
Rouzi AA (Rouzi, Abdulrahim A.); Al-Sibiani SA (Al-Sibiani, Sharifa A.); Al-Senani NS (Al-Senani, Nawal S.); Radaddi RM (Radaddi, Raja M.); Ardawi MSM (Ardawi, Mohammed-Salleh M.)

8. Mitochondrial dysfunction induced impairment of spermatogenesis in LPS-treated rats: Modulatory role of lycopene .................................................................36

Aly HAA (Aly, Hamdy A. A.); El-Beshbishy HA (El-Beshbishy, Hesham A.); Banjar ZM (Banjar, Zainy M.)

9. Nigrostriatal overabundance of alpha-synuclein leads to decreased vesicle density and deficits in dopamine release that correlate with reduced motor activity .................................................................37

Gaugler MN (Gaugler, Meret Nora); Genc O (Genc, Ozgur); Bobela W (Bobela, Wojciech); Mohanna S (Mohanna, Safa); Ardah MT (Ardah, Mustafa Taleb); El-Agnaf OM (El-Agnaf, Omar Mukhtar); Cantoni M (Cantoni, Marco); Bensadoun JC (Bensadoun, Jean-Charles); Schneggenburger R (Schneggenburger, Ralf); Knott GW (Knott, Graham W.); Aebischer P (Aebischer, Patrick); Schneider BL (Schneider, Bernard Laurent)

10. Paclitaxel resistance is associated with switch from apoptotic to autophagic cell death in MCF-7 breast cancer cells .................................................................................................38

Ajabnoor GMA (Ajabnoor, G. M. A.); Crook T (Crook, T.); Coley HM (Coley, H. M.)

11. Physical Activity in Relation to Serum Sclerostin, Insulin-Like Growth Factor-1, and Bone Turnover Markers in Healthy Premenopausal Women: A Cross-Sectional and a Longitudinal Study .........................................................................................39

Ardawi MSM (Ardawi, Mohammed-Salleh M.); Rouzi AA (Rouzi, Abdulrahim A.); Qari MH (Qari, Mohammed H.)

12. Rosuvastatin, Proprotein Convertase Subtilisin/Kexin Type 9 Concentrations, and LDL Cholesterol Response: the JUPITER Trial ........................................................................................................41

Awan Z (Awan, Zuhier); Seidah NG (Seidah, Nabil G.); MacFadyen JG (MacFadyen, Jean G.); Benjannet S (Benjannet, Suzanne); Chasman DI (Chasman, Daniel I.); Ridker PM (Ridker, Paul M.); Genest J (Genest, Jacques)

13. Synthesis of new cyclic imides derivatives with potential hypolipidemic activity .............................42

El-Zahabi MA (El-Zahabi, Mohamed A.); Gad LM (Gad, Laila M.); Bamanie FH (Bamanie, Faida H.); Al-Marzooki Z (Al-Marzooki, Zohair)

14. Towards appreciating appropriate clinical responses to highly sensitive cardiac troponin assays .........................................................................................................................43

Bima A (Bima, A.); Sikaris K (Sikaris, K.)

**DEPARTMENT: EAR, NOSE AND THROAT**

1. The Impact of Medical Education on Saudi Medical Students' Awareness of Cell Phone Use and its Health Hazards .................................................................................................................................46

Al-Muhayawi S (Al-Muhayawi, Saad); Eldeek B (Eldeek, Bassam); Abubakr H (Abubakr, Hussain); BenKuddah R (BenKuddah, Rawan); Zahid A (Zahid, Adel); Abukhashabah H (Abukhashabah, Hashem)

**DEPARTMENT: FAMILY AND COMMUNITY MEDICINE**
1. Benchmarking the post-accreditation patient safety culture at King Abdulaziz University Hospital .................................................................48
   Al-Awa B (Al-Awa, Bahjat); Al Mazrooa A (Al Mazrooa, Adnan); Rayes O (Rayes, Osama); El Hati T (El Hati, Taghreed); Devreux I (Devreux, Isabelle); Al-Noury K (Al-Noury, Khaled); Habib H (Habib, Hamed); Ei-Deek BS (Ei-Deek, Basem Salama)

2. Determinants of Patient Satisfaction in the Surgical ward at a University Hospital in Saudi Arabia ........................................................................50
   Aldaqal SM (Aldaqal, Saleh M.); Alghamdi H (Alghamdi, Hattan); AlTurki H (AlTurki, Hassan); El-deek BS (El-deek, Basem S.); Kensarah AA (Kensarah, Ahmed A.)

3. Developmental Antecedents of Political Ideology: A Longitudinal Investigation From Birth to Age 18 Years .....................................................................52
   Fraley RC (Fraley, R. Chris); Griffin BN (Griffin, Brian N.); Belsky J (Belsky, Jay); Roisman GI (Roisman, Glenn I.)

4. Effect of Diabetes Mellitus on Patients Undergoing Laparoscopic Cholecystectomy: A Comparative Cross-Sectional Study ...............................................................53
   Aldaqal SM (Aldaqal, Saleh M.); Albaghdadi AT (Albaghdadi, Alia T.); Tashkandi HM (Tashkandi, Hanna M.); El-Deek BS (El-deek, Basem S.); Al-Malki GA (Al-Malki, Ghada A.); Turk AM (Turki, Ali M.); Makki AM (Makki, Ahmed M.)

5. Effects of divorce on Dutch boys’ and girls’ externalizing behavior in Gene x Environment perspective: Diathesis stress or differential susceptibility in the Dutch Tracking Adolescents’ Individual Lives Survey study? ..........................................................55
   Nederhof E (Nederhof, Esther); Belsky J (Belsky, Jay); Ormel J (Ormel, Johan); Oldhinkel AJ (Oldhinkel, Albertine J.)

   Schlomer GL (Schlomer, Gabriel L.); Belsky J (Belsky, Jay)

7. Sensitivity of standardised musculoskeletal examination of the hand and wrist joints in detecting arthritis in comparison to ultrasound findings in patients attending rheumatology clinics ........................................................................57
   Almoallim H (Almoallim, Hani); Attar S (Attar, Suzan); Jannoudi N (Jannoudi, Nahid); Al-Nakshabandi N (Al-Nakshabandi, Nizar); Eldeek B (Eldeek, Basem); Fathaddien O (Fathaddien, Omar); Halabi H (Halabi, Hussien)

8. Serotonin transporter genotype 5HTTLPR as a marker of differential susceptibility? A meta-analysis of child and adolescent gene-by-environment studies ..................................................58
   van IJzendoorn MH (van IJzendoorn, M. H.); Belsky J (Belsky, J.); Bakermans-Knol MJ (Bakermans-Knol, M. J.)

9. Spirituality and health in the curricula of medical schools in Brazil .........................................................................................................................59
   Lucchetti G (Lucchetti, Giancarlo); Lucchetti ALG (Granero Lucchetti, Alessandra Lamas); Espinha DCM (Mendes Espinha, Daniele Corcioli); de Oliveira LR (de Oliveira, Leandro Romani); Leite JR (Leite, Jose Roberto); Koenig HG (Koenig, Harold G.)

10. Successful propagation of Alkhumra (misnamed as Alkhurma) virus in C6/36 mosquito cells ...............................................................................................................................60
    Madani TA (Madani, Tariq A.); Kao M (Kao, Moujahed); Azhar EI (Azhar, Esam I.); Abuelzein ETME (Abuelzein, El-Tayeb M. E.); Al-Bar HMS (Al-Bar, Hussein M. S.); Abu-Araki H (Abu-Araki, Huda); Ksiazek TG (Ksiazek, Thomas G.)

11. Superiority of the buffy coat over serum or plasma for the detection of Alkhumra virus RNA using real time RT-PCR .....................................................................................61
1. A newly described mutation of the CLCN7 gene causes neuropathic autosomal recessive osteopetrosis in an Arab family .......................................................... 66
   Al-Aama JY (Al-Aama, Jumana Y.); Dabbagh AA (Dabbagh, Amal A.); Edrees AY (Edrees, Alaa Y.)
2. Decreased serum sclerostin levels in patients with primary hyperparathyroidism: a cross-sectional and a longitudinal study .............................................................. 67
   Ardawi MSM (Ardawi, M. -S. M.); Al-Sibiany AM (Al-Sibiany, A. M.); Bakhsh TM (Bakhsh, T. M.); Rouzi AA (Rouzi, A. A.); Qari MH (Qari, M. H.)
3. Functional genomics based prioritization of potential nsSNPs in EPHX1, GSTT1, GSTM1 and GSTP1 genes for breast cancer susceptibility studies ........................................... 69
   Masoodi TA (Masoodi, Tariq Ahmad); Talluri VR (Talluri, Venkateswar Rao); Shaik NA (Shaik, Noor Ahmad); Al-Aama JY (Al-Aama, Jumana Yousuf); Hasan Q (Hasan, Qurratulain)
4. High prevalence of vitamin D deficiency among healthy Saudi Arabian men: relationship to bone mineral density, parathyroid hormone, bone turnover markers, and lifestyle factors ............................................................................................................. 70
   Ardawi MSM (Ardawi, M. -S. M.); Sibiany AM (Sibiany, A. M.); Bakhsh TM (Bakhsh, T. M.); Qari MH (Qari, M. H.); Maimani AA (Maimani, A. A.)
5. Meier-Gorlin syndrome genotype-phenotype studies: 35 individuals with pre-replication complex gene mutations and 10 without molecular diagnosis ........................................... 72
   de Munnik SA (de Munnik, Sonja A.); Bicknell LS (Bicknell, Louise S.); Aftimos S (Aftimos, Salim); Al-Aama JY (Al-Aama, Jumana Y.); van Bever Y (van Bever, Yolande); Bober MB (Bober, Michael B.); Clayton-Smith J (Clayton-Smith, Jill); Edrees AY (Edrees, Alaa Y.); Feingold M (Feingold, Murray); Fryer A (Fryer, Alan); van Hagen JM (van Hagen, Johanna M.); Hennekam RC (Hennekam, Raoul C.); Jansweijer MCE (Jansweijer, Maaike C. E.); Johnson D (Johnson, Diana); Kant SG (Kant, Sarina G.); Opitz JM (Opitz, John M.); Ramadevi AR (Ramadevi, A. Radha); Reardon W (Reardon, Willie); Ross A (Ross, Alison); Sarda P (Sarda, Pierre); Schrander-Stumpel CTRM (Schrander-Stumpel, Constance T. R. M.); Schoots J (Schoots, Jeroen); Temple IK (Temple, I. Karen); Terhal PA (Terhal, Paulien A.); Toutain A (Toutain, Annick); Wise CA (Wise, Carol A.); Wright M (Wright, Michael); Skidmore DL (Skidmore, David L.); Samuels ME (Samuels, Mark
6. Meier-Gorlin syndrome: Growth and secondary sexual development of a microcephalic primordial dwarfism disorder .......................................................... 74

de Munnik SA (de Munnik, Sonja A.); Otten BJ (Otten, Barto J.); Schoots J (Schoots, Jeroen); Bicknell LS (Bicknell, Louise S.); Aftimos S (Aftimos, Salim); Al-Aama JY (Al-Aama, Jumana Y.); van Bever Y (van Bever, Yolande); Bober MB (Bober, Michael B.); Borm GF (Borm, George F.); Clayton-Smith J (Clayton-Smith, Jill); Deal CL (Deal, Cheri L.); Edrees AY (Edrees, Alaa Y.); Feingold M (Feingold, Murray); Fryer A (Fryer, Alan); van Hagen JM (van Hagen, Johanna M.); Hennekam RC (Hennekam, Raoul C.); Jansweijer MCE (Jansweijer, Maaike C. E.); Johnson D (Johnson, Diana); Kant SG (Kant, Sarina G.); Opitz JM (Opitz, John M.); Ramadevi AR (Ramadevi, A. Radha); Reardon W (Reardon, Willie); Ross A (Ross, Alison); Sarda P (Sarda, Pierre); Schrander-Stumpel CTRM (Schrander-Stumpel, Constance R. T. M.); Sluiter AE (Sluiter, A. Erik); Temple IK (Temple, I. Karen); Terhal PA (Terhal, Paulien A.); Toutain A (Toutain, Annick); Wise CA (Wise, Carol A.); Wright M (Wright, Michael); Skidmore DL (Skidmore, David L.); Samuels ME (Samuels, Mark E.); Hoefsloot LH (Hoefsloot, Lies H.); Knoers NVAM (Knoers, Nine V. A. M.); Brunner HG (Brunner, Han G.); Jackson AP (Jackson, Andrew P.); Bongers EMHF (Bongers, Ernie M. H. F.)

7. Molecular prenatal diagnosis of autosomal recessive childhood spinal muscular atrophies (SMAs) ............................................................................................................. 76

Essawi ML (Essawi, Mona L.); Al-Attribi GM (Al-Attribi, Ghada M.); Gaber KR (Gaber, Khaled R.); El-Harouni AA (El-Harouni, Ashraf A.)

8. Nipple sparing mastectomy: Can we predict the factors predisposing to necrosis? .................. 77

Algaithy ZK (Algaithy, Z. K.); Petit JY (Petit, J. Y.); Lohsiriwat V (Lohsiriwat, V.); Maisonneuve P (Maisonneuve, P.); Rey PC (Rey, P. C.); Baros N (Baros, N.); Lai H (Lai, H.); Mulas P (Mulas, P.); Barbalho DM (Barbalho, D. M.); Veronesi P (Veronesi, P.); Rietjens M (Rietjens, M.)

9. No evidence for the role of somatic mutations and promoter hypermethylation of FH gene in the tumorigenesis of nonsyndromic uterine leiomyomas ........................................... 78

Vaidya S (Vaidya, Sireesha); Shaik NA (Shaik, Noor Ahmad); Latha M (Latha, Madhavi); Chava S (Chava, Srinivas); Mohiuddin K (Mohiuddin, Khaliq); Yalla A (Yalla, Annapurna); Rao KP (Rao, Kaipa Prabhakar); Kodati VL (Kodati, Vijaya Lakshmi); Hasan Q (Hasan, Qurratulain)

DEPARTMENT: HEMATOLOGY

1. Autoimmune thrombocytopenia Is it a different disease or different aspects of a single disease? .................................................................................................................. 80

Al-Sayes FM (Al-Sayes, Fatin M.); Hindawi SI (Hindawi, Salwa I.); Damanhouri GA (Damanzouri, Ghazi A.); Attallah SM (Attallah, Samy M.); Azaher FA (Azaher, Fatima A.); Akbar DH (Akbar, Daad H.)

2. Biomarkers of Inflammation, Growth Factor, and Coagulation Activation in Patients With Sickle Cell Disease ........................................................................................................... 81

Qari MH (Qari, M. H.); Dier U (Dier, U.); Mousa SA (Mousa, S. A.)

3. Five novel glucose-6-phosphate dehydrogenase deficiency haplotypes correlating with disease severity .............................................................. 82
Dallol A (Dallol, Ashraf); Banni H (Banni, Huda); Gari MA (Gari, Mamdooh A.); Al-Qahtani MH (Al-Qahtani, Mohammed H.); Abuzenadeh AM (Abuzenadeh, Adel M.); Al-Sayes F (Al-Sayes, Fatin); Chaudhary AG (Chaudhary, Adeel G.); Bidwell J (Bidwell, Jeffrey); Kafienah W (Kafienah, Wael)

4. High prevalence of vitamin D deficiency among healthy Saudi Arabian men: relationship to bone mineral density, parathyroid hormone, bone turnover markers, and lifestyle factors ................................................................. 83

Ardawi MSM (Ardawi, M. -S. M.); Sibiany AM (Sibiany, A. M.); Bakhsh TM (Bakhsh, T. M.); Qari MH (Qari, M. H.); Maimani AA (Maimani, A. A.)

5. High Serum Sclerostin Predicts the Occurrence of Osteoporotic Fractures in Postmenopausal Women: The Center of Excellence for Osteoporosis Research Study ........... 85

Ardawi MSM (Ardawi, Mohammed-Salleh M.); Rouzi AA (Rouzi, Abdulrahim A.); Al-Sibiani SA (Al-Sibiani, Sharifa A.); Al-Senani NS (Al-Senani, Nawal S.); Qari MH (Qari, Mohammed H.); Mousa SA (Mousa, Shaker A.)

6. Physical Activity in Relation to Serum Sclerostin, Insulin-Like Growth Factor-1, and Bone Turnover Markers in Healthy Premenopausal Women: A Cross-Sectional and a Longitudinal Study .............................................................................. 87

Ardawi MSM (Ardawi, Mohammed-Salleh M.); Rouzi AA (Rouzi, Abdulrahim A.); Qari MH (Qari, Mohammed H.)

DEPARTMENT: INTERNAL MEDICINE

1. Chronic obstructive pulmonary disease and associated healthcare resource consumption in the Middle East and North Africa: The BREATHE study .................................................. 90

Polatli M (Polatli, Mehmet); Ben Kheder A (Ben Kheder, Ali); Wali S (Wali, Siraj); Javed A (Javed, Arshad); Khattab A (Khattab, Adel); Mahboub B (Mahboub, Bassam); Iraqi G (Iraqi, Ghali); Nejjari C (Nejjari, Chakib); Taright S (Taright, Samya); Koniski ML (Koniski, Marie-Louise); Rashid N (Rashid, Nauman); El Hasnaoui A (El Hasnaoui, Abdelkader)

2. Decreased Immunoexpression of Standard Form of CD44 Is an Independent Favourable Predictor of Nodal Metastasis in Colorectal Carcinoma ........................................... 91

Al-Maghrabi J (Al-Maghrabi, Jaudah); Gomaa W (Gomaa, Wafae); Buhmeida A (Buhmeida, Abdellbaset); Al-Qahtani M (Al-Qahtani, Mohmmad); Al-Ahwal M (Al-Ahwal, Mahmoud)

3. Digestive symptoms in older adults: Prevalence and associations with institutionalization and mortality ................................................................................................................... 93

AlAmeel T (AlAmeel, Turki); Basheikh M (Basheikh, Mohammed); Andrew MK (Andrew, Melissa K.)

4. High Rate of Magnetic Resonance Imaging Stroke Recurrence in Cryptogenic Transient Ischemic Attack and Minor Stroke Patients ......................................................... 94

Bal S (Bal, Simerpreet); Patel SK (Patel, Shiel K.); Almekhlafi M (Almekhlafi, Mohammed); Modi J (Modi, Jayesh); Demchuk AM (Demchuk, Andrew M.); Coutts SB (Coutts, Shelagh B.)

5. Initial experience with a self-expanding retrievable stent for recanalization of large vessel occlusions in acute ischemic stroke ........................................................................ 95

Menon BK (Menon, Bijoy K.); Kochar P (Kochar, Puneet); Ah-Seng A (Ah-Seng, Andrew); Almekhlafi MA (Almekhlafi, Mohammed A.); Modi J (Modi, Jayesh); Wong JH

7. Musculoskeletal manifestations in diabetic patients at a tertiary center ...................... 97

8. Outcome after implantable cardioverter-defibrillator in patients with Brugada syndrome: the Gulf Brugada syndrome registry ............................................................................. 98


10. Superiority of the buffy coat over serum or plasma for the detection of Alkhumra virus RNA using real time RT-PCR ....................................................................................... 100

11. Vascular and cellular events in post-mastectomy seroma: An immunohistochemical study .... 101

DEPARTMENT: MEDICAL EDUCATION

1. Antioxidants protect against increased risk of atherosclerosis induced by exposure to cigarette smoke: Histological and biochemical study .................................................. 104

2. Autoimmune thrombocytopenia Is it a different disease or different aspects of a single disease? .................................................................................................................... 106


4. Interdisciplinary Integration of the CVS Module and Its Effect on Faculty and Student Satisfaction as Well as Student Performance ......................................................... 108
DEPARTMENT: MEDICAL PARASITE

1. Colorectal Cancer in the Kingdom of Saudi Arabia: Need for Screening ........................................ 110
   Mosli MH (Mosli, Mahmoud H.); Al-Ahwal MS (Al-Ahwal, Mahmoud S.)

2. Successful propagation of Alkhumra (misnamed as Alkhurma) virus in C6/36 mosquito cells ................................................................. 111
   Madani TA (Madani, Tariq A.); Kao M (Kao, Moujahed); Azhar EI (Azhar, Esam I.);
   Abuelzein ETME (Abuelzein, El-Tayeb M. E.); Al-Bar HMS (Al-Bar, Hussein M. S.);
   Abu-Araki H (Abu-Araki, Huda); Ksiazek TG (Ksiazek, Thomas G.)

DEPARTMENT: MICROBIOLOGY

1. Demographic pattern of carpal tunnel syndrome in western Saudi Arabia ...................................... 114
   Abumunaser LA (Abumunaser, Lutf A.)

2. Optimization of glucose isomerase production by Streptomyces albaduncus .......................... 115
   Yassien MAM (Yassien, Mahmoud Abdul Megead); Jiman-Fatani AAM (Jiman-Fatani, Asif Ahmad Mohammad)

3. Prevalence of celiac disease in children with type 1 diabetes mellitus screened by anti-tissue transglutaminase antibody from Western Saudi Arabia ........................................... 116
   Saadah OI (Saadah, Omar I.); Al-Agha AE (Al-Agha, Abdolmoein E.);
   Al Nahdi HM (Al Nahdi, Haifa M.); Bokhary RY (Bokhary, Rana Y.);
   Bin Talib YY (Bin Talib, Yagoub Y.); Al-Mughales JA (Al-Mughales, Jamil A.);
   Al Bokhari SM (Al Bokhari, Shatha M.)

4. Role of herpes simplex virus-1, cytomegalovirus and Epstein-Barr virus in atherosclerosis ...... 118
   Al-Ghamdi A (Al-Ghamdi, Abdullah)

5. Subcutaneous immunization with recombinant adenovirus expressing influenza A nucleoprotein protects mice against lethal viral challenge ......................................................... 119
   Hashem AM (Hashem, Anwar M.); Jaentschke B (Jaentschke, Bozena);
   Gravel C (Gravel, Caroline); Tocchi M (Tocchi, Monika); Doyle TM (Doyle, Tracey M.); Rosu-Myles M (Rosu-Myles, Michael); He RT (He, Runtao); Li XG (Li, Xuguang)

DEPARTMENT: OBSTETRICS AND GYNECOLOGY

1. Congenital heart defects in Down syndrome patients from western Saudi Arabia .................. 122
   Al-Aama JY (Al-Aama, Jumana Y.); Bondagji NS (Bondagji, Nabeel S.);
   El-Harouni AA (El-Harouni, Ashraf A.)

2. Decreased serum sclerostin levels in patients with primary hyperparathyroidism: a cross-sectional and a longitudinal study ................................................................. 123
   Ardawi MSM (Ardawi, M. -S. M.); Al-Sibiani AM (Al-Sibiani, A. M.);
   Bakhsh TM (Bakhsh, T. M.); Rouzi AA (Rouzi, A. A.); Qari MH (Qari, M. H.)

3. Defibulation During Vaginal Delivery for Women With Type III Female Genital Mutilation ..... 125
   Rouzi AA (Rouzi, Abdurahim A.); Al-Sibiani SA (Al-Sibiani, Sharifa A.);
   Al-Mansouri NM (Al-Mansouri, Nisma M.); Al-Sinani NS (Al-Sinani, Nawal S.);
   Al-Jahdali EA (Al-Jahdali, Eetedal A.); Darhouse K (Darhouse, Khalid)
4. Do Saudi Nurses in Primary Health Care Centres have Breast Cancer Knowledge to Promote Breast Cancer Awareness? ................................................................. 126
   Yousuf SA (Yousuf, Shadia Abdullah); Al Amoudi SM (Al Amoudi, Samia Mohammed); Nicolas W (Nicolas, Wafa); Banjar HE (Banjar, Hasna Erfan); Salem SM (Salem, Safaa Mohammed)

5. High Serum Sclerostin Predicts the Occurrence of Osteoprotic Fractures in Postmenopausal Women: The Center of Excellence for Osteoporosis Research Study ............ 127
   Ardawi MSM (Ardawi, Mohammed-Salleh M.); Rouzi AA (Rouzi, Abdulrahim A.); Al-Sibiani SA (Al-Sibiani, Sharifa A.); Al-Senani NS (Al-Senani, Nawal S.); Qari MH (Qari, Mohammed H.); Mousa SA (Mousa, Shaker A.)

6. Independent predictors of all osteoporosis-related fractures among healthy Saudi postmenopausal women: The CEOR Study ................................................................. 129
   Rouzi AA (Rouzi, Abdulrahim A.); Al-Sibiani SA (Al-Sibiani, Sharifa A.); Al-Senani NS (Al-Senani, Nawal S.); Radaddi RM (Radaddi, Raja M.); Ardawi MSM (Ardawi, Mohammed-Salleh M.)

7. Men’s knowledge and attitude towards breast cancer in Saudi Arabia A cross-sectional study .................................................................................................................... 131
   Al-Amoudi SM (Al-Amoudi, Samia M.); Abduljabbar HS (Abduljabbar, Hassan S.)

8. Neglected intra-cervical bizarre foreign object ................................................................. 132
   Abduljabbar HS (Abduljabbar, Hassan S.); Sbenati MA (Sbenati, Majd A.)

9. Physical Activity in Relation to Serum Sclerostin, Insulin-Like Growth Factor-1, and Bone Turnover Markers in Healthy Premenopausal Women: A Cross-Sectional and a Longitudinal Study................................................................. 133
   Ardawi MSM (Ardawi, Mohammed-Salleh M.); Rouzi AA (Rouzi, Abdulrahim A.); Qari MH (Qari, Mohammed H.)

10. The corrected perinatal mortality rate A hospital-based study in Saudi Arabia .................. 135
    Bondagji NS (Bondagji, Nabeel S.); Kasim EM (Kasim, Eman M.)

11. Congenital heart defects in Down syndrome patients from western Saudi Arabia ............ 136
    Al-Aama JY (Al-Aama, Jumana Y.); Bondagji NS (Bondagji, Nabeel S.); El-Harouni AA (El-Harouni, Ashraf A.)

12. Decreased serum sclerostin levels in patients with primary hyperparathyroidism: a cross-sectional and a longitudinal study ................................................................. 137
    Ardawi MSM (Ardawi, M. -S. M.); Al-Sibiany AM (Al-Sibiany, A. M.); Bakhsh TM (Bakhsh, T. M.); Rouzi AA (Rouzi, A. A.); Qari MH (Qari, M. H.)

13. Defibulation During Vaginal Delivery for Women With Type III Female Genital Mutilation ..... 139
    Rouzi AA (Rouzi, Abdulrahim A.); Al-Sibiani SA (Al-Sibiani, Sharifa A.); Al-Mansouri NM (Al-Mansouri, Nisma M.); Al-Sinani NS (Al-Sinani, Nawal S.); Al-Jahdali EA (Al-Jahdali, Eetedal A.); Darhouse K (Darhouse, Khalid)

14. Do Saudi Nurses in Primary Health Care Centres have Breast Cancer Knowledge to Promote Breast Cancer Awareness? ................................................................. 140
    Yousuf SA (Yousuf, Shadia Abdullah); Al Amoudi SM (Al Amoudi, Samia Mohammed); Nicolas W (Nicolas, Wafa); Banjar HE (Banjar, Hasna Erfan); Salem SM (Salem, Safaa Mohammed)

15. High Serum Sclerostin Predicts the Occurrence of Osteoporotic Fractures in Postmenopausal Women: The Center of Excellence for Osteoporosis Research Study ............ 141
Ardawi MSM (Ardawi, Mohammed-Salleh M.); Rouzi AA (Rouzi, Abdulrahim A.); Al-Sibiani SA (Al-Sibiani, Sharifa A.); Al-Senani NS (Al-Senani, Nawal S.); Qari MH (Qari, Mohammed H.); Mousa SA (Mousa, Shaker A.)

16. Independent predictors of all osteoporosis-related fractures among healthy Saudi postmenopausal women: The CEOR Study ................................................................. 143
   Rouzi AA (Rouzi, Abdulrahim A.); Al-Sibiani SA (Al-Sibiani, Sharifa A.); Al-Senani NS (Al-Senani, Nawal S.); Radaddi RM (Radaddi, Raja M.); Ardawi MSM (Ardawi, Mohammed-Salleh M.)

17. Men’s knowledge and attitude towards breast cancer in Saudi Arabia A cross-sectional study ............................................................................................................. 145
   Al-Amoudi SM (Al-Amoudi, Samia M.); Abduljabbar HS (Abduljabbar, Hassan S.)

18. Neglected intra-cervical bizarre foreign object .................................................................. 146
   Abduljabbar HS (Abduljabbar, Hassan S.); Sbenati MA (Sbenati, Majd A.)

19. Physical Activity in Relation to Serum Sclerostin, Insulin-Like Growth Factor-1, and Bone Turnover Markers in Healthy Premenopausal Women: A Cross-Sectional and a Longitudinal Study ................................................................................................. 147
   Ardawi MSM (Ardawi, Mohammed-Salleh M.); Rouzi AA (Rouzi, Abdulrahim A.); Qari MH (Qari, Mohammed H.)

20. The corrected perinatal mortality rate A hospital-based study in Saudi Arabia .................. 149
    Bondagji NS (Bondagji, Nabeel S.); Kasim EM (Kasim, Eman M.)
Ashour OM (Ashour, Osama M.); Abdel-Naim AB (Abdel-Naim, Ashraf B.); Abdallah HM (Abdallah, Hossam M.); Nagy AA (Nagy, Ayman A.); Mohamadin AM (Mohamadin, Ahmed M.); Abdel-Sattar EA (Abdel-Sattar, Essam A.)

2. BRAF mutations in thyroid tumors from an ethnically diverse group

Schulten HJ (Schulten, Hans-Juergen); Salama S (Salama, Sherine); Al-Mansouri Z (Al-Mansouri, Zuhoor); Alotibi R (Alotibi, Reem); Al-Ghamdi K (Al-Ghamdi, Khalid); Al-Hamour OA (Al-Hamour, Osman Abdel); Sayadi H (Sayadi, Hassan); Al-Aradati H (Al-Aradati, Hosam); Al-Johari A (Al-Johari, Adel); Huwait E (Huwait, Etimad); Gari M (Gari, Mamdooh); Al-Qahtani MH (Al-Qahtani, Mohammed Hussain); Al-Maghrabi J (Al-Maghrabi, Jaudah)

3. Childhood Brain Lesions: 15 years Experience of King Abdulaziz University Hospital (1995-2010)

AlJhdali HM (AlJhdali, Hessa M.); Jamal AA (Jamal, Awatif A.)

4. Collapsing Focal Segmental Glomerulosclerosis in a Young Child

Kari JA (Kari, Jameela A.); Jalalah S (Jalalah, Sawsan); Singh A (Singh, Ajay); Mokhtar G (Mokhtar, Ghadeer)

5. Cyclooxygenase-2 expression as a predictor of outcome in colorectal carcinoma

Al-Maghrabi J (Al-Maghrabi, Jaudah); Buhmeida A (Buhmeida, Abdelbaset); Emam E (Emam, Eman); Syrianen K (Syrianen, Kari); Sibiany A (Sibiany, Abdulrahman); Al-Qahtani M (Al-Qahtani, Mohmmad); Al-Ahwal M (Al-Ahwal, Mahmoud)

6. Decreased Immunoexpression of Standard Form of CD44 Is an Independent Favourable Predictor of Nodal Metastasis in Colorectal Carcinoma

Al-Maghrabi J (Al-Maghrabi, Jaudah); Gomaa W (Gomaa, Wafaey); Buhmeida A (Buhmeida, Abdelbaset); Al-Qahtani M (Al-Qahtani, Mohmmad); Al-Ahwal M (Al-Ahwal, Mahmoud)

7. Effect of selective and non-selective cyclooxygenase inhibitors on doxorubicin-induced cardiotoxicity and nephrotoxicity in rats

Ibrahim MA (Ibrahim, Mohamed A.); Morsy MA (Morsy, Mohamed A.); Hafez HM (Hafez, Heba M.); Gomaa WM (Gomaa, Wafaey M.); Abdelrahman AM (Abdelrahman, Aly M.)

8. Ewing’s sarcoma family tumors in the western region of Saudi Arabia A pathological experience from 2 tertiary medical centers

Gomaa WM (Gomaa, Wafaey M.); Al-Maghrabi JA (Al3Maghrabi, Jaudah A.)

9. Gastrointestinal basidiobolomycosis in a child; an unusual fungal infection mimicking fistulising Crohn’s disease

Saadah OI (Saadah, Omar I.); Farouq MF (Farouq, Mohammad F.); Al Daajani N (Al Daajani, Nawaf); Kamal JS (Kamal, Jamal S.); Ghanem AT (Ghanem, Ahmad T.)

10. Gastrointestinal basidiobolomycosis in a child; an unusual fungal infection mimicking fistulising Crohn’s disease

Saadah OI (Saadah, Omar I.); Farouq MF (Farouq, Mohammad F.); Al Daajani N (Al Daajani, Nawaf); Kamal JS (Kamal, Jamal S.); Ghanem AT (Ghanem, Ahmad T.)

11. Histopathological pattern of ovarian neoplasms and their age distribution in the western region of Saudi Arabia

Abdullah LS (Abdullah, Layla S.); Bondagji NS (Bondagji, Nabeel S.)

12. Malignant spiradenoma/cylindroma of the vulva

Emam EE (Emam, Eman E.); Sawan AS (Sawan, Ali S.); Al-Tamimi SR (Al-Tamimi, Soha R.); Molah RM (Molah, Rihab M.)

13. Metastatic breast neuroendocrine tumor from the rectum
14. Pattern of cervical smear abnormalities using the revised Bethesda system in a tertiary care hospital in Western Saudi Arabia ................................................................. 176
   Al-Maghrabi JA (Al-Maghrabi, Jaudah A.); Zekri J (Zekri, Jamal)

15. Pattern of cutaneous melanoma at King AbdulAziz University Hospital, Jeddah, Saudi Arabia ................................................................. 177
   Mufti ST (Mufti, Shagufta Tahir)

16. Prevalence of celiac disease in children with type 1 diabetes mellitus screened by anti-
tissue transglutaminase antibody from Western Saudi Arabia ........................................ 178
   Saadah OI (Saadah, Omar I.); Al-Agha AE (Al-Agha, Abdulmoein E.); Al Nahdi HM (Al Nahdi, Haifa M.); Bokhary RY (Bokhary, Rana Y.); Bin Talib YY (Bin Talib, Yagoub Y.); Al-Mughales JA (Al-Mughales, Jamil A.); Al Bokhari SM (Al Bokhari, Shatha M.)

17. The importance of second opinion in surgical pathology referral material of lymphoma........ 180
   Al-Maghrabi JA (Al-Maghrabi, Jaudah A.); Sayadi HH (Sayadi, Hassan H.)

18. Therapeutic role of telmisartan against acetaminophen hepatotoxicity in mice.................. 181
   Fouad AA (Fouad, Amr A.); Al-Mulhim AS (Al-Mulhim, Abdulruhman S.); Jresat I (Jresat, Iyad); Gomaa W (Gomaa, Wafaey)

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**DEPARTMENT: PEDIATRIC**

1. Childhood onset of Crohn disease: experience from a university teaching hospital in Saudi Arabia ........................................................................................................ 184
   Saadah OI (Saadah, Omar I.)

2. Collapsing Focal Segmental Glomerulosclerosis in a Young Child................................. 185
   Kari JA (Kari, Jameela A.); Jalalah S (Jalalah, Sawsan); Singh A (Singh, Ajay); Mokhtar G (Mokhtar, Ghadeer)

3. Eosinophilic Esophagitis in Children from Western Saudi Arabia: Relative Frequency,
   Clinical, Pathological, Endoscopic, and Immunological Study ........................................ 186
   Saadah OI (Saadah, Omar I.); Aburiziza AJ (Aburiziza, Abdullah J.); Abu Shakra RI (Abu Shakra, Rafat I.)

4. Gastrointestinal basidiobolomycosis in a child; an unusual fungal infection mimicking
   fistulising Crohn’s disease .................................................................................................. 187
   Saadah OI (Saadah, Omar I.); Farouq MF (Farouq, Mohammad F.); Al Daajani N (Al Daajani, Nawaf); Kamal JS (Kamal, Jamal S.); Ghanem AT (Ghanem, Ahmad T.)

5. Gastrointestinal basidiobolomycosis in a child; an unusual fungal infection mimicking
   fistulising Crohn’s disease .................................................................................................. 188
   Saadah OI (Saadah, Omar I.); Farouq MF (Farouq, Mohammad F.); Al Daajani N (Al Daajani, Nawaf); Kamal JS (Kamal, Jamal S.); Ghanem AT (Ghanem, Ahmad T.)

6. Identification of a novel ZNF469 mutation in a large family with Ehlers-Danlos phenotype..... 189
   Al-Owain M (Al-Owain, Mohammed); Al-Dosari MS (Al-Dosari, Mohammed S.); Sunker A (Sunker, Asma); Shuaib T (Shuaib, Tagreed); Alkuraya FS (Alkuraya, Fowzan S.)

7. Metabolic cataract in an 8-year-old diabetic boy .......................................................... 190
   Al-Agha A (Al-Agha, Abdulmoein); Ocheltree A (Ocheltree, Ali); Rashad R (Rashad, Reem); Abdelsalam I (Abdelsalam, Ihab)

8. Pediatrician knowledge, perception, and experience on child abuse and neglect in Saudi Arabia .............................................................................................. 191
Habib HS (Habib, Hamed S.)

9. Pharmacokinetic approach for optimizing gentamicin use in neonates during the first week of life .......................................................... 192
   Ali AS (Ali, Ahmed S.); Farouq MF (Farouq, M. FadulAllah); Al-Faify KA (Al-Faify, Khalid A.)

10. Prevalence of celiac disease in children with type 1 diabetes mellitus screened by antitissue transglutaminase antibody from Western Saudi Arabia ........................................ 193
   Saadah OI (Saadah, Omar I.); Al-Agha AE (Al-Agha, Abdelmoein E.); Al Nahdi HM (Al Nahdi, Haifa M.); Bokhary RY (Bokhary, Rana Y.); Bin Talib Y (Bin Talib, Yagoub Y.); Al-Mughales JA (Al-Mughales, Jamil A.); Al Bokhari SM (Al Bokhari, Shatha M.)

11. Prevalence of Smoking among Female Medical Students in Saudi Arabia ...................... 195
   Azhar A (Azhar, Ahmad); Alsayed N (Alsayed, Nouf)

12. Propionic Acidemia Associated With Visual Hallucinations........................................ 196
   Shuaib T (Shuaib, Taghreed); Al-Hashmi N (Al-Hashmi, Nadia); Ghaziuddin M (Ghaziuddin, Mohammad); Megdad E (Megdad, Eman); Abebe D (Abebe, Dejene); Al-Saif A (Al-Saif, Amr); Doubi A (Doubi, Alaa); Aldhalaan H (Aldhalaan, Hesham); Abouzied ME (Abouzied, Moh)

13. Ruptured giant middle cerebral artery aneurysm in infancy........................................... 197
   Al-Youbi RA (Al-Youbi, Reem A.); Binmahfoodh MS (Binmahfoodh, Mohammed S.); Kamfar HZ (Kamfar, Hayat Z.); Jan MM (Jan, Mohammed M.)

14. Smith-Lemli-Opitz syndrome among Arabs................................................................. 198
   Al-Owain M (Al-Owain, M.); Imtiaz F (Imtiaz, F.); Shuaib T (Shuaib, T.); Edrees A (Edrees, A.); Al-Amoudi M (Al-Amoudi, M.); Sakati N (Sakati, N.); Al-Hassnan Z (Al-Hassnan, Z.); Bamashmous H (Bamashmous, H.); Rahbeeni Z (Rahbeeni, Z.); Al-Ameer S (Al-Ame

15. Vitamin D insufficiency and deficiency in children with chronic kidney disease............... 199
   Kari JA (Kari, Jameela Abdulaziz); El Desoky SM (El Desoky, Sherif Mohamed); El-Morshed SM (El-Morshed, Salah Mohamed); Habib HS (Habib, Hamid Saed)

1. Chronic obstructive pulmonary disease and associated healthcare resource consumption in the Middle East and North Africa: The BREATHE study......................................................... 202
   Polatli M (Polatli, Mehmet); Ben Kheder A (Ben Kheder, Ali); Wali S (Wali, Siraj); Javed A (Javed, Arshad); Khattab A (Khattab, Adel); Mahboub B (Mahboub, Bassam); Iraqi G (Iraqi, Ghali); Nejjari C (Nejjari, Chakib); Taright S (Taright, Samya); Koniski ML (Koniski, Marie-Louise); Rashid N (Rashid, Nauman); El Hasnaoui A (El Hasnaoui, Abdelkader)

2. Comparative analysis of hemagglutinin of 2009 H1N1 influenza A pandemic indicates its evolution to 1918 H1N1 pandemic .......................................................... 203
   Masoodi TA (Masoodi, Tariq Ahmad); Shaik NA (Shaik, Noor Ahmad); Shafi G (Shafi, Gowhar); Munshi A (Munshi, Anjana); Ahamed AK (Ahamed, A. Khaleel); Masoodi ZA (Masoodi, Zahid A.)

3. Distribution of COPD-related symptoms in the Middle East and North Africa: Results of the BREATHE study.......................................................... 204
   Tageldin MA (Tageldin, Mohamed Awad); Nafti S (Nafti, Salim); Khan JA (Khan, Javaid Ahmed); Nejjari C (Nejjari, Chakib); Beji M (Beji, Majed); Mahboub B (Mahboub,
4. Does Selenium Ameliorate Toxic Effects of Prenatal Aluminium on Brain of Full Term Rat Fetuses? ................................................. 205

Al Saggaf SM (Al Saggaf, Samar M.); Abdel-Hamid GA (Abdel-Hamid, Ghada A.); Hagras M (Hagras, Magda); Saleh HA (Saleh, Hamid A.)

5. Impact of pharmacovigilance on adverse drug reactions reporting in hospitalized internal medicine patients at Saudi Arabian teaching hospital ........................................ 206

Khan LM (Khan, Lateef M.); Al-Harthi SE (Al-Harthi, Sameer E.); Saadah OI (Saadah, Omar I.); Al-Amoudi AB (Al-Amoudi, Ahmed B.); Sulaiman MI (Sulaiman, Mansour I.); Ibrahim IM (Ibrahim, Ibrahim M.)

6. In vitro cytotoxic screening of selected Saudi medicinal plants .................................................. 207

Almehdar H (Almehdar, Hussein); Abdallah HM (Abdallah, Hossam M.); Osman AMM (Osman, Abdel-Moneim M.); Abdel-Sattar EA (Abdel-Sattar, Essam A.)

7. Mechanisms of Cardioprotective Effect of Aged Garlic Extract Against Doxorubicin-Induced Cardiotoxicity ............. 208

Alkreathy HM (Alkreathy, Huda M.); Damanhouri ZA (Damanhouri, Zoheir A.); Ahmed N (Ahmed, Nessar); Slevin M (Slevin, Mark); Osman AMM (Osman, Abdel-Moneim M.)

8. Modulation of doxorubicin cytotoxicity by resveratrol in a human breast cancer cell line ...... 209

Osman AMM (Osman, Abdel-Moneim M.); Bayoumi HM (Bayoumi, Hadeel M.); Al-Harthi SE (Al-Harthi, Sameer E.); Damanhouri ZA (Damanhouri, Zoheir A.); ElShal MF (ElShal, Mohamed F.)

9. Properties of peroxidase from chewing stick miswak ................................................................. 210

Mohamed SA (Mohamed, Saleh A.); Al-Malki AL (Al-Malki, Abdulrahman L.); Khan JA (Khan, Jalaluddin A.); Sulaiman MI (Sulaiman, Mansour I.); Kumosani TA (Kumosani, Taha A.)

10. Subereamolline A as a Potent Breast Cancer Migration, Invasion and Proliferation Inhibitor and Bioactive Dibrominated Alkaloids from the Red Sea Sponge Pseudoceratina arabica ................................................................... 211

Shaala LA (Shaala, Lamiaa A.); Youssef DTA (Youssef, Diaa T. A.); Sulaiman M (Sulaiman, Mansour); Behery FA (Behery, Fathy A.); Foudah AI (Foudah, Ahmed I.); El Sayed KA (El Sayed, Khalid A.)

11. The burden of chronic obstructive pulmonary disease in the Middle East and North Africa: Results of the BREATHE study .................................................. 212

Uzaslan E (Uzaslan, Esra); Mahboub B (Mahboub, Bassam); Beji M (Beji, Majed); Nejjar C (Nejjar, Chakib); Tageldin MA (Tageldin, Mohamed Awad); Khan JA (Khan, Javaid Ahmed); Nafti S (Nafti, Salim); Obeidat NM (Obeidat, Nathir M.); Sayiner A (Sayiner, Abdullah); Wali S (Wali, Siraj); Rashid N (Rashid, Nauman); El Hasnaoui A (El Hasnaoui, Abdelkader)

12. The HDL proteome in acute coronary syndromes shifts to an inflammatory profile ............ 213

Alwaili K (Alwaili, Khalid); Bailey D (Bailey, Dana); Awan Z (Awan, Zuhier); Bailey SD (Bailey, Swneke D.); Ruel I (Ruel, Isabelle); Hafiane A (Hafiane, Anouar); Krimbou L (Krimbou, Larbi); Laboissiere S (Laboissiere, Sylvie); Genest J (Genest, Jacques)

13. Unusual case of recurrent falls Myasthenia gravis in an elderly patient .............................. 214

Alaama T (Alaama, Tareef); Basharat P (Basharat, Pari); Nicolle MW (Nicole, Michael W.)
1. Development and evaluation of study guide template for an integrated cardiovascular module ................................................................. 216
   Al-Hazimi A (Al-Hazimi, Awdah)

**Department: Radiology**

1. Female sexual dysfunction: what Arab gynecologists think and know ................................................................. 218
   Auwad WA (Auwad, Wael A.); Hagi SK (Hagi, Sarah K.)

2. High prevalence of vitamin D deficiency among healthy Saudi Arabian men: relationship to bone mineral density, parathyroid hormone, bone turnover markers, and lifestyle factors ................................................................. 219
   Ardawi MSM (Ardawi, M. -S. M.); Sibiany AM (Sibiany, A. M.); Bakhsh TM (Bakhsh, T. M.); Qari MH (Qari, M. H.); Maimani AA (Maimani, A. A.)

3. Adding a conduit to Glide Scope blade facilitates tracheal intubation Prospective randomized study ................................................................. 221
   Almarakbi WA (Almarakbi, Waleed A.); Alhashemi JA (Alhashemi, Jamal A.); Kaki AM (Kaki, Abdullah M.)

4. An experiential teaching session on the anesthesia machine check improves resident performance ................................................................. 222
   Chiu M (Chiu, Michelle); Arab AA (Arab, Abeer A.); Elliott R (Elliott, Robert); Naik VN (Naik, Viren N.)

5. Antioxidants protect against increased risk of atherosclerosis induced by exposure to cigarette smoke: Histological and biochemical study ................................................................. 223
   Ali SS (Ali, Soad Shaker); Ayuob NN (Ayuob, Nasra Naeim); Al Ansary AK (Al Ansary, Abeer Khaled); Soluman ER (Soluman, Ekram Rage)

6. Benchmarking the post-accreditation patient safety culture at King Abdulaziz University Hospital ................................................................. 225
   Al-Awa B (Al-Awa, Bahjat); Al Mazrooa A (Al Mazrooa, Adnan); Rayes O (Rayes, Osama); El Hati T (El Hati, Taghreed); Devreux I (Devreux, Isabelle); Al-Noury K (Al-Noury, Khaled); Habib H (Habib, Hamed); EI-Deek BS (EI-Deek, Basem Salama)

7. Does Selenium Ameliorate Toxic Effects of Prenatal Aluminium on Brain of Full Term Rat Fetuses? ................................................................. 227
   Al Saggaf SM (Al Saggaf, Samar M.); Abdel-Hamid GA (Abdel-Hamid, Ghada A.); Hagras M (Hagras, Magda); Saleh HA (Saleh, Hamid A.)

8. Effect of (+)-Usnic Acid as a Fat Burner on the Rat Hepatocyte; Correlated Histological and Biochemical in vivo Study ................................................................. 228
   Al-Ahmadi AA (Al-Ahmadi, Ahlam Abdulaziz); Ayuob NN (Ayuob, Nasra Naeim); Ali SS (Ali, Soad Shaker); Al-Robai AA (Al-Robai, Ali Ahmed); Abo-Khatwa NA (Abo-Khatwa, Nabil Abdulaziz)

9. Effect of acrylamide on testis of albino rats Ultrastructure and DNA cytometry study ................................................................. 229
   Mustafa HN (Mustafa, Hesham N.)
10. Morphology and clinical significance of the distribution of the median nerve within the arm of human cadavers ..........................................................230
    Nasr AY (Nasr, Ashraf Y.)
11. The Prenatal Toxic Effect of Methylmercury on the Development of the Appendicular Skeleton of Rat Fetuses and the Protective Role of Vitamin E...........................................231
    Abd El-Aziz GS (Abd El-Aziz, Gamal S.); El-Fark MMO (El-Fark, Magdy M. O.); Saleh HAM (Saleh, Hamid A. M.)
12. The radial artery and its variations: anatomical study and clinical implications...............232
    Nasr AY (Nasr, A. Y.)
13. Use of pressure, Volume loop closure to check for endotracheal tube cuff function Randomized clinical trial.................................................................233
    Kaki AM (Kaki, Abdullah M.); Almarakbi WA (Almarakbi, Waleed A.)
1. alpha-Synuclein Levels in Blood Plasma from LRRK2 Mutation Carriers

Gorostidi A (Gorostidi, Ana); Bergareche A (Bergareche, Alberto); Ruiz-Martinez J (Ruiz-Martinez, Javier); Marti-Masso JF (Marti-Masso, Jose F.); Cruz M (Cruz, Maria); Varghese S (Varghese, Shiji); Qureshi MM (Qureshi, Mohamed M.); Alzahmi F (Alzahmi, Fatimah); Al-Hayani A (Al-Hayani, Abdulmonem); de Munain AL (Lopez de Munain, Adolfo); El-Agnaf OMA (El-Agnaf, Omar M. A.)

Abstract

The diagnosis of Parkinson’s disease (PD) remains primarily a clinical, issue, based mainly on phenotypic patterns. The identification of biomarkers capable of permitting the preclinical detection of PD is critically needed. alpha-Synuclein is a key protein in PD, with missense and multiplication mutations in the gene encoding alpha-synuclein (SNCA) having been reported in familial cases of PD, and accumulation of the protein identified in Lewy bodies (LBs) and Lewy neurites (LNs) in affected brain regions. With the objective of validating the use of alpha-synuclein as a clinical or progressive biomarker in an accessible tissue, we used an enzyme-linked immunosorbent assay (ELISA) to measure alpha-synuclein levels in the peripheral blood plasma of idiopathic PD and LRRK2 mutation carrier patients and compared our findings with healthy control subjects. Compared to healthy controls, we found a significant decrease in plasma total alpha-synuclein levels in idiopathic PD (iPD) patients (n = 134, p = 0.010). However, the reduction was less significant in patients who were LRRK2 mutation carriers (n = 32, p = 0.133). This lack of significance could be due to the small number of individuals employed in this group. No predictive value of total alpha-synuclein in the diagnosis of PD was found in a receiver operating characteristic (ROC) curve analysis. Although this is a pilot study requiring corroboration on a larger cohort of patients, our results highlight the possible use of plasma alpha-synuclein as a biomarker for PD.

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Department: Anatomy
DSR No.: 1607
2. Structural alterations induced by botulinum toxin injection in juvenile versus adult rat muscle

Hassan SM (Hassan, Sherif M.); Badawoud MH (Badawoud, Mohammed H.); Al-Hayani AA (Al-Hayani, Abdulmonem A.)

Abstract

Objectives: To investigate whether botulinum neurotoxin type A (BoNT-A) injections produce the same structural changes in juvenile and adult muscle. Methods: The present study was carried out in the Department of Anatomy, Faculty of Medicine, King Abdulaziz University, Jeddah, Kingdom of Saudi Arabia from October 2010 to May 2011. A total of 32 adult and 32 juvenile rats were used. Electron microscopy and immuno-histochemical techniques were used to conduct the morphological study. Neurofilament immunohistochemistry method was used. Results: The results indicate that the use of BoNT-A injections induced morphological changes in the form of muscle fiber atrophy, disorganization of the muscle fiber structure, extension of nerve terminal sprouts, and formation of new neuromuscular junctions. The same set of structural changes took place in both groups. However, the time scale of these changes occurred earlier in juvenile rats than adult muscle. Conclusion: The injection of BoNT-A leads to morphological changes in juvenile and adult rat muscle. These changes were the same in both groups.
DEPARTMENT
BIOCHEMISTRY
APPLICATION OF HIGH PERFORMANCE THIN LAYER CHROMATOGRAPHY FOR DETERMINATION OF NICOTINE IN DIFFERENT BRANDS OF CIGARETTES

Badr JM (Badr, Jihan M.); Bamane FH (Bamane, Faida H.); El-Shaer NS (El-Shaer, Nagwa S.)

Abstract

There are several known methods for quantitative determination of nicotine, the main alkaloid of Nicotiana tabacum, with each presenting a series of advantages and disadvantages. As an alternative, we suggest a densitometric determination for nicotine allowing its estimation in a number of brands of cigarettes. Separation was performed by thin layer chromatography using hexane: CH2Cl2:MeOH (2:8:1.5) as a developing mixture. Densitometric measurements were carried out at the absorption maximum 254 nm. The method demonstrated good precision and accuracy, which were indicated by the low values of RSD %. Limits of detection and quantitation were recorded as 0.008 mg mL(-1) and 0.02 mg mL(-1), respectively. A considerable variation of nicotine content was noticed among the nine investigated brands of cigarettes where samples 3 and 8 revealed the highest amounts of nicotine that were approximately duplicated compared to other samples.
2. B-Cell Activating Factor (BAFF) in Systemic Lupus Erythematosus, Rheumatoid Arthritis, and Behcet's Disease

Eldin AB (Eldin, Amina Badr); Sayed S (Sayed, Safaa); Hegazy G (Hegazy, Gehan); Shaker O (Shaker, Olfat)

Abstract

Objectives: This study aims to determine B-cell activating factor (BAFF) serum levels in rheumatoid arthritis (RA), systemic lupus erythematosus (SLE) and Behcet's disease (BD) and correlate these levels with disease activity and severity. Patients and methods: Between December 2010 and December 2011, 63 Egyptian patients with collagen diseases [RA (n=21), SLE (n=21); BD (n=21)] were recruited from Cairo and Ain Shams University Hospitals, along with 21 apparently healthy individuals as controls. All participants underwent history taking, clinical examination, laboratory and radiological investigations, and disease activity score estimation. The serum BAFF level was measured by an enzyme-linked immunosorbent assay (ELISA) kit. Results: The BAFF serum levels were significantly elevated in patients with SLE and BD versus the healthy controls (p<0.011, p<0.023) and in SLE versus RA and BD (p<0.024, p<0.026). A significant positive correlation was found between the BAFF and C-reactive protein (CRP) (r=0.928, p<0.0001), the Disease Activity Score 28 (DAS28) (r=0.810, p<0.0001), and disease control (r=0.834, p<0.0001) in RA. Also, a significant positive correlation was found between BAFF and SLE Disease Activity Index (SLEDAI) score classification (r=0.894, p<0.0001) and SLEDAI score (r=0.748, p<0.0001) in SLE as well as between the BAFF and disease duration (r=0.578, p<0.006) in BD. Conclusion: The BAFF serum levels are increased in patients with SLE and BD versus the controls and in patients with SLE compared with those with RA and BD. They also have a positive correlation with disease severity in SLE and RA, which suggests that BAFF may play a role in the pathogenesis and activity of these diseases. These results may pose the possibility that a human monoclonal antibody drug which selectively inhibits BAFF biological activity may be useful in the treatment of active resistant cases.

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Department: Biochemistry
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3. BRAF mutations in thyroid tumors from an ethnically diverse group

Schulten HJ (Schulten, Hans-Juergen); Salama S (Salama, Sherine); Al-Mansouri Z (Al-Mansouri, Zuhoor); Alotibi R (Alotibi, Reem); Al-Ghamdi K (Al-Ghamdi, Khalid); Al-Hamour OA (Al-Hamour, Osman Abdel); Sayadi H (Sayadi, Hassan); Al-Aradati H (Al-Aradati, Hosam); Al-Johari A (Al-Johari, Adel); Huwait E (Huwait, Etimad); Gari M (Gari, Mamdooh); Al-Qahtani MH (Al-Qahtani, Mohammed Hussain); Al-Maghrabi J (Al-Maghrabi, Jaudah)

Abstract

Background: The molecular etiology of thyroid carcinoma (TC) and other thyroid diseases which may present malignant precursor lesions is not fully explored yet. The purpose of this study was to estimate frequency, type and clinicopathological value of BRAF exon 15 mutations in different types of cancerous and non-cancerous thyroid lesions originating in an ethnically diverse population. Methods: BRAF exon 15 was sequenced in 381 cases of thyroid lesions including Hashimoto's thyroiditis, nodular goiters, hyperplastic nodules, follicular adenomas (FA), papillary TC (PTC), follicular variant PTC (FVPTC), microcarcinomas of PTC (micro PTC; tumor size <= 1 cm), follicular TC (FTC), and non-well differentiated TC (non-WDTC). Results: We identified BRAF mutations in one of 69 FA, 72 of 115 (63%) PTC, seven of 42 (17%) FVPTC, 10 of 56 (18%) micro PTC, one of 17 (6%) FTC, and one of eight (13%) non-WDTC. Most of the cases showed the common V600E mutation. One case each of PTC, FVPTC, and FTC harbored a K601E mutation. A novel BRAF mutation was identified in a FA leading to deletion of threonine at codon 599 (p.T599del). A rare 3-base pair insertion was detected in a stage III PTC resulting in duplication of threonine at codon 599 (p.T599dup). Patients with PTC harboring no BRAF mutation (BRAF(wt)) were on average younger than those with a BRAF mutation (BRAF(mut)) in the PTC (36.6 years vs. 43.8 years). Older age (>= 45 years) in patients with PTC was significantly associated with tumor size >= 4 cm (P = 0.018), vessel invasion (P = 0.004), and distant metastasis (P = 0.001). Lymph node (LN) involvement in PTC significantly correlated with tumor size (P = 0.044), and vessel invasion (P = 0.013). Of notice, taken the whole TC group, family history of thyroid disease positively correlated with capsular invasion (P = 0.025). Conclusions: Older age is manifold associated with unfavorable tumor markers in our series. The K601E identified in a PTC, FVPTC, and FTC seems to be more distributed among different histological types of TC than previously thought. The T599del is a yet undescribed mutation and the rare T599dup has not been reported as a mutation in PTC so far.

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Decreased serum sclerostin levels in patients with primary hyperparathyroidism: a cross-sectional and a longitudinal study

Ardawi MSM (Ardawi, M. -S. M.); Al-Sibiany AM (Al-Sibiany, A. M.); Bakhsh TM (Bakhsh, T. M.); Rouzi AA (Rouzi, A. A.); Qari MH (Qari, M. H.)

Abstract

Decreased serum sclerostin was evident in patients with primary hyperparathyroidism and was inversely related to parathyroid hormone (PTH). Sclerostin normalized earlier than biochemical bone turnover markers (BTMs) following parathyroidectomy. There is limited information on the changes of serum sclerostin in conditions with chronic PTH excess in humans. The main objectives of the present study were to: (1) examine cross-sectionally the changes of serum sclerostin levels in patients with primary hyperparathyroidism (PHPT), (2) study the time course changes in serum sclerostin in PHPT patients following parathyroidectomy (PTX) followed up longitudinally for 12 months, and (3) compare the changes in serum sclerostin to that of BTMs. We studied 60 PHPT patients and compared them with 74 PTX patients together with 268 age- and sex-matched healthy controls. Also, we followed 27 PTX patients longitudinally at 2, 4, 6, 10, 30, 60, 180, and 360 days postoperatively. Serum sclerostin, BTMs, and minerals were measured. Also, bone mineral density was determined by dual energy X-ray absorptiometry. Patients with PHPT exhibited significantly lower mean serum sclerostin [mean, in picomoles per liter; 95% confidence interval (CI)] (28.98; 27.94-30.03) than that obtained for PTX patients (37.01; 35.75-38.27) and healthy controls (46.22; 45.13-47.31) ( < 0.0001, for each case), respectively. Serum PTH inversely correlated with serum sclerostin ( = -0.651, < 0.0001). Serum sclerostin was normalized in PTX patients by the tenth day postoperatively and remained within the expected reference range thereafter. Significantly decreased serum sclerostin was evidenced in PHPT patients as compared with PTX and euparathyroid controls. The inverse PTH and sclerostin relationship suggests that sclerostin is downregulated by PTH in humans. Serum sclerostin normalized earlier than BTMs following parathyroidectomy.
Reprint Address: Ardawi, MSM (reprint author), King Abdulaziz Univ, Ctr Excellence Osteoporosis Res, POB 20724, Jeddah 21465, Saudi Arabia.

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Faculty Name: Faculty of Medicine

Department: Biochemistry

DSR No.: 1566
5. High prevalence of vitamin D deficiency among healthy Saudi Arabian men: relationship to bone mineral density, parathyroid hormone, bone turnover markers, and lifestyle factors

Ardawi MSM (Ardawi, M. - S. M.); Sibiany AM (Sibiany, A. M.); Bakhsh TM (Bakhsh, T. M.); Qari MH (Qari, M. H.); Maimani AA (Maimani, A. A.)

Abstract

In this cross-sectional study, the prevalence of vitamin D deficiency [serum 25-hydroxyvitamin D (25(OH)D) < 50 nmol/L] was 87.8% among Saudi Arabian men. There was a linear inverse relationship between serum 25(OH)D and intact parathyroid hormone (PTH) levels, but without a threshold of 25(OH)D at which intact PTH values plateaued. Vitamin D insufficiency and/or deficiency has now reached epidemic proportions and has been linked to low bone mineral density (BMD), some lifestyle factors, and obesity in adults. This relationship is not well documented in Saudi Arabian men. This study examines the relationship between vitamin D status, intact parathyroid hormone (intact PTH), and lifestyle factors among Saudi Arabian men. This cross-sectional study involved 834 men aged 20-74 years living in Jeddah area who were randomly selected and medically examined. Men had their BMD (lumbar spine (L1-L4) and neck femur), 25(OH)D, intact PTH, and other parameters measured according to detailed inclusion criteria. Deficiency (25(OH)D < 50 nmol/L) and insufficiency (a parts per thousand yen50-75 nmol/L) were present in 87.8% and 9.7%, respectively. Deficiency was common among older and obese men with no education and sedentary lifestyle sampled during summer and spring. Serum 25(OH)D showed an inverse linear relationship with intact PTH, but there was no threshold of serum 25(OH)D at which PTH levels plateaued. There was a positive correlation between BMD values at both lumbar spine (L1-L4) (P < 0.023) and neck femur (P < 0.036) and serum 25(OH)D levels, respectively. Functionally significant vitamin D deficiency affects BMD and bone turnover markers among Saudi Arabian men and is largely attributed to older age, obesity, sedentary lifestyle, no education, poor exposure to sunlight, smoking, and poor dietary vitamin D supplementation. The data suggest that an increase in PTH cannot be used as a marker for vitamin D deficiency.

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6. High Serum Sclerostin Predicts the Occurrence of Osteoporotic Fractures in Postmenopausal Women: The Center of Excellence for Osteoporosis Research Study

Ardawi MSM (Ardawi, Mohammed-Salleh M.); Rouzi AA (Rouzi, Abdulrahim A.); Al-Sibiani SA (Al-Sibiani, Sharifa A.); Al-Senani NS (Al-Senani, Nawal S.); Qari MH (Qari, Mohammed H.); Mousa SA (Mousa, Shaker A.)

Abstract

Sclerostin regulates bone formation by inhibiting Wnt pathway signaling. Low circulating sclerostin levels cause high bone mass. We hypothesized that postmenopausal women with increased sclerostin levels have a greater risk for osteoporosis-related fractures. We examined the association between circulating sclerostin together with bone turnover markers and osteoporosis-related fracture risk in 707 postmenopausal women, in a population-based study with a mean follow-up period of 5.2 +/- 1.3 years. Multivariate Cox proportional hazards regression models were used to analyze fracture risk, adjusted for age, body mass index, and other confounding risk factors. High sclerostin levels were strongly associated with increased fracture risk. After adjustment for age and other confounders, the relative fracture risk was more than sevenfold among postmenopausal women for each 1-SD increment increase in sclerostin level. Women in the highest quartile of sclerostin levels had about a 15-fold increase in fracture risk. Results were similar when we compared sclerostin at the 1-year visit to an average of two to three annual measurements. Fracture risk attributable to sclerostin levels was 56.6% in the highest quartile. Only high levels of bone resorption markers (plasma cross-linked C-terminal telopeptide of type 1 collagen [p-CTX], urinary CTx [u-CTX], and urinary N-telopeptide of type 1 collagen [u-NTx]) were predictive of osteoporosis-related fractures but at much lower hazard ratio (HR) values than that of serum sclerostin. Associations between sclerostin levels and fracture risk were independent of bone mineral density and other confounding risk factors. High sclerostin levels are a strong and independent risk factor for osteoporosis-related fractures among postmenopausal women. (C) 2012 American Society for Bone and Mineral Research.

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7. Independent predictors of all osteoporosis-related fractures among healthy Saudi postmenopausal women: The CEOR Study

Rouzi AA (Rouzi, Abdulrahim A.); Al-Sibiani SA (Al-Sibiani, Sharifa A.); Al-Senani NS (Al-Senani, Nawal S.); Radaddi RM (Radaddi, Raja M.); Ardawi MSM (Ardawi, Mohammed-Salleh M.)

Abstract

This study was designed to identify independent predictors of all osteoporosis-related fractures (ORFs) among healthy Saudi postmenopausal women. We prospectively followed a cohort of 707 healthy postmenopausal women (mean age, 61.3 +/- 7.2 years) for 5.2 +/- 1.3 years. Data were collected on demographic characteristics, medical history, personal and family history of fractures, lifestyle factors, daily calcium intake, vitamin D supplementation, and physical activity score. Anthropometric parameters, total fractures (30.01 per 1000 women/year), special physical performance tests, bone turnover markers, hormone levels, and bone mineral density (BMD) measurements were performed. The final model consisted of seven independent predictors of ORFs: [lowest quartile (Q(1) under bar)) vs highest quartile (Q(4) under bar))] physical activity score (Q(1) vs Q(4): <= 12.61 vs >= 15.38); relative risk estimate [RR], 2.87; (95% confidence interval [CI]: 1.88-4.38); age >= 60 years vs age<60 years (RR=2.43; 95% CI: 1.49-3.95); hand grip strength (Q(1) vs Q(4): <= 13.88 vs >= 17.28 kg) (RR=1.88; 95% CI: 1.15-3.05); BMD total hip (Q(1) vs Q4: <= 0.784 vs 0.973 g/cm(2)) (RR=1.86; 95% CI: 1.26-2.75); dietary calcium intake (Q(1) vs Q4): <= 391 vs >= 648 mg/day) (RR=1.66; 95% CI: 1.08-2.53); serum 25(OH)D (Q(1) vs Q4): <= 17.9 vs >= 45.1 nmol/L) (RR=1.63; 95% CI: 1.06-2.51); and past year history of falls (RR=1.61;95% CI: 1.06-2.48).

Compared with having none (41.9% of women), having three or more clinical risk factors (4.8% of women) increased fracture risk by more than 4-fold, independent of BMD. Having three or more risk factors and being in the lowest tertile of T-score of [total hip/lumbar spine (L1-L4)] was associated with a 14.2-fold greater risk than having no risk factors and being in the highest T-score tertile. Several clinical risk factors were independently associated with all ORFs in healthy Saudi postmenopausal women. The combination of multiple clinical risk factors and low BMD is a very powerful indicator of fracture risk. (C) 2011 Elsevier Inc. All rights reserved.
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Faculty Name: Faculty of Medicine
Department: Biochemistry
DSR No.: 676
8. Mitochondrial dysfunction induced impairment of spermatogenesis in LPS-treated rats: Modulatory role of lycopene

Aly HAA (Aly, Hamdy A. A.); El-Beshbishy HA (El-Beshbishy, Hesham A.); Banjar ZM (Banjar, Zainy M.)

Abstract

The current study investigates the potential toxicity of lipopolysaccharide (LPS) on the mitochondrial fraction of rat testis and the possible protective efficacy of lycopene. Adult male Wistar rats were categorized into four groups. Two groups were administered LPS (0.1 mg/kg/day for 7 days i.p.); one of these groups received lycopene treatment (4 mg/kg/day by oral gavage, 24 h before LPS treatment) (Group IV) and the other received LPS alone (Group III). A vehicle-treated group (Group I) and a lycopene drug control group (Group II) were also included. Sperm count and motility were significantly decreased in Group III. The testicular mitochondrial fraction of Group III showed significant increase in basal and Fe2+-induced lipid peroxidation, along with a significant increase in hydrogen peroxide (H2O2) level. Moreover, the activities of mitochondrial enzymic (SOD, CAT, GPx, GR and ADH) and non-enzymic (GSH and ascorbate) antioxidants levels were decreased. Group III also showed decline in the activities of TCA enzymes such as SDH, MDH and ICDH. Pretreatment with lycopene showed normal sperm parameters, lipid peroxidation, H2O2 level, antioxidant defenses and TCA enzyme activities. In conclusion, this study indicates that LPS-induced oxidative stress leads to functional damages in the testicular mitochondria. Lycopene pretreatment provided a marked normalization in these parameters. (C) 2011 Elsevier B.V. All rights reserved.
9. Nigrostriatal overabundance of alpha-synuclein leads to decreased vesicle density and deficits in dopamine release that correlate with reduced motor activity

Gaugler MN (Gaugler, Meret Nora); Genc O (Genc, Ozgur); Bobela W (Bobela, Wojciech); Mohanna S (Mohanna, Safa); Ardah MT (Ardah, Mustafa Taleb); El-Agnaf OM (El-Agnaf, Omar Mukhtar); Cantoni M (Cantoni, Marco); Bensadoun JC (Bensadoun, Jean-Charles); Schneggenburger R (Schneggenburger, Ralf); Knott GW (Knott, Graham W.); Aebischer P (Aebischer, Patrick); Schneider BL (Schneider, Bernard Laurent)

Abstract

Alpha-Synuclein (alpha-syn) is a presynaptic protein present at most nerve terminals, but its function remains largely unknown. The familial forms of Parkinson's disease associated with multiplications of the alpha-syn gene locus indicate that overabundance of this protein might have a detrimental effect on dopaminergic transmission. To investigate this hypothesis, we use adeno-associated viral (AAV) vectors to overexpress human alpha-syn in the rat substantia nigra. Moderate overexpression of either wild-type (WT) or A30P alpha-syn differs in the motor phenotypes induced, with only the WT form generating hemiparkinsonian impairments. Wild-type alpha-syn causes a reduction of dopamine release in the striatum that exceeds the loss of dopaminergic neurons, axonal fibers, and the reduction in total dopamine. At the ultrastructural level, the reduced dopamine release corresponds to a decreased density of dopaminergic vesicles and synaptic contacts in striatal terminals. Interestingly, the membrane-binding-deficient A30P mutant does neither notably reduce dopamine release nor it cause ultrastructural changes in dopaminergic axons, showing that alpha-syn's membrane-binding properties are critically involved in the presynaptic defects. To further determine if the affinity of the protein for membranes determines the extent of motor defects, we compare three forms of alpha-syn in conditions leading to pronounced degeneration. While membrane-binding alpha-syns (wild-type and A53T) induce severe motor impairments, an N-terminal deleted form with attenuated affinity for membranes is inefficient in inducing motor defects. Overall, these results demonstrate that alpha-syn overabundance is detrimental to dopamine neurotransmission at early stages of the degeneration of nigrostriatal dopaminergic axons.

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Faculty Name : Faculty of Medicine
Department : Biochemistry DSR No. : 435
10. Paclitaxel resistance is associated with switch from apoptotic to autophagic cell death in MCF-7 breast cancer cells

Ajabnoor GMA (Ajabnoor, G. M. A.); Crook T (Crook, T.); Coley HM (Coley, H. M.)

Abstract

Taxanes remain first line chemotherapy in management of metastatic breast cancer and have a key role in epithelial ovarian cancer, with increasingly common use of weekly paclitaxel dosing regimens. However, their clinical utility is limited by the development of chemoresistance. To address this, we modelled in vitro paclitaxel resistance in MCF-7 cells. We show that at clinically relevant drug doses, emerging paclitaxel resistance is associated with profound changes in cell death responses and a switch from apoptosis to autophagy as the principal mechanism of drug-induced cytotoxicity. This was characterised by a complete absence of caspase-mediated apoptotic cell death (using the pan-caspase-inhibitor Z-VAD) in paclitaxel-resistant MCF-7TaxR cells, compared with parent MCF-7 or MDA-MB-231 cell lines on paclitaxel challenge, downregulation of caspase-7, caspase-9 and BCl2-interacting mediator of cell death (BIM) expression. Silencing with small interfering RNA to BIM in MCF-7 parental cells was sufficient to confer paclitaxel resistance, inferring the significance in downregulation of this protein in contributing to the resistant phenotype of the MCF-7TaxR cell line. Conversely, there was an increased autophagic response in the MCF-7TaxR cell line with reduced phospho-mTOR and relative resistance to the mTOR inhibitors rapamycin and RAD001. In conclusion, we show for the first time that paclitaxel resistance is associated with profound changes in cell death response with deletion of multiple apoptotic factors balanced by upregulation of the autophagic pathway and collateral sensitivity to platinum. Cell Death and Disease (2012) 3, e260; DOI:10.1038/cddis.2011.139; Published online 26 January 2012
11. Physical Activity in Relation to Serum Sclerostin, Insulin-Like Growth Factor-1, and Bone Turnover Markers in Healthy Premenopausal Women: A Cross-Sectional and a Longitudinal Study

Ardawi MSM (Ardawi, Mohammed-Salleh M.); Rouzi AA (Rouzi, Abdulrahim A.); Qari MH (Qari, Mohammed H.)

Abstract

Context: There is limited information on the effects of mechanical loading caused by physical activity (PA) on sclerostin, IGF-I, and bone turnover markers (BTM). Objective: The objective of the investigation was to study the relationships between serum sclerostin, serum-IGF-I (s-IGF-I), BTM, and the PA level in premenopausal women and to discern how 8-wk of PA training (PAT) affects the serum levels of sclerostin, IGF-I, and BTM. Design: This was a cross-sectional study with a subgroup followed up longitudinally. Settings and Subjects: A total of 1235 randomly selected premenopausal women were cross-sectionally studied. We also followed up 58 of these women longitudinally during an 8-wk course of PAT (4 d/wk) and compared them with 62 controls. All women were medically examined, and bone mineral density (BMD) and serum levels of sclerostin, s-IGF-I, and BTM were determined. Results: Women with PA of greater than 120 min/wk showed significantly lower serum sclerostin (by 36.8%) but higher s-IGF-I (by 107%) levels than sedentary controls. Bone formation markers were also higher in the PA greater than 120 min/wk group compared with the sedentary controls. In the longitudinal study, the 8-wk PAT program led to a decrease in serum sclerostin (by 33.9%, \( P < 0.0001 \)) but increases in the serum levels of the bone-formation markers and IGF-I (s-IGF-I by 74.2%, \( P < 0.0001 \)). Conclusions: This study demonstrates that even minor changes in PA are associated with effects on serum levels of sclerostin, IGF-I, and BTM and suggests that sclerostin could be a link between mechanical loading and disuse osteoporosis in humans.
12. Rosuvastatin, Proprotein Convertase Subtilisin/Kexin Type 9 Concentrations, and LDL Cholesterol Response: the JUPITER Trial

Awan Z (Awan, Zuhier); Seidah NG (Seidah, Nabil G.); MacFadyen JG (MacFadyen, Jean G.); Benjannet S (Benjannet, Suzanne); Chasman DI (Chasman, Daniel I.); Ridker PM (Ridker, Paul M.); Genest J (Genest, Jacques)

Abstract

BACKGROUND: Although statin therapy is known to increase concentrations of PCSK9, whether this effect is related to the magnitude of LDL reduction is uncertain. This study was undertaken to understand the extent of this effect and examine the relationship between PCSK9 and LDL cholesterol (LDL-C) reduction. METHODS: We measured plasma PCSK9 concentrations by ELISA at baseline and at 1 year in 500 men and 500 women participating in the Justification for Use of Statins in Prevention: an Intervention Trial Evaluating Rosuvastatin (JUPITER) trial that randomly allocated participants to rosvuastatin 20 mg daily or placebo. We also evaluated rs11591147, a single nucleotide polymorphism known to have an impact on plasma PCSK9 concentrations. RESULTS: At baseline, median (interquartile range) PCSK9 concentrations were higher in women [73 (62-90)] ng/mL than in men [69 (57-81) ng/mL] (P < 0.005). During 1 year, there was no change in PCSK9 concentrations in the placebo arm, suggesting stability in time. In contrast, the rosvuastatin increased PCSK9 by 35% in women [101 (82-117) ng/mL] and 28% in men [89 (71-109) ng/mL] (P < 0.0001). Among those allocated to rosvuastatin, greater reductions in LDL-C were associated with greater increases in PCSK9 on both absolute and relative scales (r = -0.15, P < 0.0005). Furthermore PCSK9 (rs11591147) did not alter the magnitude of LDL-C reduction associated with rosvuastatin use. CONCLUSIONS: In this randomized trial, rosvuastatin increased plasma concentration of PCSK9 in proportion to the magnitude of LDL-C reduction; the LDL-C response to statin could not be inferred by PCSK9 concentrations.

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Faculty Name: Faculty of Medicine
Department: Biochemistry
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13. Synthesis of new cyclic imides derivatives with potential hypolipidemic activity

El-Zahabi MA (El-Zahabi, Mohamed A.); Gad LM (Gad, Laila M.); Bamanie FH (Bamanie, Faida H.); Al-Marzooki Z (Al-Marzooki, Zohair)

Abstract

Certain new nitrogen-substituted derivatives of cyclic imides phthalimide (a), 1,8-naphthalimide (b), and diphenimide (c), were synthesized aiming to obtain potent hypolipidemic agents. Thus, 2-(N-imido) propanoic acids, 2-(N-phthalimido)-2-methylpropionic acid, and their ethyl esters were synthesized (Target derivative A). Also their corresponding N-substituted-2-(N-imido) propionamides and 2-(N-phthalimido)-2-methylpropionamides were prepared (Target derivative B). In addition, N-phthalimidomethyleneoxy acetate was prepared. Some of the newly prepared compounds were subjected to 3D studies and were found to be superimposed on Clofibrate, which is the first generation of fibrate drugs. The preliminary evaluation of hypolipidemic activity of the newly prepared compounds against triton WR-1339-induced hyperlipidemia in rat showed that several derivatives have demonstrated significant lowering of serum total cholesterol and triglyceride levels at dose of 150 mg/kg/i.p. comparing with Fenofibrate which is one of the second generations of fibrate drugs.
Towards appreciating appropriate clinical responses to highly sensitive cardiac troponin assays

Bima A (Bima, A.); Sikaris K (Sikaris, K.)

Abstract

Cardiac troponins (cTn) are structural components of the contractile apparatus of the cardiomyocyte and the recommended biochemical markers for diagnosing myocardial infarction. Although the diagnostic performance of both cTnT and cTnI as biochemical markers are quite similar, it is the analytical sensitivities of these assays that have been found to create the difference. High-sensitivity cTn assays, which are capable of measuring cTn levels 10-folds lower than conventional fourth generation assays, are results of continuous effort to develop more sensitive and accurate tests to detect cardiac injury. While the improvement in the sensitivity of these assays promises improvement in many aspects of patient care, such as earlier myocardial infarction diagnosis and cardiac disease risk assessment, shortcoming of these assays must be considered. Very low measurable levels of cardiac damage biochemical markers can deliver occult yet possible decisive message. Better understanding of the pros and cons of these assays will pledge an appropriate clinical reaction to highly sensitive results.

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Faculty Name: Faculty of Medicine
Department: Biochemistry
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DEPARTMENT
EAR, NOSE AND THROAT
1. The Impact of Medical Education on Saudi Medical Students' Awareness of Cell Phone Use and its Health Hazards

Al-Muhayawi S (Al-Muhayawi, Saad); Eldeek B (Eldeek, Bassam); Abubakr H (Abubakr, Hussain); BenKuddah R (BenKuddah, Rawan); Zahid A (Zahid, Adel); Abukhashabah H (Abukhashabah, Hashem)

Abstract

The data surrounding the effect of cell phones' electromagnetic radiation on human health, particularly on the auditory and vestibular systems, are controversial. This issue is of particular relevance since it may affect billions of people worldwide. The study aimed to highlight the impact of medical education on the awareness of cell phone use and its health hazards in students at King Abdulaziz University's Faculty of Medicine in Jeddah, Saudi Arabia. In this study, a mixed research design was adopted as a complementary approach. Closed ended questionnaires were distributed to 400 medical students to determine their knowledge and practices regarding the use of cell phones and their possible health risks. The questionnaires were followed by discussions with four focus groups to further analyze the studied area. Both the questionnaires and focus groups covered many points, including the most common health hazards associated with the use of cell phones. The results showed that most of the students were aware of the potential risks arising from the use of cell phones, and at least half of them reported experiencing some of the negative effects. [Saad Al-Muhayawi, Bassam Eldeek, Hussain Abubakr, Rawan BenKuddah, Adel Zahid and Hashem Abukhashabah. The Impact of Medical Education on Saudi Medical Students' Awareness of Cell Phone Use and its Health Hazards. Life Sci J 2012;9(2):1143-1148] (ISSN:1097-8135). http://www.lifesciencesite.com. 170

Sources

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Department : Ear, nose and throat
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1. Benchmarking the post-accreditation patient safety culture at King Abdulaziz University Hospital

Al-Awa B (Al-Awa, Bahjat); Al Mazrooa A (Al Mazrooa, Adnan); Rayes O (Rayes, Osama); El Hati T (El Hati, Taghreed); Devreux I (Devreux, Isabelle); Al-Noury K (Al-Noury, Khaled); Habib H (Habib, Hamed); Ei-Deek BS (Ei-Deek, Basem Salama)

Abstract

BACKGROUND AND OBJECTIVES: Accreditation is an internationally recognized evaluation process used to assess, promote, and guarantee efficient and effective patient care and safety. Saudi Arabia is one of the first countries in the eastern Mediterranean region to implement health care accreditation standards. This study provides valuable information pertaining to the impact of accreditation in the unique multicultural, multilingual competitive environment at King Abdulaziz University Hospital in Saudi Arabia. The objective of this study was to perform an unbiased assessment of the impact of accreditation on patient safety culture. DESIGN AND SETTING: Cross-sectional retrospective and prospective study post-accreditation at King Abdulaziz University Hospital in Jeddah, Saudi Arabia from January 1, 2006 to December 31, 2009. PATIENTS AND METHODS: A total of 870 registered nurses from eight different cultural backgrounds working at 22 hospital units were given electronic access to the survey. A 5-point Likert scale was used, ranging from 1 for "Strongly disagree" to 5 for "Strongly agree." The survey results were matched with the international benchmarks from the Hospital Survey on Patient Safety Culture, 2005. RESULTS: A total of 605 nurses answered the survey questionnaire. The comparison between the percentages of nurses at King Abdulaziz University Hospital (KAUH) and those at international hospitals who answered "Agree" and "Strongly agree" showed a post-accreditation improved perception of the culture of patient safety. CONCLUSIONS: Accreditation has an overall statistically significant improvement in the perception of the culture of patient safety.

Sources: ANNALS OF SAUDI MEDICINE
ISO Source Abbrev: ANN SAUDI MED
Impact Factor: 1.071
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Volume: 32
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DOI: 10.5144/0256-4947.2012.143
Cited reference count: 8
Language: English
Document Type: Article

KAU Addresses:
[Al Mazrooa, Adnan] King Abdulaziz Univ, Intens Care Unit, Jeddah 21413, Saudi Arabia.
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<th><strong>Reprint Address</strong></th>
<th>Reprint Address: Al-Awa, B (reprint author), King Abdulaziz Univ Hosp, Planning &amp; Dev Dept, Jeddah, Saudi Arabia.</th>
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<td><strong>Publisher</strong></td>
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<td><strong>Web of Science Categories</strong></td>
<td>Web of Science Categories: Medicine, General &amp; Internal</td>
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<td>Research Areas: General &amp; Internal Medicine</td>
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<td><strong>Faculty Name</strong></td>
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<tr>
<td><strong>Department</strong></td>
<td>Department: Family and Community Medicine</td>
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<tr>
<td><strong>DSR No.</strong></td>
<td>DSR No.: 510</td>
</tr>
</tbody>
</table>
2. Determinants of Patient Satisfaction in the Surgical ward at a University Hospital in Saudi Arabia

Aldaqal SM (Aldaqal, Saleh M.); Alghamdi H (Alghamdi, Hattan); AlTurki H (AlTurki, Hassan); El-deek BS (El-deek, Basem S.); Kensarah AA (Kensarah, Ahmed A.)

Abstract

Objectives, to determine the factors that affect patient satisfaction in the surgical ward of a university hospital and provide useful information for the hospital management, wishing to improve patient satisfaction in Saudi Arabia. Methods: A cross-sectional study was conducted from June 2011 till to August 2011 in the surgical ward at King Abdulaziz University Hospital in Jeddah, Saudi Arabia. A patient satisfaction questionnaire was administered to the first 95 patients ready for discharge from the hospital during the study period, and we obtained data from patients who rated their satisfaction with care provided. We analyzed the data to identify potentially modifiable factors associated with dissatisfaction. Results: The patients included 55 males (58.5%) and 39 females (41.5%). The average age of patients was 45.9 years (range 15-83 years) and the average length of stay was 6.43 days (range 1-50 days). The overall satisfaction rate was 89.6%. The level of satisfaction was high regarding the explanation of the on call doctor about the operation in the emergency department (75.5%), Doctor's reception in the clinic (81.25%), surgical team reception in the ward (79.75%), Response of the team about the patient’s questions (71.75%), and Safety level in the hospital (74.75%). The lowest level of satisfaction was for the waiting time in the emergency (40%), the waiting time in the clinic (62%), the response of consulting doctors of the other departments (60.75%), the explanation of the surgical team about the lifestyle after operation (53%), and the quality of food in the hospital (56.75%). There was a strong relation between the patient dissatisfaction and patient’s age (P value: 0.003), gender (P value: 0.001, with more female satisfaction), and duration of hospital stay (P value: 0). Conclusion: In a studied area, the factors that influence patient satisfaction are old age (> 50 years old), male gender, waiting time in emergency department and out-patient department (clinic), quality of food, quick response of consulting doctors of other departments, explanation of surgical team about lifestyle after surgery (eating habits, wound management, having shower and exercise), and length of hospital stay. We recommend the hospital management to address these factors to improve patient satisfaction.

Sources

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Impact Factor: 0.073
Year: 2012 Volume: 9 Issue: 1 Pages: 277-280
Cited reference count: 11
Language: English Document Type: Article
Reprint Address: Aldaqal, SM (reprint author), King Abdulaziz Univ, Dept Surg, Fac Med, Jeddah 21413, Saudi Arabia.
Publisher: MARSLAND PRESS
Web of Science Categories: Biology
Research Areas: Life Sciences & Biomedicine - Other Topics
Faculty Name: Faculty of Medicine
Department: Family and Community Medicine
DSR No.: 1403
3. Developmental Antecedents of Political Ideology: A Longitudinal Investigation From Birth to Age 18 Years

Fraley RC (Fraley, R. Chris); Griffin BN (Griffin, Brian N.); Belsky J (Belsky, Jay);
Roisman GI (Roisman, Glenn I.)

Abstract

The study reported here examined the developmental antecedents of conservative versus liberal ideologies using data from the National Institute of Child Health and Human Development Study of Early Child Care and Youth Development and a follow-up study conducted when the sample was 18 years old. Specifically, we examined variation in conservative versus liberal ideologies at age 18 years as a function of parenting attitudes and child temperament during the first 5 years of life. Consistent with longstanding theories on the development of political attitudes, our results showed that parents' authoritarian attitudes assessed when children were 1 month old predicted conservative attitudes in those children more than 17 years later. Consistent with the findings of Block and Block (2006), our results also showed that early childhood temperament predicted variation in conservative versus liberal ideologies.
4. Effect of Diabetes Mellitus on Patients Undergoing Laparoscopic Cholecystectomy: A Comparative Cross-Sectional Study

Aldaqal SM (Aldaqal, Saleh M.); Albaghdadi AT (Albaghdadi, Alia T.); Tashkandi HM (Tashkandi, Hanaa M.); El-Deek BS (El-deek, Basem S.); Al-Malki GA (Al-Malki, Ghada A.); Turki AM (Turki, Ali M.); Makki AM (Makki, Ahmed M.)

Abstract

Diabetes was found to be a risk factor for gallstone formation, and complications. Diabetic patients are generally more prone to operative and post-operative morbidities than their normal counterparts. This study aimed to find whether diabetes is an independent risk factor for morbidities associated with laparoscopic cholecystectomy in our population. Material and Methods: This is a comparative cross-sectional study that was conducted at the Department of Surgery in King Abdulaziz University Hospital, Jeddah, Saudi Arabia, from June to December 2011. A total of 112 patients who have undergone laparoscopic cholecystectomy at our hospital were randomly selected and retrieved from the medical records department. Ethical Approval to conduct the study was obtained from the local ethical committee of king Abdulaziz University Hospital. A Performa designed by the study team was used to collect the data. Results: A total of 112 patients underwent laparoscopic cholecystectomy for cholelithiasis. 18 patients were male (16.1%) and 94 were female (83.9%) with a ratio of 1:5.2. The mean (+/- SD) age was 41.23 +/- 13.82 years (range 15-75 years). Out of 112 patients, 18 were diabetics (16.1%) and 94 patients (83.9 %) were not diabetics. The operation was performed as an elective procedure in 104 patients (92.9%) and as an emergency in 8 patients (7.1%). Diabetics had a significantly higher rate of emergency admissions (22.2%) compared to non-diabetics (4.3%, p= 0.022). Laparoscopic cholecystectomy was converted to open procedure in 5 patients (4.5%) of which 3 were diabetics (16.7%) and 2 non-diabetics (2.1%). This shows a statistically significant higher (p=0.029) rate of conversion to open of diabetics compared to non-diabetics. Diabetics had a significantly higher (p= 0.029) mean length of post-operative hospital stay (2.06 +/- 1.60) compared to non-diabetics (1.43 +/- 0.96). The level of HbA1c and fasting glucose level showed no significant effect on conversion to open procedure. The factors that were associated with higher risk of conversion to open were older age (p=0.004), male gender (p=0.029), diabetes (p= 0.029), and acute calculus cholecystitis. Conclusion: Diabetes mellitus is associated with more emergency admission due to complicated cholelithiasis, more conversion rate from laparoscopic to open cholecystectomy and prolonged post-operative hospital stay. We found that neither fasting blood glucose level nor HbA1c level have any correlation with intraoperative or post-operative complication or conversion rate. We still however recommend a pre-operative control of blood glucose until we have a prospective randomized control trial comparing diabetic and non-diabetics patient going for laparoscopic cholecystectomy to know at which level of HbA1c or level of blood glucose should be achieved before surgery. [Saleh M. Aldaqal, Alia T. Albaghdadi, Hanaa M. Tashkandi, Basem S. El-deek, Ghada A. Al-Malki; Ali M. Turki and Ahmed M. Makki. Effect of Diabetes Mellitus on Patients Undergoing Laparoscopic Cholecystectomy: A Comparative Cross-Sectional Study. Life Science Journal 2012; 9(1):431-439]. (ISSN: 1097-8135). http://www.lifesciencesite.com. 64

Sources: LIFE SCIENCE JOURNAL-ACTA ZHENGZHOU UNIVERSITY OVERSEAS EDITION
ISO Source Abbrev: LIFE SCI J
5. Effects of divorce on Dutch boys' and girls' externalizing behavior in Gene x Environment perspective: Diathesis stress or differential susceptibility in the Dutch Tracking Adolescents' Individual Lives Survey study?

Nederhof E (Nederhof, Esther); Belsky J (Belsky, Jay); Ormel J (Ormel, Johan); Oldehinkel AJ (Oldehinkel, Albertine J.)

Abstract

The effects of divorce on children's behavioral development have proven to be quite varied across studies, and most developmental and family scholars today appreciate the great heterogeneity in divorce effects. Thus, this inquiry sought to determine whether select dopaminergic genes previously associated with externalizing behavior and/or found to moderate diverse environmental effects (dopamine receptors D2 and D4, catechol-O-methyltransferase) might moderate divorce effects on adolescent self-reported externalizing problems; and, if so, whether evidence of gene environment (G x E) interaction would prove consistent with diathesis stress or differential-susceptibility models of environmental action. Data from the first and third wave of the Dutch Tracking Adolescents' Individual Lives Survey (n = 1,134) revealed some evidence of G x E interaction reflecting diathesis stress but not differential susceptibility. It is intriguing that some evidence pointed to "vantage sensitivity," which are benefits accruing to those with a specific genotype when their parents remained together, the exact opposite of diathesis stress. The limits of this work are considered, especially with regard to the conditions for testing differential susceptibility, and future directions are outlined.

Sources: DEVELOPMENT AND PSYCHOPATHOLOGY
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Year: 2012 Volume: 24 Issue: 3 Pages: 929-939
DOI: 10.1017/S0954579412000454 Cited reference count: 84
Language: English Document Type: Article
Reprint Address: Belsky, J (reprint author), Univ Calif Davis, 1 Shields Ave,Hart Hall, Davis, CA 95616 USA.
Publisher: CAMBRIDGE UNIV PRESS
Web of Science Categories: Psychology, Developmental
Research Areas: Psychology
Faculty Name: Faculty of Medicine
Department: Family and Community Medicine
DSR No.: 837

Schlomer GL (Schlomer, Gabriel L.); Belsky J (Belsky, Jay)

Abstract

Drawing on the evolutionary terminal investment hypothesis and Trivers' (1974) parent-offspring conflict theory, we advance and evaluate a mediational model specifying why and how maternal age, via mating effort and parental investment, affects mother-child conflict. Data from a longitudinal study of 757 families indicate that (a) older maternal age predicts lower mating effort during the child's first 5 years of life, and (b) thereby, higher maternal investment in middle childhood when the child is around 10 years old. (c) Higher maternal investment, in turn, forecasts less child-perceived mother-child conflict in adolescence (age 15). These results proved robust against theoretically relevant covariates (family resources, parity, maternal education, and maternal personality characteristics) and in the context of an autoregressive model. Study limitations are noted and results are discussed in terms of the unique contributions of an evolutionary perspective to the determinants-of-parenting literature.

Sources

ISO Source Abbrev: JOURNAL OF FAMILY PSYCHOLOGY
Impact Factor: 1.656
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Volume: 26
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DOI: 10.1037/a0027859
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Language: English
Document Type: Article

Reprint Address: [Belsky, Jay] King Abdulaziz Univ, Jeddah, Saudi Arabia.

Reprint Address: Schlomer, GL (reprint author), Univ Arizona, Norton Sch Family & Consumer Sci, McClelland Pk, 650 N Pk Ave, Tucson, AZ 85721 USA.

Publisher: AMER PSYCHOLOGICAL ASSOC

Web of Science Categories: Psychology, Clinical; Family Studies
Research Areas: Psychology; Family Studies
Faculty Name: Faculty of Medicine
Department: Family and Community Medicine
DSR No.: 1185
7. Sensitivity of standardised musculoskeletal examination of the hand and wrist joints in detecting arthritis in comparison to ultrasound findings in patients attending rheumatology clinics

Almoallim H (Almoallim, Hani); Attar S (Attar, Suzan); Jannoudi N (Jannoudi, Nahid); Al-Nakshabandi N (Al-Nakshabandi, Nizar); Eldeek B (Eldeek, Basem); Fathaddien O (Fathaddien, Omar); Halabi H (Halabi, Hussien)

Abstract

The aim of this study is to standardise the musculoskeletal (MSK) examination of the hand and wrist joints and to determine the sensitivity of this standard exam to diagnose arthritis in comparison to ultrasound (US) findings. A standardised approach to MSK examination of the hand and wrist joints was formulated. It consists of inspection, followed by screening exam based on active range of motion testing, and then using specific techniques to detect clinical swelling and tenderness. The scissor and squeeze techniques for metacarpophalangeal (MCP) joints, 4-finger technique for the proximal interphalangeal (PIP) joints and 2-thumb technique for the wrist joints. Patients aged 18-75 years with symptoms suggestive of inflammatory arthritis for more than 3 months were included in the study from two centres. Two rheumatologists conducted MSK examination, while a grayscale with power Doppler US was performed by two ultrasonographers recording signs of arthritis (effusion, proliferation and hyperaemia) on the same day of visit. Statistical analysis was carried out to compare MSK examination findings in detecting swelling and tenderness to US examination findings. A total of 2,112 joints were assessed both clinically and with US. Using a standard MSK examination by a rheumatologist to detect clinical swelling showed the following sensitivities as compared to US findings: 4-finger technique of 69 % in third PIP, the scissor technique of 74 % in second MCP and 70 % in third MCP, and the 2-thumb technique of 80 % at the wrist joint. The MCP squeeze technique showed sensitivity of 66 % for tenderness. A standard MSK examination with its described techniques is a sensitive tool if used appropriately to diagnose clinical arthritis as compared to US.

Sources: CLINICAL RHEUMATOLOGY
Impact Factor: 1.996
Year: 2012 Volume: 31 Issue: 9 Pages: 1309-1317
DOI: 10.1007/s10067-012-2013-5 Cited reference count: 40
Language: English Document Type: Article
Publisher: SPRINGER LONDON LTD
Web of Science Categories: Rheumatology
Research Areas: Rheumatology
Faculty Name: Faculty of Medicine
Department: Family and Community Medicine DSR No.: 777

van IJzendoorn MH (van IJzendoorn, M. H.); Belsky J (Belsky, J.); Bakermans-Kranenburg MJ (Bakermans-Kranenburg, M. J.)

Abstract

We present results of a meta-analysis of gene-by-environment (G x E) studies involving the serotonin transporter genotype 5HTTLPR to evaluate empirical support for two competing conceptual frameworks in developmental psychopathology: diathesis-stress and differential susceptibility. From a diathesis-stress perspective, the cumulative negative effects of the short allele (ss and sl genotypes) and adverse environments on development have been stressed. From a differential-susceptibility perspective, carriers of the s allele are predicted to be more open to adverse as well as positive environments, for better and for worse. Studies with children and adolescents up to 18 years of age (N = 9361) were included. We found 41 effect sizes (N 5863) for the association between negative environments and developmental outcomes with or without significant moderation by 5HTTLPR genotype and 36 effect sizes (N 3498) for the potentially 5HTTLPR-moderated association between positive environments and developmental outcomes. Five moderators were examined: age, ethnicity, genotyping (biallelic or triallelic) and methods used to assess environment and outcome. In the total set of studies, including studies with mixed ethnicities, we found that ss/sl carriers were significantly more vulnerable to negative environments than II carriers, thus supporting the diathesis-stress model. In the Caucasian samples, however, ss/sl carriers also profited significantly more from positive environmental input than II carriers. Associations between (positive or negative) environment and (positive or negative) developmental outcome were absent for II carriers. The meta-analytic findings support the hypothesis that in Caucasian samples 5HTTLPR is a genetic marker of differential susceptibility. G x E interactions might be critically dependent on ethnicity.

Translational Psychiatry (2012) 2, e147, DOI:10.1038/tp.2012.73, Published online 7 August 2012
9. Spirituality and health in the curricula of medical schools in Brazil

Lucchetti G (Lucchetti, Giancarlo); Lucchetti ALG (Granero Lucchetti, Alessandra Lamas); Espinha DCM (Mendes Espinha, Daniele Corcioli); de Oliveira LR (de Oliveira, Leandro Romani); Leite JR (Leite, Jose Roberto); Koenig HG (Koenig, Harold G.)

Abstract

Background: According to recent surveys, 59% of British medical schools and 90% of US medical schools have courses or content on spirituality and health (S/H). There is little research, however, on the teaching of S/H in medical schools in other countries, such as those in Latin America, Asia, Australia and Africa. The present study seeks to investigate the current status of teaching on S/H in Brazilian medical schools. Methods: All medical schools in Brazil (private and public) were selected for evaluation, were contacted by email and phone, and were administered a questionnaire. The questionnaire, sent by email, asked medical school directors/deans about any S/H courses that were taught, details about those courses, S/H lectures or seminars, importance of teaching this subject for medical school directors, and medical schools characteristics. Results: A total of 86 out of 180 (47.7%) medical schools responded. Results indicated that 10.4% of Brazilian Medical Schools have a dedicated S/H courses and 40.5% have courses or content on spirituality and health. Only two medical schools have S/H courses that involve hands-on training and three schools have S/H courses that teach how to conduct a spiritual history. The majority of medical directors (54%) believe that S/H is important to teach in their schools. Conclusion: Few Brazilian medical schools have courses dealing specifically with S/H and less than half provide some form of teaching on the subject. Unfortunately, there is no standard curriculum on S/H. Nevertheless, the majority of medical directors believe this issue is an important subject that should be taught.
10. Successful propagation of Alkhumra (misnamed as Alkhurma) virus in C6/36 mosquito cells

Madani TA (Madani, Tariq A.); Kao M (Kao, Moujahed); Azhar EI (Azhar, Esam I.); Abuelzein ETME (Abuelzein, El-Tayeb M. E.); Al-Bar HMS (Al-Bar, Hussein M. S.); Abu-Araki H (Abu-Araki, Huda); Ksiazek TG (Ksiazek, Thomas G.)

Abstract

Epidemiological data suggest that Alkhumra (misnamed as Alkhurma) virus (ALKV) is transmitted from livestock animals to humans by direct contact with animals or by the mosquito bites, but not by ticks. To assess the ability of the virus to replicate in mosquito cells, serum and plasma of seven acutely febrile patients with clinically suspected ALKV infection reported in Najran, Saudi Arabia in 2009 were inoculated onto Aedes albopictus mosquito cells (C6/36) and directly examined with ALK-V RNA-specific real time RT-PCR as well as indirect immunofluorescence assay (IFA) using ALK-V-specific polyclonal antibodies. The isolated virus was titrated in the mammalian rhesus monkey kidney cells (LLC-MK2). Five of the seven specimens were RT-PCR- and culture-positive demonstrating cytopathic effects in the form of cell rounding and aggregation appearing on day 3 post inoculation with syncytia eventually appearing on day 8 post inoculation. Identification of ALK-V RNA in the cell culture was confirmed with RT-PCR and IFA. The virus titre was 3.2 x 10^6 tissue culture infective dose 50 (TCID50) per mL. Three more viral passages were successfully made in the C6/36 cells. This is the first description of propagation of ALIN in mosquito cells. (C) 2011 Royal Society of Tropical Medicine and Hygiene., Published by Elsevier Ltd. All rights reserved.

Sources

ISO Source Abbrev: TRANSACTIONS OF THE ROYAL SOCIETY OF TROPICAL MEDICINE AND HYGIENE
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DOI: 10.1016/j.trstmh.2011.11.003   Cited reference count: 33
Language: English   Document Type: Article

Reprint Address: Madani, TA (reprint author), King Abdulaziz Univ, Fac Med, Dept Med, Jeddah 21589, Saudi Arabia.

Publisher: ELSEVIER SCIENCE INC

Web of Science Categories: Public, Environmental & Occupational Health; Tropical Medicine
Research Areas: Public, Environmental & Occupational Health; Tropical Medicine
Faculty Name: Faculty of Medicine
Department: Family and Community Medicine
DSR No.: 1769
11. Superiority of the buffy coat over serum or plasma for the detection of Alkhumra virus RNA using real time RT-PCR

Madani TA (Madani, Tariq A.); Abuelzein ETME (Abuelzein, El-Tayeb M. E.); Azhar EI (Azhar, Esam I.); Kao M (Kao, Moujahed); Al-Bar HMS (Al-Bar, Hussein M. S.); Abu-Araki H (Abu-Araki, Huda); Ksiazek TG (Ksiazek, Thomas G.)

Abstract

RT-PCR to detect Alkhumra virus (ALKV) RNA in plasma or serum has been the standard practice to confirm this infection in the first seven days of illness. In this study, RT-PCR detection of viral RNA from the plasma, serum, and buffy coat (BC) was compared to virus isolation. Plasma, serum, and BC were obtained from seven patients with clinically suspected ALKV infection in Najran, Saudi Arabia. Baby hamster kidney (BHK-21) and rhesus monkey kidney (LLC-MK2) cell culture monolayers were used for virus isolation. Real-time RT-PCR was used to confirm ALKV infection and to detect viral RNA directly from plasma, serum, and BC. ALKV was isolated from five of the seven patients. The virus was isolated from all three specimen types (plasma, serum, and BC) of the five confirmed patients. ALKV RNA was detected directly by RT-PCR in BC in all five (100%) culture-positive patients and in plasma or serum in only four (80%) of the five patients. Three of the five patients for whom ALKV RNA was detected in BC also had detectable viral RNA in plasma and serum. In the remaining two patients with detectable ALKV RNA in the BC, the plasma was positive but the serum was negative in one patient, whereas the serum was positive and the plasma was negative in the other patient. The use of real-time RT-PCR to detect ALKV RNA in the BC was superior to using plasma and serum and equivalent to virus isolation.
12. The Development of Human Reproductive Strategies: Progress and Prospects

Belsky J (Belsky, Jay)

Abstract

An evolutionary-biological perspective on the effects of the extrafamilial and familial environment on multiple psychological, behavioral, and even somatic features of children's development challenges prevailing thinking about human development, which regards some contextual conditions and their sequelae as "good" and others as "bad." Theory and research on the development of human reproductive strategies based on such evolutionary thinking has evolved substantially over the past two decades. In this article, I review two decades of theory and research findings pertaining to the development of reproductive strategies-highlighting the contextual regulation of pubertal timing, the distinctive role of fathers, individuals' differential susceptibility to rearing influences, mechanisms of influence, and new ways of conceptualizing influential environmental features—and outline future directions for research.

Sources: CURRENT DIRECTIONS IN PSYCHOLOGICAL SCIENCE
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Year: 2012 Volume: 21 Issue: 5 Pages: 310-316
DOI: 10.1177/0963721412453588 Cited reference count: 57
Language: English Document Type: Article
KAU Addresses: Belsky, Jay King Abdulaziz Univ, Jeddah, Saudi Arabia.
Reprint Address: Belsky, J (reprint author), Univ Calif Davis, Dept Human Ecol, 1337 Hart Hall,1 Shields Ave, Davis, CA 95616 USA.
Publisher: SAGE PUBLICATIONS INC
Web of Science Categories: Psychology, Multidisciplinary
Research Areas: Psychology
Faculty Name: Faculty of Medicine
Department: Family and Community Medicine
DSR No.: 821
THE EFFECT OF PRAYER ON DEPRESSION AND ANXIETY: MAINTENANCE OF POSITIVE INFLUENCE ONE YEAR AFTER PRAYER INTERVENTION

Boelens PA (Boelens, Peter A.); Reeves RR (Reeves, Roy R.); Replogle WH (Replogle, William H.); Koenig HG (Koenig, Harold G.)

Abstract

Objective: To investigate whether the effect of direct contact person-to-person prayer on depression, anxiety, and positive emotions is maintained after 1 year. Design, Setting, and Participants: One-year follow-up of subjects with depression and anxiety who had undergone prayer intervention consisting of six weekly 1-hour prayer sessions conducted in an office setting. Subjects (44 women) completed Hamilton Rating Scales for Depression and Anxiety, Life Orientation Test, and Daily Spiritual Experiences Scale after finishing a series of six prayer sessions and then again a month later in an initial study. The current study reassessed those subjects with the same measures 1 year later. One-way repeated measures ANOVAs were used to compare findings pre-prayer, immediately following the six prayer sessions, and 1 month and again 1 year following prayer interventions. Results: Evaluations post-prayer at 1 month and 1 year showed significantly less depression and anxiety, more optimism, and greater levels of spiritual experience than did the baseline (pre-prayer) measures (p < 0.01 in all cases). Conclusions: Subjects maintained significant improvements for a duration of at least 1 year after the final prayer session. Direct person-to-person prayer may be useful as an adjunct to standard medical care for patients with depression and anxiety. Further research in this area is indicated. (Int'l. J. Psychiatry in Medicine 2012;43:85-98)
14. Unmet spiritual care needs impact emotional and spiritual well-being in advanced cancer patients

Pearce MJ (Pearce, Michelle J.); Coan AD (Coan, April D.); Herndon JE (Herndon, James E., II); Koenig HG (Koenig, Harold G.); Abernethy P (Abernethy, P.)

Abstract

Spiritual care is an important part of healthcare, especially when facing the crisis of advanced cancer. Do oncology inpatients receive spiritual care consistent with their needs? When inconsistent, are there deleterious effects on patient outcomes? Patients with advanced cancer (N = 150) were surveyed during their inpatient stay at a southeastern medical center using validated instruments documenting spirituality, quality of life, mood, and satisfaction with care. Relationships between the receipt of less spiritual care than desired and patient outcomes were examined. Almost all patients had spiritual needs (91%) and the majority desired and received spiritual care from their healthcare providers (67%; 68%), religious community (78%; 73%), and hospital chaplain (45%; 36%). However, a significant subset received less spiritual care than desired from their healthcare providers (17%), religious community (11%), and chaplain (40%); in absolute terms, the number who received less care than desired from one or more sources was substantial (42 of 150). Attention to spiritual care would improve satisfaction with care while hospitalized for 35% of patients. Patients who received less spiritual care than desired reported more depressive symptoms [adjusted beta (SE) = 1.2 (0.47), p = 0.013] and less meaning and peace [adjusted beta (SE) = -2.37 (1.15), p = 0.042]. A substantial minority of patients did not receive the spiritual care they desired while hospitalized. When spiritual needs are not met, patients are at risk of depression and reduced sense of spiritual meaning and peace. Spiritual care should be matched to cancer patients' needs.

Sources: SUPPORTIVE CARE IN CANCER
ISO Source Abbrev: SUPPORT CARE CANCER
Impact Factor: 2.597
Year: 2012 Volume: 20 Issue: 10 Pages: 2269-2276
DOI: 10.1007/s00520-011-1335-1 Cited reference count: 23
Language: English Document Type: Article
KAU Addresses: [Koenig, Harold G.] King Abdulaziz Univ, Jeddah 21413, Saudi Arabia
Reprint Address: Pearce, MJ [reprint author], Duke Univ, Med Ctr, Dept Psychiat & Behav Sci, 2213 Elba St, Room 115, POB 3026, Durham, NC 27710 USA.
Publisher: SPRINGER
Web of Science Categories: Oncology; Health Care Sciences & Services; Rehabilitation
Research Areas: Oncology; Health Care Sciences & Services; Rehabilitation
Faculty Name: Faculty of Medicine
Department: Family and Community Medicine
DSR No.: 1730
DEPARTMENT
GENETIC MEDICINE
1. A newly described mutation of the CLCN7 gene causes neuropathic autosomal recessive osteopetrosis in an Arab family

Al-Aama JY (Al-Aama, Jumana Y.); Dabbagh AA (Dabbagh, Amal A.); Edrees AY (Edrees, Alaa Y.)

Abstract

Neurologic manifestations in osteopetrosis are usually secondary to sclerosis of the skull bones. However, a rare neuropathic subtype of osteopetrosis exists that resembles neurodegenerative storage disorders. Unlike other forms of osteopetrosis, this latter form does not respond to hematopoietic stem cell transplantation. Preliminary studies suggest that this neuropathic form is more likely to be caused by mutations in the CLCN7 gene in an autosomal recessive manner. This study provides further evidence for this phenotype-genotype correlation by presenting a previously unreported mutation in the CLCN7 gene in a Yemeni family with the neuropathic form. This is also the first study of any mutation in patients with osteopetrosis of Arabic ethnicity. As literature review suggests that this type may be more common in Arabs, cascade genetic screening of early onset of autosomal recessive osteopetrosis in patients of Arabic ancestry may preferably start with the CLCN7 gene rather than the TCIRG gene as is routinely done in clinical laboratories. Identifying a mutation in the CLCN7 gene in a patient with early onset of autosomal recessive osteopetrosis may also guide therapeutic decisions including the option of hematopoietic stem cell transplantation. Clin Dysmorphol 21: 1-7 (C) 2011 Wolters Kluwer Health | Lippincott Williams & Wilkins.
2. Decreased serum sclerostin levels in patients with primary hyperparathyroidism: a cross-sectional and a longitudinal study

Ardawi MSM (Ardawi, M. -S. M.); Al-Sibiany AM (Al-Sibiany, A. M.); Bakhsh TM (Bakhsh, T. M.); Rouzi AA (Rouzi, A. A.); Qari MH (Qari, M. H.)

Abstract

Decreased serum sclerostin was evident in patients with primary hyperparathyroidism and was inversely related to parathyroid hormone (PTH). Sclerostin normalized earlier than biochemical bone turnover markers (BTMs) following parathyroidectomy. There is limited information on the changes of serum sclerostin in conditions with chronic PTH excess in humans. The main objectives of the present study were to: (1) examine cross-sectionally the changes of serum sclerostin levels in patients with primary hyperparathyroidism (PHPT), (2) study the time course changes in serum sclerostin in PHPT patients following parathyroidectomy (PTX) followed up longitudinally for 12 months, and (3) compare the changes in serum sclerostin to that of BTMs. We studied 60 PHPT patients and compared them with 74 PTX patients together with 268 age- and sex-matched healthy controls. Also, we followed 27 PTX patients longitudinally at 2, 4, 6, 10, 30, 60, 180, and 360 days postoperatively. Serum sclerostin, BTMs, and minerals were measured. Also, bone mineral density was determined by dual energy X-ray absorptiometry. Patients with PHPT exhibited significantly lower mean serum sclerostin [mean, in picomoles per liter; 95% confidence interval (CI)] (28.98; 27.94-30.03) than that obtained for PTX patients (37.01; 35.75-38.27) and healthy controls (46.22; 45.13-47.31) ( < 0.0001, for each case), respectively. Serum PTH inversely correlated with serum sclerostin ( = -0.651, < 0.0001). Serum sclerostin was normalized in PTX patients by the tenth day postoperatively and remained within the expected reference range thereafter. Significantly decreased serum sclerostin was evidenced in PHPT patients as compared with PTX and euparathyroid controls. The inverse PTH and sclerostin relationship suggests that sclerostin is downregulated by PTH in humans. Serum sclerostin normalized earlier than BTMs following parathyroidectomy.
3. Functional genomics based prioritization of potential nsSNPs in EPHX1, GSTT1, GSTM1 and GSTP1 genes for breast cancer susceptibility studies

Masoodi TA (Masoodi, Tariq Ahmad); Talluri VR (Talluri, Venkateswar Rao); Shaik NA (Shaik, Noor Ahmad); Al-Aama JY (Al-Aama, Jumana Yousuf); Hasan Q (Hasan, Qurratulain)

Abstract

In the present study, nsSNPs in EPHX1, GSTT1, GSTM1 and GSTP1 genes were screened for their functional impact on concerned proteins and their plausible role in breast cancer susceptibility. Initially, SNPs were retrieved from dbSNP, followed by identification of potentially deleterious nsSNPs using PolyPhen and SIFT. Functional analysis was done with SNP53D, SNPs&GO and MutPred methods. Prediction and evaluation of the functional impact on the 3D structure of proteins were performed with Swiss PDB viewer and NOMAD-Ref servers. On analysis, 13 nsSNPs were found to be highly deleterious and damaging to the protein structure, of which 6 nsSNPs, rs45549733, rs45506591 and rs4986949 of GSTP1, rs72549341 and rs148240980 of EPHX1 and rs17856199 of GSTT1 were predicted to be potentially polymorphic. It is therefore hypothesized that the 6 identified nsSNPs may alter the detoxification process and elevate carcinogenic metabolite accumulation thus modifies the risk of breast cancer susceptibility in a group of women. (C) 2012 Elsevier Inc. All rights reserved.
4. High prevalence of vitamin D deficiency among healthy Saudi Arabian men: relationship to bone mineral density, parathyroid hormone, bone turnover markers, and lifestyle factors

Ardawi MSM (Ardawi, M. -S. M.); Sibiany AM (Sibiany, A. M.); Bakhsh TM (Bakhsh, T. M.); Qari MH (Qari, M. H.); Maimani AA (Maimani, A. A.)

Abstract

In this cross-sectional study, the prevalence of vitamin D deficiency [serum 25-hydroxyvitamin D (25(OH)D) < 50 nmol/L] was 87.8% among Saudi Arabian men. There was a linear inverse relationship between serum 25(OH)D and intact parathyroid hormone (PTH) levels, but without a threshold of 25(OH)D at which intact PTH values plateaued. Vitamin D insufficiency and/or deficiency has now reached epidemic proportions and has been linked to low bone mineral density (BMD), some lifestyle factors, and obesity in adults. This relationship is not well documented in Saudi Arabian men. This study examines the relationship between vitamin D status, intact parathyroid hormone (intact PTH), and lifestyle factors among Saudi Arabian men. This cross-sectional study involved 834 men aged 20-74 years living in Jeddah area who were randomly selected and medically examined. Men had their BMD (lumbar spine (L1-L4) and neck femur), 25(OH)D, intact PTH, and other parameters measured according to detailed inclusion criteria. Deficiency (25(OH)D < 50 nmol/L) and insufficiency (a parts per thousand yen50-75 nmol/L) were present in 87.8% and 9.7%, respectively. Deficiency was common among older and obese men with no education and sedentary lifestyle sampled during summer and spring. Serum 25(OH)D showed an inverse linear relationship with intact PTH, but there was no threshold of serum 25(OH)D at which PTH levels plateaued. There was a positive correlation between BMD values at both lumbar spine (L1-L4) (P < 0.023) and neck femur (P < 0.036) and serum 25(OH)D levels, respectively. Functionally significant vitamin D deficiency affects BMD and bone turnover markers among Saudi Arabian men and is largely attributed to older age, obesity, sedentary lifestyle, no education, poor exposure to sunlight, smoking, and poor dietary vitamin D supplementation. The data suggest that an increase in PTH cannot be used as a marker for vitamin D deficiency.

Sources

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KAU Addresses


5. Meier-Gorlin syndrome genotype-phenotype studies: 35 individuals with pre-replication complex gene mutations and 10 without molecular diagnosis

Abstract

Meier-Gorlin syndrome (MGS) is an autosomal recessive disorder characterized by microtia, patellar aplasia/hypoplasia, and short stature. Recently, mutations in five genes from the pre-replication complex (ORC1, ORC4, ORC6, CDT1, and CDC6), crucial in cell-cycle progression and growth, were identified in individuals with MGS. Here, we report on genotype-phenotype studies in 45 individuals with MGS (27 females, 18 males; age 3 months-47 years). Thirty-five individuals had biallelic mutations in one of the five causative pre-replication genes. No homozygous or compound heterozygous null mutations were detected. In 10 individuals, no definitive molecular diagnosis was made. The triad of microtia, absent/hypoplastic patellae, and short stature was observed in 82% of individuals with MGS. Additional frequent clinical features were mammary hypoplasia (100%) and abnormal genitalia (42%; predominantly cryptorchidism and hypoplastic labia minora/majora). One individual with ORC1 mutations only had short stature, emphasizing the highly variable clinical spectrum of MGS. Individuals with ORC1 mutations had significantly shorter stature and smaller head circumferences than individuals from other gene categories. Furthermore, compared with homozygous missense mutations, compound heterozygous mutations appeared to have a more severe effect on phenotype, causing more severe growth retardation in ORC4 and more frequently pulmonary emphysema in CDT1. A lethal phenotype was seen in four individuals with compound heterozygous ORC1 and CDT1 mutations. No other clear genotype-phenotype association was observed. Growth hormone and estrogen treatment may be of some benefit, respectively, to growth retardation and breast hypoplasia, though further studies in this patient group are needed. European Journal of Human Genetics (2012) 20, 598-606; DOI:10.1038/ejhg.2011.269; Published online 15 February 2012


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Meier-Gorlin syndrome (MGS) is a rare autosomal recessive disorder characterized by primordial dwarfism, microtia, and patellar aplasia/hypoplasia. Recently, mutations in the ORC1, ORC4, ORC6, CDT1, and CDC6 genes, encoding components of the pre-replication complex, have been identified. This complex is essential for DNA replication and therefore mutations are expected to impair cell proliferation and consequently could globally reduce growth. However, detailed growth characteristics of MGS patients have not been reported, and so this is addressed here through study of 45 MGS patients, the largest cohort worldwide. Here, we report that growth velocity (length) is impaired in MGS during pregnancy and first year of life, but, thereafter, height increases in paralleled normal reference centiles, resulting in a mean adult height of -4.5 standard deviations (SD). Height is dependent on ethnic background and underlying molecular cause, with ORC1 and ORC4 mutations causing more severe short stature and microcephaly. Growth hormone therapy (n=9) was generally ineffective, though in two patients with significantly reduced IGF1 levels, growth was substantially improved by GH treatment, with 2SD and 3.8 SD improvement in height. Growth parameters for monitoring growth in future MGS patients are provided and as well we highlight that growth is disproportionately affected in certain structures, with growth related minor genital abnormalities (42%) and mammary hypoplasia (100%) frequently present, in addition to established effects on ears and patellar growth. (c) 2012 Wiley Periodicals, Inc.
Molecular prenatal diagnosis of autosomal recessive childhood spinal muscular atrophies (SMAs)

Essawi ML (Essawi, Mona L.); Al-Attribi GM (Al-Attribi, Ghada M.); Gaber KR (Gaber, Khaled R.); El-Harouni AA (El-Harouni, Ashraf A.)

Abstract

Autosomal recessive childhood spinal muscular atrophy (SMAs) is the second most common neuromuscular disorder and a common cause of infant disability and mortality. SMA patients are classified into three clinical types based on age of onset, and severity of symptoms. About 94% of patients have homozygous deletion of exon 7 in survival motor neuron (SMN1) gene. The neuronal apoptosis inhibitory protein (NAIP) gene was found to be more frequently deleted in the severest form of the disease. This study aimed to comment on the implementation of genetic counseling and prenatal diagnosis of SMAs for 85 fetuses from 75 Egyptian couples at risk of having an affected child. The homozygous deletion of exon 7 in SMN1 gene and the deletion of exon 5 of the NAIP gene were detected using PCR-REFLP and multiplex PCR methods respectively. Eighteen fetuses showed homozygous deletion of exon 7 in SMN1 gene and deletion of exon 5 in NAIP gene. In conclusion prenatal diagnosis is an important tool for accurate diagnosis and genetic counseling that help decision making in high risk families. (C) 2012 Elsevier B.V. All rights reserved.
8. Nipple sparing mastectomy: Can we predict the factors predisposing to necrosis?

Algaithy ZK (Algaithy, Z. K.); Petit JY (Petit, J. Y.); Lohsiriwat V (Lohsiriwat, V.); Maisonneuve P (Maisonneuve, P.); Rey PC (Rey, P. C.); Baros N (Baros, N.); Lai H (Lai, H.); Mulas P (Mulas, P.); Barbalho DM (Barbalho, D. M.); Veronesi P (Veronesi, P.); Rietjens M (Rietjens, M.)

Abstract

Background: Nipple sparing mastectomy (NSM) is an accepted surgical approach in selected breast cancer and prophylactic mastectomy, nevertheless post-mastectomy skin necrosis is one of the frequent complications. This study aimed to analyze the factors that may lead to skin necrosis after NSM. Patients and methods: From May 2010 to July 2010, we prospectively registered 50 consecutive NSM from 45 patients. There were 40 mastectomies for cancer, and 10 prophylactic mastectomies. The various patient's and surgical factors were registered during pre-, intra- and postoperative period. Results: No total necrosis of the nipple areola complex (NAC) was observed. There were thirteen cases with partial necrosis (26.0%) of the areola or the adjacent skin. All these necrosis were partial both for the surface and the thickness. Surgical debridement was performed in 9 (18.0%) cases. The significant risk factors are smoking, young age, type of incision and NAC involvement with areola flap thickness less than 5 mm. Conclusion: NSM should be done with high caution in smokers. Young patients, periareolar incision and superior circumareolar incision have also a higher risk of necrosis. We recommend keeping areolar flap thickness more than 5 mm in areola region.
9. No evidence for the role of somatic mutations and promoter hypermethylation of FH gene in the tumorigenesis of nonsyndromic uterine leiomyomas

Vaidya S (Vaidya, Sireesha); Shaik NA (Shaik, Noor Ahmad); Latha M (Latha, Madhavi); Chava S (Chava, Srinivas); Mohiuddin K (Mohiuddin, Khaliq); Yalla A (Yalla, Annapurna); Rao KP (Rao, Kaipa Prabhakar); Kodati VL (Kodati, Vijaya Lakshmi); Hasan Q (Hasan, Qurratulain)

Abstract

Fumarate hydratase (FH) gene is reported to have specific involvement in syndromic uterine tumors, but its role in nonsyndromic forms is still unclear. Hence, the present study has aimed to screen the role of promoter methylation status and mutations in exon 2 and 7 regions of FH gene in the genesis of nonsyndromic uterine leiomyomas. Leiomyoma and myometrium tissues were collected from 85 hysterectomized uterine specimens. DNA from each of the biopsy was subjected to PCR, methylation-specific restriction assay, and DNA sequencing. In silico analysis was carried out to identify the impact of sequence variants on the protein structure. Chi-square (chi (2)) test was used to compare the promoter methylation proportions of leiomyoma and myometrium tissues. No sequence variants were observed in exon 2 region, but three novel heterozygous germ line sequence variants, i.e., c.1010A > C, c.1021 G > A, and c.1066 T > C in exon 7 region of the FH gene were detected in 14/85 (16.5 %) of the cases examined. In silico analysis results showed that c.1010A > C and c.1021 G > A mutations damage the structure and function of FH, whereas c.1066 T > C mutation is mostly tolerant or neutral. No significant difference of FH promoter methylation status between the leiomyoma (11.76 %) and myometrium (5.88 %) tissues was observed (P = 0.176). Therefore, it is concluded that somatic mutations in FH do not show pronounced effect in nonsyndromic uterine leiomyomas compared to that of their syndromic counterparts. However, higher frequency of FH mutations in leiomyoma cases raises the need to conduct larger number of prospective case-control and family-based studies to assess them as risk markers to nonsyndromic leiomyomas.
DEPARTMENT
HEMATOLOGY
1. Autoimmune thrombocytopenia Is it a different disease or different aspects of a single disease?

Al-Sayes FM (Al-Sayes, Fatin M.); Hindawi SI (Hindawi, Salwa I.); Damanhour GA (Damanhour, Ghazi A.); Attallah SM (Attallah, Samy M.); Azaher FA (Azaher, Fatima A.); Akbar DH (Akbar, Daad H.)

Abstract

Objectives: To evaluate the association between autoimmune thrombocytopenia with other autoimmune disorders, to show if they are different autoimmune diseases or one disease with different presentations at the same time, and to study the effect of treatment on platelet count in different thyroid condition. Methods: In this retrospective study, we included 141 patients with thrombocytopenic purpura. The result of thyroid function test, thyroid autoantibodies, Coombs' reactivity, anti-nuclear antibody, and double-stranded DNA were analyzed. This study was conducted in the Clinical Hematology Department, King Abdulaziz University Hospital, Jeddah, Saudi Arabia between June 2003 and August 2010. Results: There were 51 (36.2%) patients with laboratory evidence of autoimmune disease, 13 (9.2%) with hypothyroidism, and 6 (4.3%) with hyperthyroidism. In addition, 5 (3.5%) patients showed laboratory evidence of Evan syndrome and 3 (2.1%) patients had isolated positive thyroid antibodies. There was non-significant difference (p=0.61) in platelets count after one month of treatment of patients with different thyroid condition. Conclusion: Immune thrombocytopenia is associated with evidence of different autoimmune disease or a combination of them, which may appear at presentation or during the course of disease giving evidence that they are different manifestations of a single disease. Screening patients for antithyroid antibodies would identify a patient at risk of developing overt thyroid disease. These patients may be further screened with a thyroid-stimulating hormone assay to detect subclinical thyroid disease.
2. Biomarkers of Inflammation, Growth Factor, and Coagulation Activation in Patients With Sickle Cell Disease

Qari MH (Qari, M. H.); Dier U (Dier, U.); Mousa SA (Mousa, S. A.)

Abstract

Acute painful crisis is a common sequela that can cause significant morbidity and negatively impact the quality of life of patients with sickle cell disease (SCD). Plasma levels of several chemokines and cytokines including tumor necrosis factor-alpha (TNF-alpha), interleukin 1 beta (IL-1 beta), IL-6, IL-8, monocyte chemoattractant protein 1 (MCP-1), macrophage inflammatory protein 1 alpha (MIP-1 alpha), and interferon gamma (IFN-gamma) in patients with SCD showed a distinct and statistically significant rise either during painful crisis or at steady state. Plasma levels of various growth factors, including human vascular endothelial growth factor (VEGF), human basic fibroblast growth factor (FGF), and human hepatocyte growth factor (HGF), showed a sustained 2- to 3-fold increase either during painful crisis or at steady state in patients with SCD. Furthermore, plasma levels of the biomarker D-Dimer, a marker of hypercoagulation, showed a 2-to 3-fold increase either during painful crisis or at steady state in patients with SCD as compared to that in healthy participants, suggesting an increased risk of thrombosis.
3. Five novel glucose-6-phosphate dehydrogenase deficiency haplotypes correlating with disease severity

Dallol A (Dallol, Ashraf); Banni H (Banni, Huda); Gari MA (Gari, Mamdooh A.); Al-Qahtani MH (Al-Qahtani, Mohammed H.); Abuzenadeh AM (Abuzenadeh, Adel M.); Al-Sayes F (Al-Sayes, Fatin); Chaudhary AG (Chaudhary, Adeel G.); Bidwell J (Bidwell, Jeffrey); Kafienah W (Kafienah, Wael)

Abstract

Background: Glucose-6-phosphate dehydrogenase (G6PD, EC 1.1.1.49) deficiency is caused by one or more mutations in the G6PD gene on chromosome X. An association between enzyme levels and gene haplotypes remains to be established. Methods: In this study, we determined G6PD enzyme levels and sequenced the coding region, including the intron-exon boundaries, in a group of individuals (163 males and 86 females) who were referred to the clinic with suspected G6PD deficiency. The sequence data were analysed by physical linkage analysis and PHASE haplotype reconstruction. Results: All previously reported G6PD missense changes, including the AURES, MEDITERRANEAN, A-, SIBARI, VIANGCHAN and ANANT, were identified in our cohort. The AURES mutation (p.Ile48Thr) was the most common variant in the cohort (30% in males patients) followed by the Mediterranean variant (p.Ser188Phe) detectable in 17.79% in male patients. Variant forms of the A- mutation (p.Val68Met, p.Asn126Asp or a combination of both) were detectable in 15.33% of the male patients. However, unique to this study, several of such mutations co-existed in the same patient as shown by physical linkage in males or PHASE haplotype reconstruction in females. Based on 6 non-synonymous variants of G6PD, 13 different haplotypes (13 in males, 8 in females) were identified. Five of these were previously unreported (Jeddah A, B, C, D and E) and were defined by previously unreported combinations of extant mutations where patients harbouring these haplotypes exhibited severe G6PD deficiency. Conclusions: Our findings will help design a focused population screening approach and provide better management for G6PD deficiency patients.
4. High prevalence of vitamin D deficiency among healthy Saudi Arabian men: relationship to bone mineral density, parathyroid hormone, bone turnover markers, and lifestyle factors

Ardawi MSM (Ardawi, M. -S. M.); Sibiany AM (Sibiany, A. M.); Bakhsh TM (Bakhsh, T. M.); Qari MH (Qari, M. H.); Maimani AA (Maimani, A. A.)

Abstract

In this cross-sectional study, the prevalence of vitamin D deficiency [serum 25-hydroxyvitamin D (25(OH)D) < 50 nmol/L] was 87.8% among Saudi Arabian men. There was a linear inverse relationship between serum 25(OH)D and intact parathyroid hormone (PTH) levels, but without a threshold of 25(OH)D at which intact PTH values plateaued. Vitamin D insufficiency and/or deficiency has now reached epidemic proportions and has been linked to low bone mineral density (BMD), some lifestyle factors, and obesity in adults. This relationship is not well documented in Saudi Arabian men. This study examines the relationship between vitamin D status, intact parathyroid hormone (intact PTH), and lifestyle factors among Saudi Arabian men. This cross-sectional study involved 834 men aged 20-74 years living in Jeddah area who were randomly selected and medically examined. Men had their BMD (lumbar spine (L1-L4) and neck femur), 25(OH)D, intact PTH, and other parameters measured according to detailed inclusion criteria. Deficiency (25(OH)D < 50 nmol/L) and insufficiency (a parts per thousand yen50-75 nmol/L) were present in 87.8% and 9.7%, respectively. Deficiency was common among older and obese men with no education and sedentary lifestyle sampled during summer and spring. Serum 25(OH)D showed an inverse linear relationship with intact PTH, but there was no threshold of serum 25(OH)D at which PTH levels plateaued. There was a positive correlation between BMD values at both lumbar spine (L1-L4) (P < 0.023) and neck femur (P < 0.036) and serum 25(OH)D levels, respectively. Functionally significant vitamin D deficiency affects BMD and bone turnover markers among Saudi Arabian men and is largely attributed to older age, obesity, sedentary lifestyle, no education, poor exposure to sunlight, smoking, and poor dietary vitamin D supplementation. The data suggest that an increase in PTH cannot be used as a marker for vitamin D deficiency.

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5. High Serum Sclerostin Predicts the Occurrence of Osteoporotic Fractures in Postmenopausal Women: The Center of Excellence for Osteoporosis Research Study

Ardawi MSM (Ardawi, Mohammed-Salleh M.); Rouzi AA (Rouzi, Abdulrahim A.); Al-Sibiani SA (Al-Sibiani, Sharifa A.); Al-Senani NS (Al-Senani, Nawal S.); Qari MH (Qari, Mohammed H.); Mousa SA (Mousa, Shaker A.)

Abstract

Sclerostin regulates bone formation by inhibiting Wnt pathway signaling. Low circulating sclerostin levels cause high bone mass. We hypothesized that postmenopausal women with increased sclerostin levels have a greater risk for osteoporosis-related fractures. We examined the association between circulating sclerostin together with bone turnover markers and osteoporosis-related fracture risk in 707 postmenopausal women, in a population-based study with a mean follow-up period of 5.2 +/- 1.3 years. Multivariate Cox proportional hazards regression models were used to analyze fracture risk, adjusted for age, body mass index, and other confounding risk factors. High sclerostin levels were strongly associated with increased fracture risk. After adjustment for age and other confounders, the relative fracture risk was more than sevenfold among postmenopausal women for each 1-SD increment increase in sclerostin level. Women in the highest quartile of sclerostin levels had about a 15-fold increase in fracture risk. Results were similar when we compared sclerostin at the 1-year visit to an average of two to three annual measurements. Fracture risk attributable to sclerostin levels was 56.6% in the highest quartile. Only high levels of bone resorption markers (plasma cross-linked C-terminal telopeptide of type 1 collagen [p-CTX], urinary CTx [u-CTX], and urinary N-telopeptide of type 1 collagen [u-NTx]) were predictive of osteoporosis-related fractures but at much lower hazard ratio (HR) values than that of serum sclerostin. Associations between sclerostin levels and fracture risk were independent of bone mineral density and other confounding risk factors. High sclerostin levels are a strong and independent risk factor for osteoporosis-related fractures among postmenopausal women. (C) 2012 American Society for Bone and Mineral Research.

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Department: Hematology

DSR No.: 1133
6. Physical Activity in Relation to Serum Sclerostin, Insulin-Like Growth Factor-1, and Bone Turnover Markers in Healthy Premenopausal Women: A Cross-Sectional and a Longitudinal Study

Ardawi MSM (Ardawi, Mohammed-Salleh M.); Rouzi AA (Rouzi, Abdulrahim A.); Qari MH (Qari, Mohammed H.)

Abstract

Context: There is limited information on the effects of mechanical loading caused by physical activity (PA) on sclerostin, IGF-I, and bone turnover markers (BTM). Objective: The objective of the investigation was to study the relationships between serum sclerostin, serum-IGF-I (s-IGF-I), BTM, and the PA level in premenopausal women and to discern how 8-wk of PA training (PAT) affects the serum levels of sclerostin, IGF-I, and BTM. Design: This was a cross-sectional study with a subgroup followed up longitudinally. Settings and Subjects: A total of 1235 randomly selected premenopausal women were cross-sectionally studied. We also followed up 58 of these women longitudinally during an 8-wk course of PAT (4 d/wk) and compared them with 62 controls. All women were medically examined, and bone mineral density (BMD) and serum levels of sclerostin, s-IGF-I, and BTM were determined. Results: Women with PA of greater than 120 min/wk showed significantly lower serum sclerostin (by 36.8%) but higher s-IGF-I (by 107%) levels than sedentary controls. Bone formation markers were also higher in the PA greater than 120 min/wk group compared with the sedentary controls. In the longitudinal study, the 8-wk PAT program led to a decrease in serum sclerostin (by 33.9%, P < 0.0001) but increases in the serum levels of the bone-formation markers and IGF-I (s-IGF-I by 74.2%, P < 0.0001). Conclusions: This study demonstrates that even minor changes in PA are associated with effects on serum levels of sclerostin, IGF-I, and BTM and suggests that sclerostin could be a link between mechanical loading and disuse osteoporosis in humans.
1. Chronic obstructive pulmonary disease and associated healthcare resource consumption in the Middle East and North Africa: The BREATHE study

Polatli M (Polatli, Mehmet); Ben Kheder A (Ben Kheder, Ali); Wali S (Wali, Siraj); Javed A (Javed, Arshad); Khattab A (Khattab, Adel); Mahboub B (Mahboub, Bassam); Iraqi G (Iraqi, Ghali); Nejjari C (Nejjari, Chakib); Taright S (Taright, Samya); Koniski ML (Koniski, Marie-Louise); Rashid N (Rashid, Nauman); El Hasnaoui A (El Hasnaoui, Abdelkader)

Abstract

Data on COPD-related healthcare resources use are rarely documented in developing countries. This article presents data on COPD-related healthcare resource consumption in the Middle East, North Africa and Pakistan and addresses the association of this variable with illness severity. A large survey of COPE was conducted in eleven countries of the region, namely Algeria, Egypt, Jordan, Lebanon, Morocco, Pakistan, Saudi-Arabia, Syria, Tunisia, Turkey and United Arab Emirates, using a standardised methodology. A total of 62,086 subjects were screened. This identified 2,187 subjects fulfilling the "epidemiological" definition of CORD. A detailed questionnaire was administered to document data on COPD-related healthcare consumption. Symptom severity was assessed using the CORD Assessment Test (CAT). 1,392 subjects were analysable. Physician consultations were the most frequently used healthcare resource, ranging from 43,118 [95% CI: 755-85,548] consultations in UAE to 4,276,800 [95% CI: 2,320,164-6,230,763] in Pakistan, followed by emergency room visits, ranging from 15,917 [95% CI: 0-34,807] visits in UAE to 683,697 [95% CI: 496,993-869,737] in Turkey and hospitalisations, ranging from 15,563 [95% CI: 7,911-23,215] in UAE to 476,674 [95% CI: 301,258-652,090] in Turkey. The use of each resource increased proportionally with the GOLD 2011 severity groups and was significantly (p < 0.0001) higher in subjects with more symptoms compared to those with lower symptoms and in subjects with exacerbations to those without exacerbations. The occurrence of exacerbations and the CAT score were independently associated with use of each healthcare resource. In conclusion, the BREATHE study revealed that physician consultation is the most frequently CORD-related healthcare resource used in the region. It showed that the deterioration of CORD symptoms and the frequency of exacerbations raised healthcare resource consumption. (C) 2012 Elsevier Ltd. All rights reserved.
2. Decreased Immunoexpression of Standard Form of CD44 Is an Independent Favourable Predictor of Nodal Metastasis in Colorectal Carcinoma

Al-Maghrabi J (Al-Maghrabi, Jaudah); Gomaa W (Gomaa, Wafaey); Buhmeida A (Buhmeida, Abdelbaset); Al-Qahtani M (Al-Qahtani, Mohmmad); Al-Ahwal M (Al-Ahwal, Mahmoud)

Abstract

Background: CD44 is a transmembrane glycoprotein and is associated with cell-matrix and cell-cell interactions. CD44 expression was shown to be relevant to tumour progression in various types of human cancer. The objective of this study was to investigate the relationship between the expression levels of the standard form of CD44 (CD44s), and clinicopathological characteristics in a subset of colorectal carcinomas (CRC). Patients and Methods: A total of 96 cases of CRC were retrieved from the archives at the Department of Pathology at King Abdulaziz University, Jeddah, KSA. Immunohistochemistry was performed using antibodies to CD44s. A cut-off of <10% of positive neoplastic cells was used to define low expression, 10-50% to define moderate expression and >50% to define extensive expression. Statistical tests were used to determine the association of CD44s with clinicopathological characteristics in a subset of colorectal carcinomas and survival. Results: Immunostaining results showed that there was no association between C44 immunoexpression and age of patients, tumour grade, depth of invasion, vascular invasion, recurrence and survival. CD44s immunolabelling was found to have an association with nodal metastasis and to be an independent predictor of nodal metastasis. Conclusion: Loss of CD44s immunolabelling in CRC is an independent favourable predictor of regional lymph node metastasis. On the other hand, CD44s loss has no significant association with disease recurrence or survival. Extensive in vivo and in vitro molecular studies are required to elucidate the possible mechanistic association of CD44s with tumour initiation, progression, invasion and metastasis in primary CRC, and in nodal and distant metastases.

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Research Areas: Oncology
Faculty Name: Faculty of Medicine
Department: Internal Medicine
DSR No.: 513
3. Digestive symptoms in older adults: Prevalence and associations with institutionalization and mortality

AlAmeel T (AlAmeel, Turki); Basheikh M (Basheikh, Mohammed); Andrew MK (Andrew, Melissa K.)

Abstract

BACKGROUND: Digestive symptoms are common in adults. However, little is known about their prevalence in older adults and the association of digestive symptoms with institutionalization and mortality in community-dwelling older adults. OBJECTIVE: To determine the prevalence of digestive symptoms among older adults in Canada and whether they are associated with increased risk of institutionalization and mortality, independent of the effect of potential confounders. METHODS: The present study was a secondary analysis of data collected from community-dwelling participants 65 years of age and older in the Canadian Study of Health and Aging. Measures incuded age, sex, presence of digestive symptoms, cognition, impairment in activities of daily living (ADL) and self-reported health. Outcome measures included death or institutionalization over the 10 years of follow-up. RESULTS: Digestive symptoms were found in 2288 (25.6%) of the 8949 subjects. Those with digestive symptoms were older, with a mean difference in age of six months (P=0.007). Digestive symptoms were more common among women (28.4%) than men (20.3%), among individuals with poor self-reported health and those with an increased number of impairments in their ADLs (P<0.001). The presence of digestive symptoms was associated with higher mortality (HR 1.15 [95% CI 1.05 to 1.25] adjusted for age, sex, cognitive function and ADL impairment); however, this association was not statistically significant after adjusting for self-reported health. CONCLUSION: Although digestive symptoms were associated with increased mortality independent of age and sex, cognition and function, this association was largely explained by poor self-assessed health. Digestive symptoms were not associated with institutionalization.
4. High Rate of Magnetic Resonance Imaging Stroke Recurrence in Cryptogenic Transient Ischemic Attack and Minor Stroke Patients

Bal S (Bal, Simerpreet); Patel SK (Patel, Shiel K.); Almekhlafi M (Almekhlafi, Mohammed); Modi J (Modi, Jayesh); Demchuk AM (Demchuk, Andrew M.); Coutts SB (Coutts, Shelagh B.)

Abstract

Background and Purpose—Cryptogenic stroke is common in patients with transient ischemic attack (TIA) and minor stroke. It is likely that the imaging recurrence risk is higher than the clinical recurrence rate. We sought to determine the rate of clinical and radiographic stroke recurrence in a population of cryptogenic TIA and minor stroke. Methods—Patients with TIA/minor stroke (National Institutes of Health Stroke Scale score <= 3) were prospectively enrolled and imaged within 24 hours of symptom onset as part of 2 cohorts. Patients were assessed at 3 months to document any clinical recurrence and underwent repeat magnetic resonance imaging (MRI) at either 30 or 90 days. Stroke mechanism was categorized as cryptogenic after standard etiologic work-up was completed and was negative. Follow-up MRI was assessed for any new lesions in comparison with baseline imaging. Results—Three hundred thirty-three of 693 (48%) patients had cryptogenic stroke. Of these cryptogenic patients, 207 (62%) had follow-up imaging. At 30-day MRI follow-up, 6.6% (5/76) had new lesions (3 in a remote arterial territory). At 90-day MRI follow-up, 14.5% (19/131) had new lesions (9 in a remote arterial territory). Clinical recurrent stroke was seen in 1.2% (4/333) of patients within 90 days. Conclusions—Cryptogenic etiology is common in a TIA/minor stroke population. This population shows a high rate of silent radiographic recurrence, suggesting active disease. Use of MRI as a surrogate marker of disease activity is 1 potential way of assessing efficacy of new treatments in this population with reduced sample size.
Initial experience with a self-expanding retrievable stent for recanalization of large vessel occlusions in acute ischemic stroke

Menon BK (Menon, Bijoy K.); Kochar P (Kochar, Puneet); Ah-Seng A (Ah-Seng, Andrew); Almekhlafi MA (Almekhlafi, Mohammed A.); Modi J (Modi, Jayesh); Wong JH (Wong, John H.); Hudon ME (Hudon, Mark E.); Morrish W (Morrish, Will); Demchuk AM (Demchuk, Andrew M.); Goyal M (Goyal, Mayank)

Abstract

Quicker recanalization results in better clinical outcomes in patients with acute ischemic strokes. We describe our experience with the use of a self-expanding, fully retrievable stent in acute intracranial occlusions. Patients who underwent intra-arterial procedures with a self-expanding, fully retrievable stent for acute ischemic strokes at our center in 2009 were included in this study. The primary outcome was recanalization [Thrombolysis in Myocardial Infarction (TIMI) grade 2/3] at end of procedure. Secondary endpoints were procedural interval times, incidence of vasospasm, rupture of vessels, device-related complications, groin complications, postprocedural intracerebral hemorrhage (ICH) on noncontrast CT, and all-cause mortality. Fourteen patients (mean age 62.1 years, range 34-81 years; six males) were included in the study. Sites of occlusion are as follows: M1 middle cerebral artery (MCA, n = 8), M2 MCA (n = 1), proximal basilar artery (n = 1), and distal basilar artery (n = 4). An additional device or technique was used in 9 of 14 patients prior to the use of the retrievable stent. Twelve out of 14 (85.7%) achieved TIMI 2-3 recanalization with 4 of 14 (28.6%) achieving TIMI 3. Eight of 14 (57.1%) patients had modified Rankin Scale (0-2) at 3 months or discharge. ICH on follow-up CT was noted in 28.6% (4 of 14) of patients. All-cause mortality was 2 of 14 (14.3%). Use of a novel self-expanding, fully retrievable stent resulted in fast and very high recanalization rates in acute ischemic strokes with intravascular occlusions.

Eesa M (Eesa, Muneer); Almekhlafi MA (Almekhlafi, Mohammed A.); Mitha AP (Mitha, Alim P.); Wong JH (Wong, John H.); Goyal M (Goyal, Mayank)

Abstract

Timely recanalization during endovascular procedures for acute ischemic stroke can be challenging in cases with large clot burden, such as those encountered in the terminal internal carotid T- or L-type occlusion. A novel but simple technique to achieve fast reduction in clot burden in stroke patients with occlusion of the internal carotid artery termination is described where manual suction using a 60-ml syringe applied through an 8-F balloon guide catheter positioned in the cervical carotid vasculature with proximal flow arrest allows subsequent revascularization of the residual middle cerebral artery clot. The use of manual suction through a balloon-tipped guide catheter in internal carotid artery L- or T-type occlusion is illustrated. This resulted in a significant reduction of the clot burden and facilitated further interventions leading to full recanalization. Manual suction using a 60-ml syringe through a balloon guide catheter is a useful and feasible technique that facilitates thrombectomy of large burden cerebral clots.
7. Musculoskeletal manifestations in diabetic patients at a tertiary center

Attar SM (Attar, Suzan M.)

Abstract

Objectives: Diabetes mellitus is a major public health problem worldwide. Most diabetic patients will develop functional disabilities due to multiple factors, including musculoskeletal (MSK) manifestations. The purpose of this study was to determine the frequency of MSK in diabetic patients and to examine the possible predictors for its development. Methods: We performed a cross-sectional study from June 1, 2010, to June 30, 2011, to evaluate MSK manifestations in adult diabetic patients at an outpatient clinic of King Abdulaziz University Hospital, Jeddah, Saudi Arabia. Baseline variables were examined to determine predictors for the development of MSK complications. Analyses were carried out using the Statistical Package for Social sciences. Results: We included 252 diabetic patients; 45 (17.9%) had MSK manifestations. Of these 45 patients, 41 (91.1%) had type 2 diabetes. The most common manifestations were carpal tunnel syndrome (n = 17, 6.7%), shoulder adhesive capsulitis (n = 17, 6.7%), and diabetic amyotrophy (n = 12, 4.8%). A significant association was found between the development of MSK manifestations and manual labor, overweight, and vascular complications. On logistic regression analysis, the presence of vascular complications in general (B-coefficient = 1.27, odds ratio = 3.57, P<0.05, 95% confidence interval = 1.31-9.78), and retinopathy in particular (B-coefficient = 1.17, odds ratio = 3.21, P<0.05, 95% confidence interval = 1.47-7.02) can predict the development of MSK manifestations in about 82% of the cases. Conclusion: Musculoskeletal manifestations are under recognized in adult diabetic patients, occurring in 18% of the cases. Physicians should consider examining the periarticular region of the joints in the hands and shoulders whenever a diabetic patient presents with MSK symptoms.

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Research Areas: General & Internal Medicine
Faculty Name: Faculty of Medicine
Department: Internal Medicine
DSR No.: 1384
8. Outcome after implantable cardioverter-defibrillator in patients with Brugada syndrome: the Gulf Brugada syndrome registry

Daoulah A (Daoulah, Amin); Alsheikh-Ali AA (Alsheikh-Ali, Alawi A.); Ocheltree AH (Ocheltree, Ali H.); Ocheltree S (Ocheltree, Sara); Al-Kaabi S (Al-Kaabi, Salem); Malik M (Malik, Majed); Al-Habib AK (Al-Habib, Abdul-Karim); Hamed A (Hamed, Adel); Al-Rawahi N (Al-Rawahi, Najib); Al-Sayegh A (Al-Sayegh, Ali); Al-Hasaniah S (Al-Hasaniah, Saad); Ul-Haq E (Ul-Haq, Eijaz)

Abstract

Background and Objective: Among patients with Brugada syndrome (BS) and aborted cardiac arrest, syncope, or inducible ventricular fibrillation at electrophysiologic study (EPS), the only currently recommended therapy is an implantable cardioverter-defibrillator (ICD), but these are not without complications. We assessed the total number of shocks (appropriate and inappropriate) and complications related to ICD in patients with BS. Methods and Results: Twenty-five patients implanted with ICD for BS in 6 Gulf centers between January 1, 2002, and December 31, 2010, were reviewed. Implantable cardioverter-defibrillator indication was based on aborted cardiac arrest (24%), syncope (56%), or in asymptomatic patients with positive EPS (20%). During a follow-up of 41.2 +/- 17.6 months, 3 patients (all with prior cardiac arrest) had appropriate device therapy. Four patients developed complications; 3 of them had inappropriate shocks. Conclusion: In our cohort, appropriate device therapy was limited to cardiac arrest survivors, whereas none of those with syncope and/or positive EPS had arrhythmias. Overall complication rate was relatively high, including inappropriate ICD shocks.

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Research Areas : Cardiovascular System & Cardiology
Faculty Name : Faculty of Medicine
Department : Internal Medicine
DSR No. : 1180
9. Subacute Seizure Incidence in Thrombolysis-treated Ischemic Stroke Patients

Couillard P (Couillard, P.); Almekhlafi MA (Almekhlafi, M. A.); Irvine A (Irvine, A.); Jette N (Jette, N.); Pow J (Pow, J.); St Germaine-Smith C (St Germaine-Smith, C.); Pillay N (Pillay, N.); Hill MD (Hill, M. D.)

Abstract

Background To assess the incidence of seizures in acute ischemic stroke patients treated with chemical (tPA) thrombolysis. Methods Retrospective study including all thrombolysis patients treated in Calgary between January 1, 2001, and October 31, 2006. Descriptive statistics and age/sex-adjusted P values were calculated. Results Of 400 eligible patients (median age 74.0 years, range: 24-77), 16 (4%) developed post-stroke seizures: 10 (62.5%) within one week (early) and 6 (37.5%) after 1 week but within the hospital stay (late). Single-vessel anterior circulation involvement (93.8% vs. 87%, P = 0.34) and hemorrhage (37.5% vs. 20%, P = 0.15) were more common in those with compared to without seizures but did not reach statistical significance. Atrial fibrillation was more common in those with (56.3%) than without (36.1%) seizures (P = 0.04). Death during admission was more likely (P = 0.03) in those who sustained seizures (37.5%) compared to those without seizures (17.6%). Conclusions In this cohort of tPA-treated patients, post-stroke seizures were associated with atrial fibrillation and early mortality.
10. Superiority of the buffy coat over serum or plasma for the detection of Alkhumra virus RNA using real time RT-PCR

Madani TA (Madani, Tariq A.); Abuelzein ETME (Abuelzein, El-Tayeb M. E.); Azhar El (Azhar, Esam I.); Kao M (Kao, Moujahed); Al-Bar HMS (Al-Bar, Hussein M. S.); Abu-Araki H (Abu-Araki, Huda); Ksiazek TG (Ksiazek, Thomas G.)

Abstract

RT-PCR to detect Alkhumra virus (ALKV) RNA in plasma or serum has been the standard practice to confirm this infection in the first seven days of illness. In this study, RT-PCR detection of viral RNA from the plasma, serum, and buffy coat (BC) was compared to virus isolation. Plasma, serum, and BC were obtained from seven patients with clinically suspected ALKV infection in Najran, Saudi Arabia. Baby hamster kidney (BHK-21) and rhesus monkey kidney (LLC-MK2) cell culture monolayers were used for virus isolation. Real-time RT-PCR was used to confirm ALKV infection and to detect viral RNA directly from plasma, serum, and BC. ALKV was isolated from five of the seven patients. The virus was isolated from all three specimen types (plasma, serum, and BC) of the five confirmed patients. ALKV RNA was detected directly by RT-PCR in BC in all five (100%) culture-positive patients and in plasma or serum in only four (80%) of the five patients. Three of the five patients for whom ALKV RNA was detected in BC also had detectable viral RNA in plasma and serum. In the remaining two patients with detectable ALKV RNA in the BC, the plasma was positive but the serum was negative in one patient, whereas the serum was positive and the plasma was negative in the other patient. The use of real-time RT-PCR to detect ALKV RNA in the BC was superior to using plasma and serum and equivalent to virus isolation.
11. Vascular and cellular events in post-mastectomy seroma: An immunohistochemical study

Al-Gaithy ZK (Al-Gaithy, Zuhoor K.); Ayuob NN (Ayuob, Nasra N.)

Abstract

This study aimed to describe the vascular and cellular histopathological changes that occurred in postmastectomy seroma in an animal model. Unilateral mastectomies were conducted on 45 female albino rabbits. On day seven, the skin flap and the underlying tissues of the mastectomy regions were dissected and processed for histopathological examination using immunohistochemical staining of the T- and B-lymphocytes and macrophages (CD3, CD20, and CD68 respectively), and the vascular endothelia. The post-mastectomy regions in the seroma group showed a large number of inflammatory cells and newly formed blood vessels that lost the integrity of their endothelial cell linings, as revealed by the von Willebrand factor staining, as well the basement membrane, as revealed by the histochemical stain. The postmastectomy seroma beds showed many CD3 and CD20+ve lymphocytes and CD68+ve macrophages. These macrophages were producing angiogenic factors, resulting in the persistent and continuous formation of new blood vessels. These new blood vessels were defective and represented an underlying cause of seroma formation. (C) 2011 Elsevier Inc. All rights reserved.
DEPARTMENT
MEDICAL EDUCATION
1. Antioxidants protect against increased risk of atherosclerosis induced by exposure to cigarette smoke: Histological and biochemical study

Ali SS (Ali, Soad Shaker); Ayuob NN (Ayuob, Nasra Naeim); Al Ansary AK (Al Ansary, Abeer Khaled); Soluman ER (Soluman, Ekram Rage)

Abstract

Background and objectives: This study aimed to assess the dose-dependent effect of antioxidants in protection against cardiovascular changes induced by exposure to cigarette smoke. Design and setting: This was an experimental study, conducted at King Fahd Medical Research Center, King Abdulaziz University. Materials and methods: This study was carried out on 57 male albino rats divided into nine groups. Rats of experimental groups were exposed to cigarette smoke from a total of 100 cigarettes per week for four weeks in a specially designed chamber. The antioxidants used (vitamin C, E, and B-carotene) were administrated at low (9, 7.2, and 0.27 mg/day) and high doses (18, 14.4, and 0.54 mg/day), respectively, through gastric feeding tubes. The lipid profile was estimated, and the carotids and heart were removed, weighed, and then processed, and the carotid intima-media thickness was measured. Statistical analysis was performed using the Statistical Package for Social Sciences. Results: The lipid profile was significantly improved in all groups treated with low or high doses of antioxidants after or during the exposure to cigarette smoke. Improvement was marked in the group treated with a high dose of antioxidants. The histological changes, as well as the intima-medial thickness of the carotid artery induced by exposure to cigarette smoke, have been improved by treatment with antioxidants (at either low or high doses), either after or during exposure to cigarette smoke. Improvement was marked in the group treated with a low dose of antioxidant. Treatment with antioxidants could not improve degenerated cardiac muscle fibers, while they could reduce the thickness of the branches of the coronary vessels. Conclusion: These results indicated that antioxidants ameliorated the cigarette smoke contribution to atherosclerosis, but they could not completely reverse the changes induced by cigarette smoke. Simultaneous intake of antioxidants could ameliorate the cigarette-smoke-induced changes apart from those of the heart. (c) 2012 King Saud University. Production and hosting by Elsevier B.V. All rights reserved.
Faculty Name: Faculty of Medicine
Department: Medical Education
DSR No.: 1664
2. Autoimmune thrombocytopenia Is it a different disease or different aspects of a single disease?

Al-Sayes FM (Al-Sayes, Fatin M.); Hindawi SI (Hindawi, Salwa I.); Damanhour GA (Damanhour, Ghazi A.); Attallah SM (Attallah, Samy M.); Azaher FA (Azaher, Fatima A.); Akbar DH (Akbar, Daad H.)

Abstract

Objectives: To evaluate the association between autoimmune thrombocytopenia with other autoimmune disorders, to show if they are different autoimmune diseases or one disease with different presentations at the same time, and to study the effect of treatment on platelet count in different thyroid condition. Methods: In this retrospective study, we included 141 patients with thrombocytopenic purpura. The result of thyroid function test, thyroid autoantibodies, Coombs' reactivity, anti-nuclear antibody, and double-stranded DNA were analyzed. This study was conducted in the Clinical Hematology Department, King Abdulaziz University Hospital, Jeddah, Saudi Arabia between June 2003 and August 2010. Results: There were 51 (36.2%) patients with laboratory evidence of autoimmune disease, 13 (9.2%) with hypothyroidism, and 6 (4.3%) with hyperthyroidism. In addition, 5 (3.5%) patients showed laboratory evidence of Evan syndrome and 3 (2.1%) patients had isolated positive thyroid antibodies. There was non-significant difference (p=0.61) in platelets count after one month of treatment of patients with different thyroid condition. Conclusion: Immune thrombocytopenia is associated with evidence of different autoimmune disease or a combination of them, which may appear at presentation or during the course of disease giving evidence that they are different manifestations of a single disease. Screening patients for antithyroid antibodies would identify a patient at risk of developing overt thyroid disease. These patients may be further screened with a thyroid-stimulating hormone assay to detect subclinical thyroid disease.

Hegazi MA (Hegazi, Moustafa A.); Soliman OE (Soliman, Othman E.); Hasaneen BM (Hasaneen, Bothina M.); El-Arman M (El-Arman, Mohammed); Abd El-Galel N (Abd El-Galel, Nawal); El-Deek BS (El-Deek, Basem S.)

Abstract

Objective: To assess growth hormone (GH)/insulin like growth factor-1 (IGF-1) axis as a possible non-nutritional factor for growth retardation in children with cerebral palsy (CP). Methods: A case-control study was conducted at a tertiary university hospital. Thirty children with CP (seven children with normal growth [CP-N] and 23 with retarded growth [CP-R]), 30 children with protein energy malnutrition (PEM), and 30 healthy children (REF group) underwent an assessment of growth parameters, serum IGF-1, basal GH, and peak GH after stimulation with insulin. Results: PEM patients had higher basal GH levels than CP-N, CP-R and REF groups (p = 0.026, p < 0.001, and p < 0.001 respectively). After insulin stimulation, CP-N, CP-R, and PEM patients had lower GH levels compared to the REF group (p = 0.04, p = 0.007, and p = 0.036 respectively). IGF-1 levels were lower in CP-R group compared to CP-N and REF groups (p = 0.037 and p < 0.001 respectively), and in PEM group compared to CP-N and REF groups (p < 0.001 and p < 0.001 respectively). Conclusions: CP-R patients failed to demonstrate the same high basal GH response as PEM patients, and responded inadequately to the insulin stimulation test, but they had IGF-1 levels comparable to those of PEM patients. On the other hand, CP-N patients behaved as controls regarding their basal GH and IGF-1 levels, but failed to respond adequately to the insulin stimulation test. The PEM group presented high basal GH and low IGF-1 levels. These findings suggest that non-nutritional factors contribute to growth retardation in CP children.
4. Interdisciplinary Integration of the CVS Module and Its Effect on Faculty and Student Satisfaction as Well as Student Performance

Ayuob NN (Ayuob, Nasra N.); Eldeek BS (Eldeek, Basem S.); Alshawa LA (Alshawa, Lana A.); ALSaba AF (ALSaba, Abdulrahman F.)

Abstract

Background: Beyond the adoption of the principles of horizontal and vertical integration, significant planning and implementation of curriculum reform is needed. This study aimed to assess the effect of the interdisciplinary integrated Cardiovascular System (CVS) module on both student satisfaction and performance and comparing them to those of the temporally coordinated CVS module that was implemented in the previous year at the faculty of Medicine of the King Abdulaziz University, Saudi Arabia. Methods: This interventional study used mixed method research design to assess student and faculty satisfaction with the level of integration within the CVS module. A team from the medical education department was assembled in 2010/2011 to design a plan to improve the CVS module integration level. After delivering the developed module, both student and faculty satisfaction as well as students performance were assessed and compared to those of the previous year to provide an idea about module effectiveness. Results: Many challenges faced the medical education team during design and implementation of the developed CVS module e. g. resistance of faculty members to change, increasing the percentage of students directed learning hours from the total contact hour allotted to the module and shifting to integrated item writing in students assessment, spite of that the module achieved a significant increase in both teaching faculty and student satisfaction as well as in the module scores. Conclusion: The fully integrated CVS has yielded encouraging results that individual teachers or other medical schools who attempt to reformulate their curriculum may find valuable.

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Faculty Name: Faculty of Medicine
Department: Medical Education
DSR No.: 670
DEPARTMENT
MEDICAL PARASITE
1. Colorectal Cancer in the Kingdom of Saudi Arabia: Need for Screening

Mosli MH (Mosli, Mahmoud H.); Al-Ahwal MS (Al-Ahwal, Mahmoud S.)

Abstract

Background and Objectives: Colorectal cancer (CRC) is a major health problem in the Kingdom of Saudi Arabia (KSA). Our aim was to characterize the epidemiology of CRC in the Saudi population. Design and Setting: Retrospective analysis of all cases of CRC recorded in the Saudi Cancer Registry (SCR) between January 2001 and December 2006 amongst Saudi citizens in KSA. Patients and Methods: Data were retrieved from the database of the SCR. Descriptive statistics was performed using SPSS. Results: A total of 4,201 cases of CRC were registered in the SCR. The incidence of CRC increased between 2001 and 2006. The mean age of patients at the time of diagnosis was 58 years; most patients were above 45 years of age (n=3322; 79.1%). At the time of diagnosis, 977 patients (23.0%) presented with localized disease and 1,018 (24.0%) had distant metastasis. The most frequent pathological variant was adenocarcinoma (73%), with grade 2 (moderately differentiated) being the most common grade among all variants (61%). For all cancer grades, the frequency of CRC was significantly higher among patients >45 years (P=0.004), who presented with more advanced disease (stages III and IV) (P=0.012). Based on logistic regression, age >45 years was associated with advanced regional presentation (P=0.001). Tumor grade was associated with advanced regional presentation and metastasis. Conclusion: There was an increase in the incidence of CRC between 2001 and 2006. The age at the time of diagnosis was low when compared with reports from developed countries. A nationwide approach is needed to encourage and illustrate the importance of screening programs.

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Faculty Name: Faculty of Medicine
Department: Medical Parasite
DSR No.: 607
2. Successful propagation of Alkhumra (misnamed as Alkhurma) virus in C6/36 mosquito cells

Madani TA (Madani, Tariq A.); Kao M (Kao, Moujahed); Azhar EI (Azhar, Esam I.); Abuelzein ETME (Abuelzein, El-Tayeb M. E.); Al-Bar HMS (Al-Bar, Hussein M. S.); Abu-Araki H (Abu-Araki, Huda); Ksiazek TG (Ksiazek, Thomas G.)

Abstract

Epidemiological data suggest that Alkhumra (misnamed as Alkhurma) virus (ALKV) is transmitted from livestock animals to humans by direct contact with animals or by the mosquito bites, but not by ticks. To assess the ability of the virus to replicate in mosquito cells, serum and plasma of seven acutely febrile patients with clinically suspected ALKV infection reported in Najran, Saudi Arabia in 2009 were inoculated onto Aedes albopictus mosquito cells (C6/36) and directly examined with ALIN-RNA-specific real time RT-PCR as well as indirect immunofluorescence assay (IFA) using ALKV-specific polyclonal antibodies. The isolated virus was titrated in the mammalian rhesus monkey kidney cells (LLC-MK2). Five of the seven specimens were RT-PCR- and culture-positive demonstrating cytopathic effects in the form of cell rounding and aggregation appearing on day 3 post inoculation with syncytia eventually appearing on day 8 post inoculation. Identification of ALKV-RNA in the cell culture was confirmed with RT-PCR and IFA. The virus titre was 3.2 x 10(6) tissue culture infective dose 50 (TCID50) per mL. Three more viral passages were successfully made in the C6/36 cells. This is the first description of propagation of ALIN in mosquito cells. (C) 2011 Royal Society of Tropical Medicine and Hygiene., Published by Elsevier Ltd. All rights reserved.
1. Demographic pattern of carpal tunnel syndrome in western Saudi Arabia

Abumunaser LA (Abumunaser, Lutf A.)

Abstract

Objective: To study the demographic characteristics of patients with carpal tunnel syndrome (CTS) in Saudi Arabia. Methods: A retrospective collection of 135 cases with CTS, diagnosed clinically and electrophysiologically. The studied cases presented to the Orthopedic Clinic of King Abdulaziz University Hospital in Jeddah, Saudi Arabia, between January 1999, and December 2009. The demographic data (age, gender, and site of involvement) were collected from the medical records. Results: The 135 cases comprised 112 females, and 23 males, with a male:female ratio of 1:4.9. The mean age was 45.5 years in women (range 17-74 years) and 48.5 years in males (range 20-77). The age related gender distribution of the subjects were the highest among the age group 45-54 years in both males (34.8%) and females (33.9%). The CTS occurred bilaterally in 74 cases (55%), and unilaterally in 61 cases (45%), with 41 cases affected on the right side and 20 the left side. Conclusion: The demographic pattern of CTS patients in the different provinces of Saudi Arabia is almost similar, and comparative to that reported in the western countries, with slightly higher male to female ratio among the Saudi patients.
Optimization of glucose isomerase production by
Streptomyces albaduncus

Yassien MAM (Yassien, Mahmoud Abdul Megead); Jiman-Fatani AAM (Jiman-Fatani, Asif Ahmad Mohammad)

Abstract

The effect of environmental factors on glucose isomerase productivity of Saudi Arabia isolated Streptomyces albaduncus was studied. During growth of the tested microorganism in the basal medium at 30 degrees C, the glucose isomerase production reached the maximum level (6530 U/L) after 96 h incubation period. Irrespective of the carbon source, replacement of xylose with different carbohydrate did not increase the enzyme productivity. On the other hand, the highest enzyme productivity was obtained when corn steep liquor (2.0%, w/v) and yeast extract (1%) were used as nitrogen sources. Also, the optimum initial pH for maximum growth and enzyme productivity was 7. Further improvement in the glucose isomerase production was obtained after the addition of 0.01% (w/v) DL-isoleucine to the culture medium. Accordingly, optimization of the environmental condition associated with increase in the glucose isomerase enzyme productivity from S. albaduncus up to 15328 U/L which is approximately 2.3 more times as compared to that obtained under the initial condition. Finally, a promising production of glucose isomerase (14100 U/L) at large scale level was achieved by cultivation of the tested strain in the optimum environmental conditions using laboratory fermentor of 14 L.

Sources

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Year: 2012 Volume: 6 Issue: 12 Pages: 2976-2984
DOI: 10.5897/AJMR12.016 Cited reference count: 32
Language: English Document Type: Article
Reprint Address: Yassien, MAM (reprint author), King Abdulaziz Univ, Fac Pharm, Dept Nat Prod Microbiol, Jeddah 21589, Saudi Arabia.
Publisher: ACADEMIC JOURNALS
Web of Science Categories: Microbiology
Research Areas: Microbiology
Faculty Name: Faculty of Medicine
Department: Microbiology
DSR No.: 473
3. Prevalence of celiac disease in children with type 1 diabetes mellitus screened by anti-tissue transglutaminase antibody from Western Saudi Arabia

Saadah OI (Saadah, Omar I.); Al-Agha AE (Al-Agha, Abdelmoein E.); Al Nahdi HM (Al Nahdi, Haifa M.); Bokhary RY (Bokhary, Rana Y.); Bin Talib YY (Bin Talib, Yagoub Y.); Al-Mughales JA (Al-Mughales, Jamil A.); Al Bokhari SM (Al Bokhari, Shatha M.)

Abstract

Objectives: To determine the prevalence of celiac disease (CD) in children and adolescents with type 1 diabetes mellitus (T1DM) using anti-tissue transglutaminase (anti-tTG) antibodies. Methods: A retrospective hospital record-based study of all children and adolescents with T1DM who were screened for CD was conducted at the Pediatric Diabetes Clinic of King Abdulaziz University Hospital, Jeddah, Kingdom of Saudi Arabia (KSA) between October 2002 and June 2011. Results: A total of 430 children with T1DM were screened by anti-tTG antibody. The median age at screening was 10.7 years (range; 1.1-18). The study cohort included 232 (54%) Saudi patients, and females constituted 58.8% of the total number. AntitTG antibody screening was positive in 91 (21.2%) patients. Forty-eight (11.2%) out of 430 children screened had biopsyproven CD. Forty-two patients with CD (87.5%) were asymptomatic. Patients with CD had less weight for age (p=0.007), and height for age (p=0.03) z-scores than non-CD patients. They showed more association with anemia (p<0.001), low albumin level (p<0.001), and autoimmune thyroid disease (p=0.002). There was no difference in the mean glycosylated hemoglobin level (p=0.38), or insulin requirements (p=0.74) between the 2 groups. Conclusion: The prevalence of CD in patients with T1DM from the Western region of KSA is considered among the highest reported. Therefore, routine screening through proper serological testing is recommended.
Web of Science Categories: Medicine, General & Internal
Research Areas: General & Internal Medicine
Faculty Name: Faculty of Medicine
Department: Microbiology
DSR No.: 1684
4. Role of herpes simplex virus-1, cytomegalovirus and Epstein-barr virus in atherosclerosis

Al-Ghamdi A (Al-Ghamdi, Abdullah)

Abstract

Infectious agents such as herpes viruses may be implicated in the inflammatory atherosclerotic process. The aim of this study was to assess the levels of IgG antibody specific for Herpes simplex virus-1 (HSV-1), Cytomegalovirus (CMV) and Epstein-Barr virus (EBV) among patients with atherosclerotic vascular diseases and to examine the relation between the levels of these antibodies and lipid profile, high-sensitive C-reactive protein (hsCRP) in these patients. Seventy five patients [20 with acute coronary artery disease (ACAD), 20 with chronic coronary artery disease (CCAD), 20 with cerebral stroke and 15 with peripheral arterial disease (PAD)] along with 15 healthy individuals as a control group. The studied individuals were subjected to complete history taking, thorough physical examination, and assessment of the blood glucose level, lipid profile, creatine kinase (CK), hsCRP by nephelometry and virus-specific IgG antibodies by enzyme immunoassay (EIA). Results showed that the levels of cholesterol, triglycerides, LDL-c and hsCRP were significantly higher, while FIDL-c was significantly lower among patients compared to that of the controls. A significantly (P<0.05) higher percentage of patients had CMV-specific IgG as compared to the controls. Higher percentage of patients had HSV- and EBV-specific IgG antibodies, however, there was no significant difference between the 2 groups. Individuals who had CMV-specific IgG were more liable to have vascular disease compared to those without (OR=4.10, CI= 1.07-15.75). The levels of CMV- and EBV-specific IgG antibodies were significantly (P<0.01 and < 0.05 respectively) elevated among patients with atherosclerotic vascular diseases when compared to those of the controls. There was no significant correlation between the levels of virus-specific IgG and lipid profile or hsCRP. In conclusion, the level of CMV- and EBV- specific antibodies are elevated among vascular disease patients and the presence of CMV-specific IgG is associated with development of the disease. Serum lipids and hsCRP were increased among the studied patients; however, no significant correlation was detected between antiviral IgG levels and lipid profile or hsCRP.
5. Subcutaneous immunization with recombinant adenovirus expressing influenza A nucleoprotein protects mice against lethal viral challenge

Hashem AM (Hashem, Anwar M.); Jaentschke B (Jaentschke, Bozena); Gravel C (Gravel, Caroline); Tocchi M (Tocchi, Monika); Doyle TM (Doyle, Tracey M.); Rosu-Myles M (Rosu-Myles, Michael); He RT (He, Runtao); Li XG (Li, Xuguang)

Abstract

Current influenza vaccines mainly induce strain-specific neutralizing antibodies and need to be updated each year, resulting in significant burdens on vaccine manufacturers and regulatory agencies. Genetic immunization strategies based on the highly conserved nucleoprotein (NP) of influenza have attracted great attention as NP could induce heterosubtypic immunity. It is unclear, however, whether different forms of vectors and/or vaccination regimens could have contributed to the previously reported discrepancies in the magnitude of protection of NP-based genetic vaccinations. Here, we evaluated a plasmid DNA vector (pNP) and a recombinant adenovirus vector (rAd-NP) containing the NP gene through various combinations of immunization regimens in mice. We found that pNP afforded only partial protection even after four injections, with full protection against lethal challenge achieved only with the fourth boost using rAd-NP. Alternatively, only two doses of rAd-NP delivered subcutaneously were needed to induce an enhanced immune response and completely protect the animals, a finding which, to our knowledge, has not been reported before.
1. Congenital heart defects in Down syndrome patients from western Saudi Arabia

Al-Aama JY (Al-Aama, Jumana Y.); Bondagji NS (Bondagji, Nabeel S.); El-Harouni AA (El-Harouni, Ashraf A.)

Abstract

Objectives: To characterize congenital heart defects in individuals with Down syndrome (DS) in the Western Region of Saudi Arabia, and compare with studies from other regions of Saudi Arabia and with international figures. Methods: We conducted a prospective study including all patients attending the DS clinic at King Abdulaziz University Hospital, Jeddah, Kingdom of Saudi Arabia between October 2007 and October 2011. All patients underwent full history and physical evaluations, dysmorphologic assessment, chromosomal studies, and echocardiography. Results: A total of 130 individuals (59% males and 41% females) with ages ranging between 0-33 years (mean=5 +/- 4.9) were included. Most individuals (90.9%) had trisomy 21 due to non-disjunction, 5.05% due to Robertsonian translocation, and 4% had mosaicism. Congenital heart defects were found in 86.8% of patients. The majority 71/92 (77%) showed combined cardiac defects, while 21/92 (23%) of DS patients had isolated congenital heart defects (CHD). The most frequent CHDs detected in this study were: patent ductus arteriosis in 44/92 (47.8%), atrial septal defect in 38/92 (41.3%), trivial tricuspid regurge in 31/92 (33.7%), ventricular septal defect in 27/92 (29.3%), and patent foramen oval in 26/92 (28.3%). Conclusion: We found a higher incidence of CHDs among DS individuals from the Western Region, compared to national and international figures. We detected more combined CHD and a different pattern of distribution.
2. Decreased serum sclerostin levels in patients with primary hyperparathyroidism: a cross-sectional and a longitudinal study

Ardawi MSM (Ardawi, M. -S. M.); Al-Sibiany AM (Al-Sibiany, A. M.); Bakhsh TM (Bakhsh, T. M.); Rouzi AA (Rouzi, A. A.); Qari MH (Qari, M. H.)

Abstract

Decreased serum sclerostin was evident in patients with primary hyperparathyroidism and was inversely related to parathyroid hormone (PTH). Sclerostin normalized earlier than biochemical bone turnover markers (BTMs) following parathyroidectomy. There is limited information on the changes of serum sclerostin in conditions with chronic PTH excess in humans. The main objectives of the present study were to: (1) examine cross-sectionally the changes of serum sclerostin levels in patients with primary hyperparathyroidism (PHPT), (2) study the time course changes in serum sclerostin in PHPT patients following parathyroidectomy (PTX) followed up longitudinally for 12 months, and (3) compare the changes in serum sclerostin to that of BTMs. We studied 60 PHPT patients and compared them with 74 PTX patients together with 268 age- and sex-matched healthy controls. Also, we followed 27 PTX patients longitudinally at 2, 4, 6, 10, 30, 60, 180, and 360 days postoperatively. Serum sclerostin, BTMs, and minerals were measured. Also, bone mineral density was determined by dual energy X-ray absorptiometry. Patients with PHPT exhibited significantly lower mean serum sclerostin [mean, in picomoles per liter; 95% confidence interval (CI)] (28.98; 27.94-30.03) than that obtained for PTX patients (37.01; 35.75-38.27) and healthy controls (46.22; 45.13-47.31) ( < 0.0001, for each case), respectively. Serum PTH inversely correlated with serum sclerostin ( = -0.651, < 0.0001). Serum sclerostin was normalized in PTX patients by the tenth day postoperatively and remained within the expected reference range thereafter. Significantly decreased serum sclerostin was evidenced in PHPT patients as compared with PTX and euparathyroid controls. The inverse PTH and sclerostin relationship suggests that sclerostin is downregulated by PTH in humans. Serum sclerostin normalized earlier than BTMs following parathyroidectomy.

Sources

OSTEOPOROSIS INTERNATIONAL
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DOI: 10.1007/s00198-011-1806-8 Cited reference count: 33
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KAU Addresses:
3. Defibulation During Vaginal Delivery for Women With Type III Female Genital Mutilation

Rouzi AA (Rouzi, Abdulrahim A.); Al-Sibiani SA (Al-Sibiani, Sharifa A.); Al-Mansouri NM (Al-Mansouri, Nisma M.); Al-Sinani NS (Al-Sinani, Nawal S.); Al-Jahdali EA (Al-Jahdali, Eetedal A.); Darhouse K (Darhouse, Khalid)

Abstract

OBJECTIVE: To assess the routine practice of defibulation during vaginal delivery for women who have undergone female genital mutilation or cutting. MATERIALS AND METHODS: A case-control study was conducted on women from Sudan, Somalia, Ethiopia, Egypt, and Yemen who delivered at King Abdulaziz University Hospital, Jeddah, Saudi Arabia, from January 1, 2000, to November 30, 2011. Women who had defibulation were identified, and their records were examined. For each woman who had defibulation, a woman from the same nationality who delivered without defibulation on the same day or the next days was chosen as a control. Data collected included demographics, mode of delivery, blood loss, intraoperative and postoperative complications, and labor outcome. RESULTS: During the study period, 388 women underwent defibulation during vaginal delivery. Women who did not have defibulation were chosen as a control group (n = 388). In the defibulation group, 300 (77.3%) women were registered during pregnancy; 88 (22.7%) women were unregistered. Defibulation during vaginal delivery was successfully performed by residents and senior residents under the care of the attending on call. No cesarean delivery was performed because of female genital mutilation or cutting, and no spontaneous rupture of the scar occurred. There were no statistically significant differences between women who had defibulation with those who did not or between infibulated registered and unregistered women in the duration of labor, episiotomy rates, blood loss, Apgar score, or fetal birth weight. CONCLUSION: Defibulation during vaginal delivery is a valid management option. Labor attendants should be trained to perform it.

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DOI: 10.1097/AOG.0b013e3182590343 Cited reference count: 23
Language: English Document Type: Article; Proceedings Paper
Reprint Address: Rouzi, AA (reprint author), FRCSC, POB 80215, Jeddah 21589, Saudi Arabia.
Publisher: LIPPINCOTT WILLIAMS & WILKINS
Web of Science Categories: Obstetrics & Gynecology
Research Areas: Obstetrics & Gynecology
Faculty Name: Faculty of Medicine
Department: Obstetrics and Gynecology
DSR No.: 1542
4. Do Saudi Nurses in Primary Health Care Centres have Breast Cancer Knowledge to Promote Breast Cancer Awareness?

Yousuf SA (Yousuf, Shadia Abdullah); Al Amoudi SM (Al Amoudi, Samia Mohammed); Nicolas W (Nicolas, Wafa); Banjar HE (Banjar, Hasna Erfan); Salem SM (Salem, Safaa Mohammed)

Abstract

Background: Breast cancer is one of the leading causes of death among cancer patients in Saudi Arabia. It is known that nurses play a key role in promoting breast cancer awareness among women in any society. Nurses in primary health care centres (PHCC) have more direct contact with general population. This study aimed to investigate nurse knowledge of breast cancer and practice of early screening in PHCC in Jeddah city. Methods: A cross-sectional study was conducted using a self-administered questionnaire to assess the general knowledge of breast cancer, risk factors, and practice of 210 PHCC nurses. Data were analysed using SPSS v. 16. Results: The mean age of the PHCC Nurses was 36.9 (SD +/- 8.6). Only 11% percent scored <50% of the total score for general epidemiological knowledge on breast cancer, about 35% scored <50% of the total score for breast cancer risk factors. Sixty seven percent scored >75% of the total score on breast cancer signs. Majority of nurses 62.8% practiced BSE, but only 4% practiced regularly every month. Some 28% practiced once per year. About 81% of the nurses had not had a clinical breast examination and only 14% had had a mammography. The results of the study failed to show any correlation between the knowledge scores with age, education, year of experience, family history of BC and marital status of the nurses. Conclusion: The results from the study reflect that there is a need to provide continuing nursing education programmes for PHCC nurses to improve their breast cancer knowledge and practice.

Sources

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Impact Factor: 0.659
Year: 2012 Volume: 13 Issue: 9 Pages: 4459-4464
DOI: 10.7314/APJCP.2012.13.9.4459
Language: English
KAU Addresses: Yousuf, Shadia Abdullah; Banjar, Hasna Erfan; Salem, Safaa Mohammed
King Abdulaziz Univ, Publ Hlth Nursing Dept, Fac Nursing, Safa Salem Matern & Child Dept,Hasna Banjar Nursi, Jeddah 21413, Saudi Arabia.

Reprint Address: Yousuf, SA (reprint author), King Abdulaziz Univ, Publ Hlth Nursing Dept, Fac Nursing, Safa Salem Matern & Child Dept,Hasna Banjar Nursi, Jeddah 21413, Saudi Arabia.

Publisher: ASIAN PACIFIC ORGANIZATION CANCER PREVENTION
Web of Science Categories: Oncology
Research Areas: Oncology
Faculty Name: Faculty of Medicine
Department: Obstetrics and Gynecology
DSR No.: 605
5. High Serum Sclerostin Predicts the Occurrence of Osteoporotic Fractures in Postmenopausal Women: The Center of Excellence for Osteoporosis Research Study

Ardawi MSM (Ardawi, Mohammed-Salleh M.); Rouzi AA (Rouzi, Abdulrahim A.); Al-Sibiani SA (Al-Sibiani, Sharifa A.); Al-Senani NS (Al-Senani, Nawal S.); Qari MH (Qari, Mohammed H.); Mousa SA (Mousa, Shaker A.)

Abstract

Sclerostin regulates bone formation by inhibiting Wnt pathway signaling. Low circulating sclerostin levels cause high bone mass. We hypothesized that postmenopausal women with increased sclerostin levels have a greater risk for osteoporosis-related fractures. We examined the association between circulating sclerostin together with bone turnover markers and osteoporosis-related fracture risk in 707 postmenopausal women, in a population-based study with a mean follow-up period of 5.2 +/- 1.3 years. Multivariate Cox proportional hazards regression models were used to analyze fracture risk, adjusted for age, body mass index, and other confounding risk factors. High sclerostin levels were strongly associated with increased fracture risk. After adjustment for age and other confounders, the relative fracture risk was more than sevenfold among postmenopausal women for each 1-SD increment increase in sclerostin level. Women in the highest quartile of sclerostin levels had about a 15-fold increase in fracture risk. Results were similar when we compared sclerostin at the 1-year visit to an average of two to three annual measurements. Fracture risk attributable to sclerostin levels was 56.6% in the highest quartile. Only high levels of bone resorption markers (plasma cross-linked C-terminal telopeptide of type 1 collagen [p-CTX], urinary CTx [u-CTX], and urinary N-telopeptide of type 1 collagen [u-NTx]) were predictive of osteoporosis-related fractures but at much lower hazard ratio (HR) values than that of serum sclerostin. Associations between sclerostin levels and fracture risk were independent of bone mineral density and other confounding risk factors. High sclerostin levels are a strong and independent risk factor for osteoporosis-related fractures among postmenopausal women. (C) 2012 American Society for Bone and Mineral Research.

Sources: JOURNAL OF BONE AND MINERAL RESEARCH
Impact Factor: 6.373
Year: 2012 Volume: 27 Issue: 12 Pages: 2592-2602
DOI: 10.1002/jbmr.1718 Cited reference count: 39
Language: English Document Type: Article
KAU Addresses:

127
6. Independent predictors of all osteoporosis-related fractures among healthy Saudi postmenopausal women: The CEOR Study

Rouzi AA (Rouzi, Abdulrahim A.); Al-Sibiani SA (Al-Sibiani, Sharifa A.); Al-Senani NS (Al-Senani, Nawal S.); Radaddi RM (Radaddi, Raja M.); Ardawi MSM (Ardawi, Mohammed-Salleh M.)

Abstract

This study was designed to identify independent predictors of all osteoporosis-related fractures (ORFs) among healthy Saudi postmenopausal women. We prospectively followed a cohort of 707 healthy postmenopausal women (mean age, 61.3 +/- 7.2 years) for 5.2 +/- 1.3 years. Data were collected on demographic characteristics, medical history, personal and family history of fractures, lifestyle factors, daily calcium intake, vitamin D supplementation, and physical activity score. Anthropometric parameters, total fractures (30.01 per 1000 women/year), special physical performance tests, bone turnover markers, hormone levels, and bone mineral density (BMD) measurements were performed. The final model consisted of seven independent predictors of ORFs: [lowest quartile (Q(1) under bar) vs highest quartile (Q(4) under bar)] physical activity score (Q(1) vs Q(4): <= 12.61 vs >= 15.38); relative risk estimate [RR], 2.87; [95% confidence interval [CI]: 1.88-4.38]; age >= 60 years vs age<60 years (RR=2.43; 95% CI: 1.49-3.95); hand grip strength (Q(1) vs Q(4): <= 13.88 vs >= 17.28 kg) (RR=1.88; 95% CI: 1.15-3.05); BMD total hip (Q(1) vs Q4: <= 0.784 vs 0.973 g/cm(2)) (RR=1.86; 95% CI: 1.26-2.75); dietary calcium intake (Q(1) vs Q(4): <= 391 vs >= 648 mg/day) (RR=1.66; 95% CI: 1.08-2.53); serum 25(OH)D (Q(1) vs Q(4): <= 17.9 vs >= 45.1 nmol/L) (RR=1.63; 95% CI: 1.06-2.51); past year history of falls (RR=1.61;95% CI: 1.06-2.48).

Compared with having none (41.9% of women), having three or more clinical risk factors (4.8% of women) increased fracture risk by more than 4-fold, independent of BMD. Having three or more risk factors and being in the lowest tertile of T-score of [total hip/lumbar spine (L1-L4)] was associated with a 14.2-fold greater risk than having no risk factors and being in the highest T-score tertile. Several clinical risk factors were independently associated with all ORFs in healthy Saudi postmenopausal women. The combination of multiple clinical risk factors and low BMD is a very powerful indicator of fracture risk. (C) 2011 Elsevier Inc. All rights reserved.
7. Men's knowledge and attitude towards breast cancer in Saudi Arabia A cross-sectional study

Al-Amoudi SM (Al-Amoudi, Samia M.); Abduljabbar HS (Abduljabbar, Hassan S.)

Abstract

Objectives: To identify men's knowledge and attitude towards early detection of breast cancer.

Methods: This cross-sectional study was conducted at the outpatient clinics of King Abdulaziz University Hospital, Jeddah, Kingdom of Saudi Arabia. Five hundred and fifty participants were selected by systemic randomization. The distributed questionnaire included: demographics, knowledge and its source on breast cancer, beliefs and practice regarding breast self-examination (BSE), mammography, and difficulties that may prevent women from seeking medical help. The questionnaire was filled anonymously and in private.

Results: The response rate was 90.9%, and most were employees (63.2%). Physicians represented 43.4% of the source of knowledge, followed by the internet (40.4%), and last, the media (30.4%). Breast mass was the most common symptom (36.6%), followed by change of breast size (26%) and pain (20.2%), while 24% did not know the symptoms of breast cancer. Approximately 13% believed that all cases of breast cancer ended with mastectomy. Only 57.6% were aware of the importance of BSE in early detection of breast cancer, and approximately 90% did not know the importance of mammography.

Conclusion: Awareness campaigns aimed at husbands and men in general are to be strongly considered. They should encourage their wives and families to enroll in awareness and screening campaigns.

Sources: SAUDI MEDICAL JOURNAL

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Reprint Address: Al-Amoudi, SM (reprint author), King Abdulaziz Univ, Fac Med, Dept Obstet & Gynecol, POB 140295, Jeddah 21333, Saudi Arabia.

Publisher: SAUDI MED J
Web of Science Categories: Medicine, General & Internal Research Areas: General & Internal Medicine Faculty Name: Faculty of Medicine Department: Obstetrics and Gynecology DSR No.: 1685
8. Neglected intra-cervical bizarre foreign object

Abduljabbar HS (Abduljabbar, Hassan S.); Sbenati MA (Sbenati, Majd A.)

Abstract

Foreign objects in the female genital tract neglected for a long period of time may lead to many clinical problems including recurrent vaginal discharge and infertility. We present a case of 3-year long infertility, and 11-year long recurrent vaginal discharge in a 24-year-old female. She was treated empirically with several courses of antibiotics, which did not resolve her symptoms. Before her marriage, the family declined initial attempts to perform a physical examination due to fear of tearing the hymen, which has many social implications in the Kingdom of Saudi Arabia. After her marriage, she suffered from infertility and continued to have the vaginal discharge. On vaginal examination, she was found to have a foreign body in the uterine cervix. It was inserted 13 years ago, and lead to chronic vaginal discharge and infertility. Saudi Med J 2012; Vol. 33(12): 1343-1345
9. Physical Activity in Relation to Serum Sclerostin, Insulin-Like Growth Factor-1, and Bone Turnover Markers in Healthy Premenopausal Women: A Cross-Sectional and a Longitudinal Study

Ardawi MSM (Ardawi, Mohammed-Salleh M.); Rouzi AA (Rouzi, Abdulrahim A.); Qari MH (Qari, Mohammed H.)

Abstract

Context: There is limited information on the effects of mechanical loading caused by physical activity (PA) on sclerostin, IGF-I, and bone turnover markers (BTM). Objective: The objective of the investigation was to study the relationships between serum sclerostin, serum-IGF-I (s-IGF-I), BTM, and the PA level in premenopausal women and to discern how 8-wk of PA training (PAT) affects the serum levels of sclerostin, IGF-I, and BTM. Design: This was a cross-sectional study with a subgroup followed up longitudinally. Settings and Subjects: A total of 1235 randomly selected premenopausal women were cross-sectionally studied. We also followed up 58 of these women longitudinally during an 8-wk course of PAT (4 d/wk) and compared them with 62 controls. All women were medically examined, and bone mineral density (BMD) and serum levels of sclerostin, s-IGF-I, and BTM were determined. Results: Women with PA of greater than 120 min/wk showed significantly lower serum sclerostin (by 36.8%) but higher s-IGF-I (by 107%) levels than sedentary controls. Bone formation markers were also higher in the PA greater than 120 min/wk group compared with the sedentary controls. In the longitudinal study, the 8-wk PAT program led to a decrease in serum sclerostin (by 33.9%, P < 0.0001) but increases in the serum levels of the bone-formation markers and IGF-I (s-IGF-I by 74.2%, P < 0.0001). Conclusions: This study demonstrates that even minor changes in PA are associated with effects on serum levels of sclerostin, IGF-I, and BTM and suggests that sclerostin could be a link between mechanical loading and disuse osteoporosis in humans.

Sources : JOURNAL OF CLINICAL ENDOCRINOLOGY & METABOLISM
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DOI : 10.1210/jc.2011-3361 Cited reference count : 38
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Web of Science Categories : Endocrinology & Metabolism
Research Areas : Endocrinology & Metabolism
Faculty Name : Faculty of Medicine
Department : Obstetrics and Gynecology
DSR No. : 1156
10. The corrected perinatal mortality rate: A hospital-based study in Saudi Arabia

Bondagji NS (Bondagji, Nabeel S.); Kasim EM (Kasim, Eman M.)

Abstract

Objectives: To determine the corrected perinatal mortality rate (PMR) in a single tertiary care center, and to test the effect of unbooked pregnancies on the PMR, and amalgamate the 2 to develop a new terminology known as the extended corrected PMR. Methods: We conducted a retrospective cohort study of all women who delivered at King Abdulaziz University Hospital, Jeddah, Kingdom of Saudi Arabia between January 2000 and December 2010. We recorded all cases of perinatal death and calculated the PMR per annum. The PMR was corrected for extreme prematurity and congenital anomalies. The unbooked cases were reported, and the PMR was further corrected for booking status. For statistical analyses, the Statistical Package for Social Sciences was used for descriptive analysis and tests of significance. Results: The total number of births was 46,677. Seven hundred and seventy-one perinatal deaths were reported, giving a PMR of 16.5 per 1000 per year. The corrected perinatal mortality was 11.0 per 1000. The PMR decreased significantly to 6.4 per 1000 (odds ratio 2.6, 95% confidence interval 1.2-2.4, p=0.001) after correction for booking status. Conclusion: The PMR in our study population is higher than those in developed countries, and when corrected for congenital anomalies and extreme prematurity, it is marginally higher. It was then considerably reduced after correction for booking status.
11. Congenital heart defects in Down syndrome patients from western Saudi Arabia

Al-Aama JY (Al-Aama, Jumana Y.); Bondagji NS (Bondagji, Nabeel S.); El-Harouni AA (El-Harouni, Ashraf A.)

Abstract

Objectives: To characterize congenital heart defects in individuals with Down syndrome (DS) in the Western Region of Saudi Arabia, and compare with studies from other regions of Saudi Arabia and with international figures. Methods: We conducted a prospective study including all patients attending the DS clinic at King Abdulaziz University Hospital, Jeddah, Kingdom of Saudi Arabia between October 2007 and October 2011. All patients underwent full history and physical evaluations, dysmorphologic assessment, chromosomal studies, and echocardiography. Results: A total of 130 individuals (59% males and 41% females) with ages ranging between 0-33 years (mean=5 +/- 4.9) were included. Most individuals (90.9%) had trisomy 21 due to non-disjunction, 5.05% due to Robertsonian translocation, and 4% had mosaicism. Congenital heart defects were found in 86.8% of patients. The majority 71/92 (77%) showed combined cardiac defects, while 21/92 (23%) of DS patients had isolated congenital heart defects (CHD). The most frequent CHDs detected in this study were: patent ductus arteriosis in 44/92 (47.8%), atrial septal defect in 38/92 (41.3%), trivial tricuspid regurge in 31/92 (33.7%), ventricular septal defect in 27/92 (29.3%), and patent foramen oval in 26/92 (28.3%). Conclusion: We found a higher incidence of CHDs among DS individuals from the Western Region, compared to national and international figures. We detected more combined CHD and a different pattern of distribution.

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Reprint Address: Al-Aama, JY (reprint author), King Abdulaziz Univ, Fac Med, Dept Med Genet, Jeddah 21413, Saudi Arabia.
Publisher: SAUDI MED J
Web of Science Categories: Medicine, General & Internal Research Areas: General & Internal Medicine Faculty Name: Faculty of Medicine Department: Obstetrics and Gynecology DSR No.: 1671

136
Decreased serum sclerostin levels in patients with primary hyperparathyroidism: a cross-sectional and a longitudinal study

Ardawi MSM (Ardawi, M. -S. M.); Al-Sibiany AM (Al-Sibiany, A. M.); Bakhsh TM (Bakhsh, T. M.); Rouzi AA (Rouzi, A. A.); Qari MH (Qari, M. H.)

Abstract

Decreased serum sclerostin was evident in patients with primary hyperparathyroidism and was inversely related to parathyroid hormone (PTH). Sclerostin normalized earlier than biochemical bone turnover markers (BTMs) following parathyroidectomy. There is limited information on the changes of serum sclerostin in conditions with chronic PTH excess in humans. The main objectives of the present study were to: (1) examine cross-sectionally the changes of serum sclerostin levels in patients with primary hyperparathyroidism (PHPT), (2) study the time course changes in serum sclerostin in PHPT patients following parathyroidectomy (PTX) followed up longitudinally for 12 months, and (3) compare the changes in serum sclerostin to that of BTMs. We studied 60 PHPT patients and compared them with 74 PTX patients together with 268 age- and sex-matched healthy controls. Also, we followed 27 PTX patients longitudinally at 2, 4, 6, 10, 30, 60, 180, and 360 days postoperatively. Serum sclerostin, BTMs, and minerals were measured. Also, bone mineral density was determined by dual energy X-ray absorptiometry. Patients with PHPT exhibited significantly lower mean serum sclerostin [mean, in picomoles per liter; 95% confidence interval (CI)] (28.98; 27.94-30.03) than that obtained for PTX patients (37.01; 35.75-38.27) and healthy controls (46.22; 45.13-47.31) ( < 0.0001, for each case), respectively. Serum PTH inversely correlated with serum sclerostin ( = -0.651, < 0.0001). Serum sclerostin was normalized in PTX patients by the tenth day postoperatively and remained within the expected reference range thereafter. Significantly decreased serum sclerostin was evidenced in PHPT patients as compared with PTX and euparathyroid controls. The inverse PTH and sclerostin relationship suggests that sclerostin is downregulated by PTH in humans. Serum sclerostin normalized earlier than BTMs following parathyroidectomy.
Defibulation During Vaginal Delivery for Women With Type III Female Genital Mutilation

Rouzi AA (Rouzi, Abdulrahim A.); Al-Sibiani SA (Al-Sibiani, Sharifa A.); Al-Mansouri NM (Al-Mansouri, Nisma M.); Al-Sinati NS (Al-Sinati, Nawal S.); Al-Jahdali EA (Al-Jahdali, Eetedal A.); Darhouse K (Darhouse, Khalid)

Abstract

OBJECTIVE: To assess the routine practice of defibulation during vaginal delivery for women who have undergone female genital mutilation or cutting. MATERIALS AND METHODS: A case-control study was conducted on women from Sudan, Somalia, Ethiopia, Egypt, and Yemen who delivered at King Abdulaziz University Hospital, Jeddah, Saudi Arabia, from January 1, 2000, to November 30, 2011. Women who had defibulation were identified, and their records were examined. For each woman who had defibulation, a woman from the same nationality who delivered without defibulation on the same day or the next days was chosen as a control. Data collected included demographics, mode of delivery, blood loss, intraoperative and postoperative complications, and labor outcome. RESULTS: During the study period, 388 women underwent defibulation during vaginal delivery. Women who did not have defibulation were chosen as a control group (n = 388). In the defibulation group, 300 (77.3%) women were registered during pregnancy; 88 (22.7%) women were unregistered. Defibulation during vaginal delivery was successfully performed by residents and senior residents under the care of the attending on call. No cesarean delivery was performed because of female genital mutilation or cutting, and no spontaneous rupture of the scar occurred. There were no statistically significant differences between women who had defibulation with those who did not or between infibulated registered and unregistered women in the duration of labor, episiotomy rates, blood loss, Apgar score, or fetal birth weight. CONCLUSION: Defibulation during vaginal delivery is a valid management option. Labor attendants should be trained to perform it.
14. Do Saudi Nurses in Primary Health Care Centres have Breast Cancer Knowledge to Promote Breast Cancer Awareness?

Yousuf SA (Yousuf, Shadia Abdullah); Al Amoudi SM (Al Amoudi, Samia Mohammed); Nicolas W (Nicolas, Wafa); Banjar HE (Banjar, Hasna Erfan); Salem SM (Salem, Safaa Mohammed)

Abstract

Background: Breast cancer is one of the leading causes of death among cancer patients in Saudi Arabia. It is known that nurses play a key role in promoting breast cancer awareness among women in any society. Nurses in primary health care centres (PHCC) have more direct contact with general population. This study aimed to investigate nurse knowledge of breast cancer and practice of early screening in PHCC in Jeddah city. Methods: A cross-sectional study was conducted using a self-administered questionnaire to assess the general knowledge of breast cancer, risk factors, and practice of 210 PHCC nurses. Data were analysed using SPSS v. 16. Results: The mean age of the PHCC Nurses was 36.9 (SD +/- 8.6). Only 11% percent scored <50% of the total score for general epidemiological knowledge on breast cancer, about 35% scored <50% of the total score for breast cancer risk factors. Sixty seven percent scored >75% of the total score on breast cancer signs. Majority of nurses 62.8% practiced BSE, but only 4% practiced regularly every month. Some 28% practiced once per year. About 81% of the nurses had not had a clinical breast examination and only 14% had had a mammography. The results of the study failed to show any correlation between the knowledge scores with age, education, year of experience, family history of BC and marital status of the nurses. Conclusion: The results from the study reflect that there is a need to provide continuing nursing education programmes for PHCC nurses to improve their breast cancer knowledge and practice.

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High Serum Sclerostin Predicts the Occurrence of Osteoporotic Fractures in Postmenopausal Women: The Center of Excellence for Osteoporosis Research Study

Ardawi MSM (Ardawi, Mohammed-Salleh M.); Rouzi AA (Rouzi, Abdulrahim A.); Al-Sibiani SA (Al-Sibiani, Sharifa A.); Al-Senani NS (Al-Senani, Nawal S.); Qari MH (Qari, Mohammed H.); Mousa SA (Mousa, Shaker A.)

Abstract

Sclerostin regulates bone formation by inhibiting Wnt pathway signaling. Low circulating sclerostin levels cause high bone mass. We hypothesized that postmenopausal women with increased sclerostin levels have a greater risk for osteoporosis-related fractures. We examined the association between circulating sclerostin together with bone turnover markers and osteoporosis-related fracture risk in 707 postmenopausal women, in a population-based study with a mean follow-up period of 5.2 +/- 1.3 years. Multivariate Cox proportional hazards regression models were used to analyze fracture risk, adjusted for age, body mass index, and other confounding risk factors. High sclerostin levels were strongly associated with increased fracture risk. After adjustment for age and other confounders, the relative fracture risk was more than sevenfold among postmenopausal women for each 1-SD increment increase in sclerostin level. Women in the highest quartile of sclerostin levels had about a 15-fold increase in fracture risk. Results were similar when we compared sclerostin at the 1-year visit to an average of two to three annual measurements. Fracture risk attributable to sclerostin levels was 56.6% in the highest quartile. Only high levels of bone resorption markers (plasma cross-linked C-terminal telopeptide of type 1 collagen [p-CTX], urinary CTx [u-CTX], and urinary N-telopeptide of type 1 collagen [u-NTx]) were predictive of osteoporosis-related fractures but at much lower hazard ratio (HR) values than that of serum sclerostin. Associations between sclerostin levels and fracture risk were independent of bone mineral density and other confounding risk factors. High sclerostin levels are a strong and independent risk factor for osteoporosis-related fractures among postmenopausal women. (C) 2012 American Society for Bone and Mineral Research.
16. Independent predictors of all osteoporosis-related fractures among healthy Saudi postmenopausal women: The CEOR Study

Rouzi AA (Rouzi, Abdulrahim A.); Al-Sibiani SA (Al-Sibiani, Sharifa A.); Al-Senani NS (Al-Senani, Nawal S.); Radaddi RM (Radaddi, Raja M.); Ardawi MSM (Ardawi, Mohammed-Salleh M.)

Abstract

This study was designed to identify independent predictors of all osteoporosis-related fractures (ORFs) among healthy Saudi postmenopausal women. We prospectively followed a cohort of 707 healthy postmenopausal women (mean age, 61.3 +/- 7.2 years) for 5.2 +/- 1.3 years. Data were collected on demographic characteristics, medical history, personal and family history of fractures, lifestyle factors, daily calcium intake, vitamin D supplementation, and physical activity score. Anthropometric parameters, total fractures (30.01 per 1000 women/year), special physical performance tests, bone turnover markers, hormone levels, and bone mineral density (BMD) measurements were performed. The final model consisted of seven independent predictors of ORFs: [lowest quartile (Q((1) under bar)) vs highest quartile (Q((4) under bar))] physical activity score (Q(1) vs Q(4): <= 12.61 vs >= 15.38); relative risk estimate [RR], 2.87; (95% confidence interval [CI]: 1.88-4.38); age >= 60 years vs age<60 years (RR=2.43; 95% CI: 1.49-3.95); hand grip strength (Q(1) vs Q(4): <= 13.88 vs >= 17.28 kg) (RR=1.88; 95% CI: 1.15-3.05); BMD total hip (Q(1) vs Q4: <= 0.784 vs 0.973 g/cm(2)) (RR=1.86; 95% CI: 1.26-2.75); dietary calcium intake (Q(1) vs Q(4): <= 391 vs >= 648 mg/day) (RR=1.66; 95% CI: 1.08-2.53); serum 25(OH)D (Q(1) vs Q(4): <= 17.9 vs >= 45.1 nmol/L) (RR=1.63; 95% CI: 1.06-2.51); and past year history of falls (RR=1.61:95% Cl: 1.06-2.48).

Compared with having none (41.9% of women), having three or more clinical risk factors (4.8% of women) increased fracture risk by more than 4-fold, independent of BMD. Having three or more risk factors and being in the lowest tertile of T-score of [total hip/lumbar spine (L1-L4)1 was associated with a 14.2-fold greater risk than having no risk factors and being in the highest T-score tertile. Several clinical risk factors were independently associated with all ORFs in healthy Saudi postmenopausal women. The combination of multiple clinical risk factors and low BMD is a very powerful indicator of fracture risk. (C) 2011 Elsevier Inc. All rights reserved.
17. Men's knowledge and attitude towards breast cancer in Saudi Arabia: A cross-sectional study

Al-Amoudi SM (Al-Amoudi, Samia M.); Abduljabbar HS (Abduljabbar, Hassan S.)

Abstract

Objectives: To identify men's knowledge and attitude towards early detection of breast cancer.

Methods: This cross-sectional study was conducted at the outpatient clinics of King Abdulaziz University Hospital, Jeddah, Kingdom of Saudi Arabia. Five hundred and fifty participants were selected by systemic randomization. The distributed questionnaire included: demographics, knowledge and its source on breast cancer, beliefs and practice regarding breast self-examination (BSE), mammography, and difficulties that may prevent women from seeking medical help. The questionnaire was filled anonymously and in private. Results: The response rate was 90.9%, and most were employees (63.2%). Physicians represented 43.4% of the source of knowledge, followed by the internet (40.4%), and last, the media (30.4%). Breast mass was the most common symptom (36.6%), followed by change of breast size (26%) and pain (20.2%), while 24% did not know the symptoms of breast cancer. Approximately 13% believed that all cases of breast cancer ended with mastectomy. Only 57.6% were aware of the importance of BSE in early detection of breast cancer, and approximately 90% did not know the importance of mammography. Conclusion: Awareness campaigns aimed at husbands and men in general are to be strongly considered. They should encourage their wives and families to enroll in awareness and screening campaigns.
Neglected intra-cervical bizarre foreign object

Abduljabbar HS (Abduljabbar, Hassan S.); Sbenati MA (Sbenati, Majd A.)

Abstract

Foreign objects in the female genital tract neglected for a long period of time may lead to many clinical problems including recurrent vaginal discharge and infertility. We present a case of 3-year long infertility, and 11-year long recurrent vaginal discharge in a 24-year-old female. She was treated empirically with several courses of antibiotics, which did not resolve her symptoms. Before her marriage, the family declined initial attempts to perform a physical examination due to fear of tearing the hymen, which has many social implications in the Kingdom of Saudi Arabia. After her marriage, she suffered from infertility and continued to have the vaginal discharge. On vaginal examination, she was found to have a foreign body in the uterine cervix. It was inserted 13 years ago, and lead to chronic vaginal discharge and infertility. Saudi Med J 2012; Vol. 33(12): 1343-1345
19. Physical Activity in Relation to Serum Sclerostin, Insulin-Like Growth Factor-1, and Bone Turnover Markers in Healthy Premenopausal Women: A Cross-Sectional and a Longitudinal Study

Ardawi MSM (Ardawi, Mohammed-Salleh M.); Rouzi AA (Rouzi, Abdulrahim A.); Qari MH (Qari, Mohammed H.)

Abstract

Context: There is limited information on the effects of mechanical loading caused by physical activity (PA) on sclerostin, IGF-I, and bone turnover markers (BTM). Objective: The objective of the investigation was to study the relationships between serum sclerostin, serum-IGF-I (s-IGF-I), BTM, and the PA level in premenopausal women and to discern how 8-wk of PA training (PAT) affects the serum levels of sclerostin, IGF-I, and BTM. Design: This was a cross-sectional study with a subgroup followed up longitudinally. Settings and Subjects: A total of 1235 randomly selected premenopausal women were cross-sectionally studied. We also followed up 58 of these women longitudinally during an 8-wk course of PAT (4 d/wk) and compared them with 62 controls. All women were medically examined, and bone mineral density (BMD) and serum levels of sclerostin, s-IGF-I, and BTM were determined. Results: Women with PA of greater than 120 min/wk showed significantly lower serum sclerostin (by 36.8%) but higher s-IGF-I (by 107%) levels than sedentary controls. Bone formation markers were also higher in the PA greater than 120 min/wk group compared with the sedentary controls. In the longitudinal study, the 8-wk PAT program led to a decrease in serum sclerostin (by 33.9%, P < 0.0001) but increases in the serum levels of the bone-formation markers and IGF-I (s-IGF-I by 74.2%, P < 0.0001). Conclusions: This study demonstrates that even minor changes in PA are associated with effects on serum levels of sclerostin, IGF-I, and BTM and suggests that sclerostin could be a link between mechanical loading and disuse osteoporosis in humans.

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20. The corrected perinatal mortality rate: A hospital-based study in Saudi Arabia

Bondagji NS (Bondagji, Nabeel S.); Kasim EM (Kasim, Eman M.)

Abstract

Objectives: To determine the corrected perinatal mortality rate (PMR) in a single tertiary care center, and to test the effect of unbooked pregnancies on the PMR, and amalgamate the 2 to develop a new terminology known as the extended corrected PMR. Methods: We conducted a retrospective cohort study of all women who delivered at King Abdulaziz University Hospital, Jeddah, Kingdom of Saudi Arabia between January 2000 and December 2010. We recorded all cases of perinatal death and calculated the PMR per annum. The PMR was corrected for extreme prematurity and congenital anomalies. The unbooked cases were reported, and the PMR was further corrected for booking status. For statistical analyses, the Statistical Package for Social Sciences was used for descriptive analysis and tests of significance. Results: The total number of births was 46,677. Seven hundred and seventy-one perinatal deaths were reported, giving a PMR of 16.5 per 1000 per year. The corrected perinatal mortality was 11.0 per 1000. The PMR decreased significantly to 6.4 per 1000 (odds ratio 2.6, 95% confidence interval 1.2-2.4, p=0.001) after correction for booking status. Conclusion: The PMR in our study population is higher than those in developed countries, and when corrected for congenital anomalies and extreme prematurity, it is marginally higher. It was then considerably reduced after correction for booking status.
1. Benchmarking the post-accreditation patient safety culture at King Abdulaziz University Hospital

Al-Awa B (Al-Awa, Bahjat); Al Mazrooa A (Al Mazrooa, Adnan); Rayes O (Rayes, Osama); El Hati T (El Hati, Taghreed); Devreux I (Devreux, Isabelle); Al-Noury K (Al-Noury, Khaled); Habib H (Habib, Hamed); Ei-Deek BS (Ei-Deek, Basem Salama)

Abstract

BACKGROUND AND OBJECTIVES: Accreditation is an internationally recognized evaluation process used to assess, promote, and guarantee efficient and effective patient care and safety. Saudi Arabia is one of the first countries in the eastern Mediterranean region to implement health care accreditation standards. This study provides valuable information pertaining to the impact of accreditation in the unique multicultural, multilingual competitive environment at King Abdulaziz University Hospital in Saudi Arabia. The objective of this study was to perform an unbiased assessment of the impact of accreditation on patient safety culture. DESIGN AND SETTING: Cross-sectional retrospective and prospective study post-accreditation at King Abdulaziz University Hospital in Jeddah, Saudi Arabia from January 1, 2006 to December 31, 2009. PATIENTS AND METHODS: A total of 870 registered nurses from eight different cultural backgrounds working at 22 hospital units were given electronic access to the survey. A 5-point Likert scale was used, ranging from 1 for "Strongly disagree" to 5 for "Strongly agree." The survey results were matched with the international benchmarks from the Hospital Survey on Patient Safety Culture, 2005. RESULTS: A total of 605 nurses answered the survey questionnaire. The comparison between the percentages of nurses at King Abdulaziz University Hospital (KAUH) and those at international hospitals who answered "Agree" and "Strongly agree" showed a post-accreditation improved perception of the culture of patient safety. CONCLUSIONS: Accreditation has an overall statistically significant improvement in the perception of the culture of patient safety.

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Department: Ophthalmology
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Prevalence of cervical ribs and elongated transverse processes in Saudi Arabia

Bokhari RF (Bokhari, Rakan F.); Al-Sayyad MJ (Al-Sayyad, Mohammad J.); Baesa SS (Baesa, Saleh S.)

Abstract

Objectives: To describe the prevalence of the full spectrum of transverse process elongation and cervical ribs for the first time in over a decade in a Saudi population, trying to assess any changes in the interim. Methods: A cross-sectional hospital based study was conducted at King Abdulaziz University Hospital, Jeddah, Saudi Arabia in the 3-month period between October and December 2010. The study comprised a radiologic review of 1,000 consecutive chest radiographs of adults from the digital database looking for the presence of cervical ribs and elongated transverse processes. Results: Our study showed that cervical ribs are present in 3.4% of our population; a female to male ratio was 2.01 to 1. They were bilateral in 41% of those afflicted individuals. Elongated transverse processes were present in 23%. Conclusion: The prevalence of cervical ribs and elongated transverse processes in our population is higher than that reported in other populations. It also shows an interim increase in prevalence when compared with a previous study on our population more than a decade back.
1. Compression Screw Fixation of the Syndesmosis

*Darwish HH (Darwish, Husam H.); Glisson RR (Glisson, Richard R.); DeOrio JK (DeOrio, James K.)*

**Abstract**

Background: Screw fixation of syndesmotic injuries facilitates ligament healing and restoration of ankle stability, but little information regarding screw performance is available. This study quantified the reduction obtained with three common 2-screw configurations using different methods of reduction and novel methods of subsequently provoking and measuring diastasis. Methods: Seven fresh-frozen lower extremities were subjected to 100 N medial and lateral tibia loads with the talus restrained. Tibia displacement, indicative of ankle clear space, was recorded. The syndesmosis and distal interosseous ligament were disrupted and measurements repeated. A pressure sensor was inserted into the syndesmosis and three 2-screw fixation methods were evaluated in each specimen: 3.5-mm screws engaging both fibula cortices and the lateral tibial cortex, inserted while using a clamp to achieve syndesmosis reduction; 3.5-mm lag screws engaging both tibia cortices; and 4.5-mm lag screws engaging both tibia cortices. One thousand 100 N medial and lateral loads were applied and clear space and syndesmosis compression were quantified every 100 cycles. Results: Normal ankle clear space averaged 1.98 mm and increased to 3.02 mm after syndesmosis disruption. Fixation decreased the clear space to 1.36 mm, 1.22 mm, and 1.19 mm for the 3.5-mm tricortical, 3.5-mm lag, and 4.5-mm lag screws, respectively, remaining steady throughout cyclic loading. Syndesmosis compression dropped markedly from 61N to 23 N on clamp release after tricortical screw insertion. The 3.5-mm and 4.5-mm lag screws exerted 112 N and 131 N, respectively, after insertion, and maintained compression several-fold greater than the tricortical screws during cyclic loading. No difference was demonstrable between the two lag screw sizes. Conclusion: While all screw configurations successfully reduced ankle clear space, syndesmosis reduction was more effectively maintained by lag screws than by tricortical screws inserted with clamp reduction. The transient nature of compression achieved by the reduction clamp suggests that use of lag screws for this application may more reliably maintain syndesmosis reduction in vivo. Clinical Relevance: Optimizing reduction of syndesmosis injuries is critical for favorable outcomes. This study offers concrete information on screw performance in this application.

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2. Prevalence of cervical ribs and elongated transverse processes in Saudi Arabia

Bokhari RF (Bokhari, Rakan F.); Al-Sayyad MJ (Al-Sayyad, Mohammad J.); Baeesa SS (Baeesa, Saleh S.)

Abstract

Objectives: To describe the prevalence of the full spectrum of transverse process elongation and cervical ribs for the first time in over a decade in a Saudi population, trying to assess any changes in the interim. Methods: A cross-sectional hospital based study was conducted at King Abdulaziz University Hospital, Jeddah, Saudi Arabia in the 3-month period between October and December 2010. The study comprised a radiologic review of 1,000 consecutive chest radiographs of adults from the digital database looking for the presence of cervical ribs and elongated transverse processes. Results: Our study showed that cervical ribs are present in 3.4% of our population; a female to male ratio was 2.01 to 1. They were bilateral in 41% of those afflicted individuals. Elongated transverse processes were present in 23%. Conclusion: The prevalence of cervical ribs and elongated transverse processes in our population is higher than that reported in other populations. It also shows an interim increase in prevalence when compared with a previous study on our population more than a decade back.
DEPARTMENT
PATHOLOGY
Evaluation of the Potential Cardioprotective Activity of Some Saudi Plants against Doxorubicin Toxicity

Ashour OM (Ashour, Osama M.); Abdel-Naim AB (Abdel-Naim, Ashraf B.); Abdallah HM (Abdallah, Hossam M.); Nagy AA (Nagy, Ayman A.); Mohamadin AM (Mohamadin, Ahmed M.); Abdel-Sattar EA (Abdel-Sattar, Essam A.)

Abstract

Doxorubicin (DOX) is an anthracycline antibiotic widely used as a chemotherapeutic agent in the treatment of several tumours. However, its cardiac toxicity limits its use at maximum therapeutic doses. Most studies implicated increased oxidative stress as the major determinant of DOX cardiotoxicity. The local Saudi flora is very rich in a variety of plants of quite known folkloric or traditional medicinal uses. Tribulus macropterus Boiss., Olea europaea L. subsp. africana (Mill.) P. S. Green, Tamarix aphylla (L.) H. Karst., Cynomorium coccineum L., Cordia myxa L., Calligonum comosum L' Her, and Withania somnifera (L.) Dunal are Saudi plants known to have antioxidant activities. The aim of the current study was to explore the potential protective effects of methanolic extracts of these seven Saudi plants against DOX-induced cardiotoxicity in rats. Two plants showed promising cardioprotective potential in the order Calligonum comosum > Cordia myxa. The two plant extracts showed potent in vitro radical scavenging and antioxidant properties. They significantly protected against DOX-induced alterations in cardiac oxidative stress markers (GSH and MDA) and cardiac serum markers (CK-MB and LDH activities). Additionally, histopathological examination indicated a protection against DOX-induced cardiotoxicity. In conclusion, C. comosum and C. myxa exerted protective activity against DOX-induced cardiotoxicity, which is, at least partly, due to their antioxidant effect.
2. BRAF mutations in thyroid tumors from an ethnically diverse group

Schulten HJ (Schulten, Hans-Juergen); Salama S (Salama, Sherine); Al-Mansouri Z (Al-Mansouri, Zehoor); Alotibi R (Alotibi, Reem); Al-Ghamdi K (Al-Ghamdi, Khalid); Al-Hamour OA (Al-Hamour, Osman Abdel); Sayadi H (Sayadi, Hassan); Al-Aradi H (Al-Aradi, Hosam); Al-Johari A (Al-Johari, Adel); Huwait E (Huwait, Etimad); Gari M (Gari, Mamdooh); Al-Zahtani MH (Al-Zahtani, Mohammed Hussain); Al-Maghrabi J (Al-Maghrabi, Jaudah)

Abstract

Background: The molecular etiology of thyroid carcinoma (TC) and other thyroid diseases which may present malignant precursor lesions is not fully explored yet. The purpose of this study was to estimate frequency, type and clinicopathological value of BRAF exon 15 mutations in different types of cancerous and non-cancerous thyroid lesions originating in an ethnically diverse population. Methods: BRAF exon 15 was sequenced in 381 cases of thyroid lesions including Hashimoto's thyroiditis, nodular goiters, hyperplastic nodules, follicular adenomas (FA), papillary TC (PTC), follicular variant PTC (FVPTC), microcarcinomas of PTC (micro PTC; tumor size <= 1 cm), follicular TC (FTC), and non-well differentiated TC (non-WDTC). Results: We identified BRAF mutations in one of 69 FA, 72 of 115 (63%) PTC, seven of 42 (17%) FVPTC, 10 of 56 (18%) micro PTC, one of 17 (6%) FTC, and one of eight (13%) non-WDTC. Most of the cases showed the common V600E mutation. One case each of PTC, FVPTC, and FTC harbored a K601E mutation. A novel BRAF mutation was identified in a FA leading to deletion of threonine at codon 599 (p.T599del). A rare 3-base pair insertion was detected in a stage III PTC resulting in duplication of threonine at codon 599 (p.T599dup). Patients with PTC harboring no BRAF mutation (BRAF(wt)) were on average younger than those with a BRAF mutation (BRAF(mut)) in the PTC (36.6 years vs. 43.8 years). Older age (>= 45 years) in patients with PTC was significantly associated with tumor size >= 4 cm (P = 0.018), vessel invasion (P = 0.004), and distant metastasis (P = 0.001). Lymph node (LN) involvement in PTC significantly correlated with tumor size (P = 0.044), and vessel invasion (P = 0.013). Of notice, taken the whole TC group, family history of thyroid disease positively correlated with capsular invasion (P = 0.025). Conclusions: Older age is manifold associated with unfavorable tumor markers in our series. The K601E identified in a PTC, FVPTC, and FTC seems to be more distributed among different histological types of TC than previously thought. The T599del is a yet undescribed mutation and the rare T599dup has not been reported as a mutation in PTC so far.
3. Childhood Brain Lesions: 15 years Experience of King Abdulaziz University Hospital (1995-2010)

AlJhdali HM (AlJhdali, Hessa M.); Jamal AA (Jamal, Awatif A.)

Abstract

Pediatric age brain lesions can be of neoplastic and non-neoplastic nature, the latter include: congenital malformations, inflammatory processes, vascular and cystic lesions. One of most concerning brain pathology in childhood age is CNS tumors. Malignant brain tumors are the second most common type of pediatric cancer after leukemia. Cancer of the brain and central nervous system comprised 17% of malignancies in children younger than 20 years of age. In Saudi Arabia childhood CNS cancer accounted 11.3% of all childhood cancers. The current study presented the experience of King Abdulaziz University Hospital regarding Childhood Brain Lesions diagnosed over 15 years period (1995 to 2010) considering frequency, morphological pattern and the demographic data (age distribution and gender) of these lesions and further compared the findings with the national and international experience. A retrospective study conducted using a computerized search of the archives of Pathology Department at King Abdulaziz University Hospital in Jeddah; from 1995 tell 2010 to retrieve all the brain cases inclusive of all brain regions. In 15 years period 71 cases (25.1%) out of total brain lesions (283 cases) were childhood brain lesions. Non-neoplastic lesions were 40.8% and neoplastic lesions were 59.2%. Congenital malformations (23.9%) were the commonest nonneoplastic brain lesions, while neuroepithelial tumors ranked first among neoplastic lesions and accounted for 25.4% of childhood brain lesions (CBL) in the study. The astrocytic tumors comprised the majority of the glial tumors (94.4%) with mean age of 8.3 years and M: F ratio 1.4:1. The pilocytic astrocytoma represented 64.7% of all astrocytic tumors. The second malignant tumor was embryonal tumors (medulloblastoma) and accounted for 18.3% of CBL with male predominance. In conclusion, a single institute experience was reported revealing that primary CNS tumors were the commonest brain lesions in the pediatric age. Furthermore, in concurrence with the national and international experience, astrocytic tumors ranked as first primary CNS tumor of childhood age, followed by medulloblastoma. [Hessa M. AlJhdali and Awatif A. Jamal. Childhood Brain Lesions: 15 years Experience of King Abdulaziz University Hospital (1995-2010). Life Sci J 2012; 9(2): 617-623]. (ISSN: 1097-8135). http://www.lifesciencesite.com. 94
4. Collapsing Focal Segmental Glomerulosclerosis in a Young Child

Kari JA (Kari, Jameela A.); Jalalah S (Jalalah, Sawsan); Singh A (Singh, Ajay); Mokhtar G (Mokhtar, Ghadeer)

Abstract

NOT AVILIBLE
5. Cyclooxygenase-2 expression as a predictor of outcome in colorectal carcinoma

Al-Maghrabi J (Al-Maghrabi, Jaudah); Buhmeida A (Buhmeida, Abdelbaset); Emam E (Emam, Eman); Syrjanen K (Syrjanen, Kari); Sibiany A (Sibiany, Abdulrahman); Al-Qahtani M (Al-Qahtani, Mohmmad); Al-Ahwal M (Al-Ahwal, Mahmoud)

Abstract

AIM: To correlate cyclooxygenase-2 (COX-2) expression profile with clinical and pathological variables to assess their prognostic/predictive value in colorectal carcinoma (CRC). METHODS: Archival tumor samples were analyzed using immunohistochemistry for COX-2 expression in 94 patients with CRC. Patients were diagnosed and treated at the Departments of Surgery and Oncology, King Abdulaziz University Hospital, Saudi Arabia. RESULTS: Fifty-six percent of the tumors showed positive cytoplasmic COX-2 expression, whereas 44% of cases were completely COX-2-negative. There were no significant correlations between COX-2 expression and sex, age, grade or tumor location. However, COX-2 expression revealed a significant correlation with tumor stage (P = 0.01) and distant metastasis (P = 0.02), and a borderline association with lymph node involvement (P = 0.07). Tumors with high COX-2 expression showed a higher recurrence rate than tumors with no expression (P < 0.009). In univariate Kaplan-Meier survival analysis, there was a significant (P = 0.026) difference in disease-free survival between COX-2-positive and negative tumors in favor of the latter. COX-2 expression did not significantly predict disease-specific survival, which was much shorter for COX-2-positive tumors. In multivariate (COX) models, COX-2 did not appear among the independent predictors of disease-free survival or diseasespecific survival. CONCLUSION: COX-2 expression seems to provide useful prognostic information in CRC, while predicting the patients at high risk for recurrent disease. (C) 2012 Baishideng. All rights reserved.
6. Decreased Immunoexpression of Standard Form of CD44 Is an Independent Favourable Predictor of Nodal Metastasis in Colorectal Carcinoma

Al-Maghrabi J (Al-Maghrabi, Jaudah); Gomaa W (Gomaa, Wafaey); Buhmeida A (Buhmeida, Abdelbaset); Al-Qahtani M (Al-Qahtani, Mohmmad); Al-Ahwal M (Al-Ahwal, Mahmoud)

Abstract

Background: CD44 is a transmembrane glycoprotein and is associated with cell-matrix and cell-cell interactions. CD44 expression was shown to be relevant to tumour progression in various types of human cancer. The objective of this study was to investigate the relationship between the expression levels of the standard form of CD44 (CD44s), and clinicopathological characteristics in a subset of colorectal carcinomas (CRC). Patients and Methods: A total of 96 cases of CRC were retrieved from the archives at the Department of Pathology at King Abdulaziz University, Jeddah, KSA. Immunohistochemistry was performed using antibodies to CD44s. A cut-off of <10% of positive neoplastic cells was used to define low expression, 10-50% to define moderate expression and >50% to define extensive expression. Statistical tests were used to determine the association of CD44s with clinicopathological characteristics in a subset of colorectal carcinomas and survival. Results: Immunostaining results showed that there was no association between CD44 immunoexpression and age of patients, tumour grade, depth of invasion, vascular invasion, recurrence and survival. CD44s immunolabelling was found to have an association with nodal metastasis and to be an independent predictor of nodal metastasis. Conclusion: Loss of CD44s immunolabelling in CRC is an independent favourable predictor of regional lymph node metastasis. On the other hand, CD44s loss has no significant association with disease recurrence or survival. Extensive in vivo and in vitro molecular studies are required to elucidate the possible mechanistic association of CD44s with tumour initiation, progression, invasion and metastasis in primary CRC, and in nodal and distant metastases.
Faculty Name: Faculty of Medicine
Department: Pathology
DSR No.: 513
7. Effect of selective and non-selective cyclooxygenase inhibitors on doxorubicin-induced cardiotoxicity and nephrotoxicity in rats

Ibrahim MA (Ibrahim, Mohamed A.); Morsy MA (Morsy, Mohamed A.); Hafez HM (Hafez, Heba M.); Gomaa WM (Gomaa, Wafaey M.); Abdelrahman AM (Abdelrahman, Aly M.)

Abstract

Context: Doxorubicin (DX) is a highly effective chemotherapeutic agent used widely in the treatment of solid tumors; however, its optimal use was associated with cardiotoxicity and nephrotoxicity. The exact mechanism of DX-induced cardiotoxicity and nephrotoxicity is not fully explored. Induction of cyclooxygenase-2 (COX-2) activity in either cardiac or renal tissue by DX has been previously reported, indicating a possible role of COX-2 in DX-induced tissue injury. However, the nature of this role in either tissue injury is an issue of controversy. Objective: This study was the first that simultaneously evaluated the effects of a selective COX-2 inhibitor, nimesulide, and a non-selective COX-inhibitor, indomethacin, on DX-induced cardiotoxicity and nephrotoxicity in male Wistar rats. Materials and methods: Rats were allocated into four groups. Control group, DX group (received 15 mg/kg, ip), DX + nimesulide (10 mg/kg/day, po) group, and DX + indomethacin (2 mg/kg/day, po) group. Nimesulide and indomethacin were started at the same day of DX injection and continued for 5 days. Results: The results of the present study showed that inhibition of COX-2 either by selective or non-selective COX-2 inhibitor ameliorated DX-induced cardiotoxicity but aggravated DX-induced nephrotoxicity in rats, as evidenced biochemically and histopathologically. Discussion and conclusion: Our study indicates that production of COX-2 is organ specific; consequently, the differential effect of COX-inhibitors should be considered in DX-treated patients. However, a wide scale experiment is needed for further confirmation and testing other members of COX-inhibitors (e.g. celecoxib and diclofenac).
8. Ewing's sarcoma family tumors in the western region of Saudi Arabia: A pathological experience from 2 tertiary medical centers

Gomaa WM (Gomaa, Wafaey M.); Al-Maghrabi JA (Al3Maghrabi, Jaudah A.)

Abstract

Objectives: To review the pattern of Ewing's sarcoma/primitive neuroectodermal tumor (ES/PNET) in 2 medical centers in the western region of Saudi Arabia. Methods: We retrospectively analyzed the pathological data of patients diagnosed with ES/PNET in 2 tertiary medical centers in the western region of Saudi Arabia (King Abdulaziz University Hospital, [March 1995 to November 2011], and King Faisal Specialized Hospital [April 2003 to 12 December 2010]). Age, gender, and site of tumors were analyzed. Results: Sixty-nine cases were diagnosed as ES/PNET. The age range was 3-62 years (mean 22 years). Male cases were more than the female. Approximately 28.9% of cases presented within the skeleton, and 71.1% cases were presented as a soft tissue disease. Bone affection was higher in the iliac bone. Long bones were affected at a lower frequency. Soft tissue affection showed a higher incidence in the head and neck region followed by the lower limb. Conclusions: The current study represents a review of a large number of Ewing's sarcoma family of tumors in western Saudi Arabia. Cases showed clinicopathological features comparable to those reported from other locations worldwide apart from relatively higher soft tissue affection than skeletal affection and a higher incidence of head and neck involvement by soft tissue ES/PNET. Further, multicenter studies (epidemiological and genetic) are recommended to obtain profiling of the disease and effect on outcome and therapy.
9. Gastrointestinal basidiobolomycosis in a child; an unusual fungal infection mimicking fistulising Crohn’s disease

Saadah OI (Saadah, Omar I.); Farouq MF (Farouq, Mohammad F.); Al Daajani N (Al Daajani, Nawaf); Kamal JS (Kamal, Jamal S.); Ghanem AT (Ghanem, Ahmad T.)

Abstract

Background: Gastrointestinal basidiobolomycosis is a rare disease caused by the fungus Basidiobolus ranarum. It has been reported in both children and adults. The disease mainly affects the colon and the small bowel; however, cases of the stomach, liver, pancreas, and renal system being affected have been reported. Case report: A 2 year old boy presented with the following symptoms; abdominal pain, vomiting, diarrhea, fever and palpable right iliac fossa mass. Laboratory investigations revealed elevated inflammatory markers and peripheral eosinophilia. Colonoscopy showed severely inflamed mucosa of the terminal ileum, cecum and ascending colon. CT scan of the abdomen demonstrated an inflammatory mass with wall thickening of the terminal ileum and the colon. Surgical exploration demonstrated retroperitoneal mass and inflamed terminal ileum, cecum and ascending colon. Upon laparotomy, multiple internal fistulas involving the bowel loops, the urinary bladder, the right ureter and the gallbladder were observed. Further investigations using histopathology of the resected diseased bowel showed extensive necrosis, multinucleated giant cells and numerous eosinophils and large fungal hyphae surrounded by strongly eosinophilic material were seen in the tissue suggestive of B. ranarum infection. The patient responded well to treatment with voriconazole. Conclusion: Gastrointestinal basidiobolomycosis should be considered in the differential diagnosis of every child presenting with abdominal pain, fever and palpable abdominal mass with peripheral eosinophilia. The presence of bowel inflammation and fistulas should not preclude such diagnosis. (C) 2011 European Crohn’s and Colitis Organisation.
Gastrointestinal basidiobolomycosis in a child; an unusual fungal infection mimicking fistulising Crohn's disease

Saadah OI (Saadah, Omar I.); Farouq MF (Farouq, Mohammad F.); Al Daajani N (Al Daajani, Nawaf); Kamal JS (Kamal, Jamal S.); Ghanem AT (Ghanem, Ahmad T.)

Abstract

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<th>Faculty Name</th>
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<td>Department</td>
<td>Pathology</td>
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<td>DSR No.</td>
<td>1174</td>
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11. Histopathological pattern of ovarian neoplasms and their age distribution in the western region of Saudi Arabia

Abdullah LS (Abdullah, Layla S.); Bondagji NS (Bondagji, Nabeel S.)

Abstract

Objectives: To identify the different histopathological types of ovarian neoplasms and their age distribution. Methods: This is a retrospective study where ovarian neoplasms received by the Pathology Department of King Abdulaziz University, Jeddah, Saudi Arabia between January 1995 and December 2010 were reviewed and their frequencies in different age groups were calculated. Results: Out of 618 ovarian specimens studied, 382 (61.8%) were ovarian neoplasms while 38.2% were non-neoplastic functional cysts. Benign neoplasms (n=278; 72.8%) were more common than borderline (n=20; 5.2%) and malignant ones (n=84; 22%) in all age groups. Surface epithelial neoplasms were the most common (61%) followed by germ cell (28%), gender cord stromal (7.6%) and metastatic tumors (3.4%). The most common benign neoplasm was serous cystadenoma (44.6%) and the most common malignant was serous cystadenocarcinoma (33.3%). The most common ovarian neoplasm below the age of 20 years was surface epithelial tumors (n=24) followed by germ cell tumor (16 cases). Benign neoplasms (n=213) were more common than malignant ones (n=42) in the age group from 20-51 years. Malignant ovarian neoplasms (35 out of the 71) were more common than benign (34 cases) in the age above 52. Conclusion: Benign ovarian neoplasms are more common than malignant ones. The most common benign ovarian neoplasm is serous cystadenoma and the commonest malignant neoplasm is serous cystadenocarcinoma. The prevalence of malignant ovarian neoplasms increases with increasing age.

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Web of Science Categories: Medicine, General & Internal
Research Areas: General & Internal Medicine
Faculty Name: Faculty of Medicine
Department: Pathology
DSR No.: 1692
12. Malignant spiradenoma/cylindroma of the vulva

Emam EE (Emam, Eman E.); Sawan AS (Sawan, Ali S.); Al-Tamimi SR (Al-Tamimi, Soha R.); Molah RM (Molah, Rihab M.)

Abstract

Malignant spiradenoma/cylindroma of the vulva is an extremely rare adnexal tumor. We report the clinicopathological features of a 58-year-old woman who presented with malignant spiradenoma/cylindroma originating in the vulva and metastasized to the inguinal lymph nodes. Surgical excision with adequate margins and lymph node dissection was performed. Sections from the case were stained with Periodic Acid Schiff stain before and after diastase. Immunohistochemical study of the case using antibodies to carcinoembryonic antigen (CEA), epithelial membrane antigen (EMA), cytokeratin5/6 (CK 5/6), p63, cytokeratin7 (CK 7), smooth muscle actin (SMA), and S100 were performed. Microscopic examination revealed that spiradenoma nodules were positive to EMA and CEA. However, the cylindroma lobules showed strong immunoreactivity to p63 and CK5/6, whereas both tumor components were negative to S100, SMA, and CK7. Malignant spitadenoma/cylindroma is a rare tumor with controversial histogenesis that should be considered in the differential diagnosis of primary adnexal carcinoma and secondary metastatic tumors in the vulva. Further studies on a wider cohort should be encouraged. Saudi Med J 2012; Vol. 33 (11): 1229-1233
Metastatic breast neuroendocrine tumor from the rectum

Al-Maghrabi JA (Al-Maghrabi, Jaudah A.); Zekri J (Zekri, Jamal)

Abstract

Metastatic breast neuroendocrine tumor is an exceedingly rare entity. They are commonly initially misdiagnosed as primary breast carcinoma. Correct diagnosis of this tumor is crucial owing to the different clinical management from primary breast tumor. We report an additional case of metastatic breast neuroendocrine tumor from the rectum that behaved in an aggressive fashion and failed to respond to chemotherapy treatment.

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Research Areas: General & Internal Medicine
Faculty Name: Faculty of Medicine
Department: Pathology
DSR No.: 1682
Pattern of cervical smear abnormalities using the revised Bethesda system in a tertiary care hospital in Western Saudi Arabia

Altaf FJ (Altaf, Fadwa J.); Mufti ST (Mufti, Shagufta T.)

Abstract

Objectives: To evaluate Pap smear (PS) diagnoses at a tertiary care hospital using the revised Bethesda system, and to compare the results with other similar studies. Methods: We designed a retrospective study to review all PS from the Cytopathology Department of King Abdulaziz University Hospital, Jeddah, Saudi Arabia from January 2005 to December 2009. Results: Of the 7297 cases reviewed, 1254 cases (17.3%) had epithelial cell abnormalities. The categories included: atypical squamous cell of undetermined significance (ASC-US) found in 9.3%, atypical squamous cell, cannot exclude high squamous intraepithelial lesion (ASC-H) in 0.8%, low grade squamous intraepithelial lesion (LSIL) in 2.7%, and high grade squamous cell lesion (HSIL) in 0.9%. The mean age incidence (MAI) was 40 years for ASC-US, 42 years for ASC-H, 47 years for LSIL, and 45 years for MAT. Squamous cell carcinoma (SCC) was found in 0.06% with mean age incidence of 46 years. In the atypical glandular cell category, there was 3.2% atypical glandular cell of undetermined clinical significance not otherwise specified, 0.1% atypical glandular cells favoring neoplasm, and 0.08% atypical endometrial cells favoring neoplasm. Conclusion: The incidence of abnormal PS has increased from previously 4.7%, to 17.3% in the present study. The ASC-US among total PS examined has also significantly increased. The increase in the number of positive PS raises concerns of whether the new BS results are an artificial increase in the prevalence and the predictive value of cytology to some extent.

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Publisher : SAUDI MED J
Web of Science Categories : Medicine, General & Internal
Research Areas : General & Internal Medicine
Faculty Name : Faculty of Medicine
Department : Pathology
DSR No. : 1678
Pattern of cutaneous melanoma at King AbdulAziz University Hospital, Jeddah, Saudi Arabia

Mufti ST (Mufti, Shagufta Tahir)

Abstract

Objective: This study was performed to determine the pattern of CM (cutaneous melanoma) among Saudi patients at King AbdulAziz University Hospital, Jeddah, Saudi Arabia. Methodology: The analysis included 139 skin cancers histological diagnosed among Saudi patients between Jan 1995 and Jan 2011. Pattern of CM by age, sex and anatomic location was examined along with the possible risk factors implicated. Results: Among the 139 cases of skin cancer in Saudis there were 16(11.5%) cases of CM. CM ranked as the fourth skin cancer in the order of frequency with a mean age of 52 years and equal gender distribution. The predominant pattern of distribution was acral 68.7%. Risk factors involved mainly were exposure to pesticides and history of high solar exposure in childhood. Conclusion: Incidence of CM continues to be remain relatively stable over a period of past two decades across different regions of the Kingdom which is contrary to the incidence and pattern of CM in the West. Risk factors other than UV radiation, such as occupational exposure to pesticides, variable UV radiation susceptibility, genetic predisposition could be involved among the Saudis.
16. Prevalence of celiac disease in children with type 1 diabetes mellitus screened by anti-tissue transglutaminase antibody from Western Saudi Arabia

Saadah OI (Saadah, Omar I.); Al-Agha AE (Al-Agha, Abdolmoein E.); Al Nahdi HM (Al Nahdi, Haifa M.); Bokhary RY (Bokhary, Rana Y.); Bin Talib YY (Bin Talib, Yagoub Y.); Al-Mughales JA (Al-Mughales, Jamil A.); Al Bokhari SM (Al Bokhari, Shatha M.)

Abstract

Objectives: To determine the prevalence of celiac disease (CD) in children and adolescents with type 1 diabetes mellitus (T1DM) using anti-tissue transglutaminase (anti-tTG) antibodies. Methods: A retrospective hospital record-based study of all children and adolescents with T1DM who were screened for CD was conducted at the Pediatric Diabetes Clinic of King Abdulaziz University Hospital, Jeddah, Kingdom of Saudi Arabia (KSA) between October 2002 and June 2011. Results: A total of 430 children with T1DM were screened by anti-tTG antibody. The median age at screening was 10.7 years (range; 1.1-18). The study cohort included 232 (54%) Saudi patients, and females constituted 58.8% of the total number. AntitTG antibody screening was positive in 91 (21.2%) patients. Forty-eight (11.2%) out of 430 children screened had biopsyproven CD. Forty-two patients with CD (87.5%) were asymptomatic. Patients with CD had less weight for age (p=0.007), and height for age (p=0.03) z-scores than non-CD patients. They showed more association with anemia (p<0.001), low albumin level (p<0.001), and autoimmune thyroid disease (p=0.002). There was no difference in the mean glycosylated hemoglobin level (p=0.38), or insulin requirements (p=0.74) between the 2 groups. Conclusion: The prevalence of CD in patients with T1DM from the Western region of KSA is considered among the highest reported. Therefore, routine screening through proper serological testing is recommended.
Web of Science Categories: Medicine, General & Internal
Research Areas: General & Internal Medicine
Faculty Name: Faculty of Medicine
Department: Pathology
DSR No.: 1684
The importance of second opinion in surgical pathology referral material of lymphoma

Al-Maghrabi JA (Al-Maghrabi, Jaudah A.); Sayadi HH (Sayadi, Hassan H.)

Abstract

The surgical pathology material of patients referred to 2 tertiary care hospitals in the western region of Saudi Arabia (King Faisal Specialist Hospital and Research Centre and King Abdulaziz University Hospital, Jeddah, Saudi Arabia), for evaluation or therapy for lymphoma over a 10-year period (August 2001 to August 2011), were reviewed. This study included only cases in which the patient referred with a diagnosis previously made at the primary institution. Results: Of 560 cases, the second opinion diagnosis differed significantly from the initial diagnosis in 39 cases (7%). These include changing the diagnoses from lymphoma to non-lymphoma lesions, change the type of lymphoma with major clinical impact, and change from reactive/non-diagnostic to lymphoma. Conclusion: Second opinion surgical pathology for lymphomas can result in major therapeutic and prognostic modifications. Thus, review of the original histologic material is recommended prior to a major therapeutic decision, and to maximize the discovery of clinically relevant major disagreements. Stringent adherence to institution’s second opinion policy is an important quality assurance measure in surgical pathology.

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Research Areas : General & Internal Medicine
Faculty Name : Faculty of Medicine
Department : Pathology
DSR No. : 1686
18. Therapeutic role of telmisartan against acetaminophen hepatotoxicity in mice

Fouad AA (Fouad, Amr A.); Al-Mulhim AS (Al-Mulhim, Abdulruhman S.); Jresat I (Jresat, Iyad); Gomaa W (Gomaa, Wafaey)

Abstract

The therapeutic potential of telmisartan was investigated in mice exposed to acute hepatotoxicity induced by a single dose of acetaminophen (500 mg/kg, p.o.). Telmisartan treatment (two i.p. injections, 10 mg/kg, each) was given at 1 and 12 h following acetaminophen administration. Telmisartan significantly reduced the level of serum alanine aminotransferase, and suppressed lipid peroxidation, prevented the depletion of the antioxidant defenses (reduced glutathione level, and catalase and superoxide dismutase activities), and attenuated the elevation of nitric oxide resulted from acetaminophen administration. Also, telmisartan ameliorated the histopathological liver tissue damage induced by acetaminophen. Immunohistochemical analysis revealed that telmisartan significantly decreased the expression of inducible nitric oxide synthase, tumor necrosis factor-alpha, cyclooxygenase-2, nuclearfactor-kappa beta and caspase-3 in liver tissue of mice received acetaminophen overdose. In conclusion, telmisartan can be considered as a potential therapeutic option to protect against acute acetaminophen hepatotoxicity commonly encountered in clinical practice. (c) 2012 Elsevier B.V. All rights reserved.

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Research Areas: Pharmacology & Pharmacy
Faculty Name: Faculty of Medicine
Department: Pathology
DSR No.: 901
DEPARTMENT
PEDIATRIC
1. Childhood onset of Crohn disease: experience from a university teaching hospital in Saudi Arabia

Saadah OI (Saadah, Omar I.)

Abstract

Ann Saudi Med 2012; 32(6): 596-602 DOI: 10.5144/0256-4947.2012.596 BACKGROUND AND OBJECTIVES: Crohn disease (CD) is an increasingly recognized problem in Saudi Arabia. The aim of this study was to describe the clinical pattern in children and adolescents with CD seen at King Abdulaziz University Hospital (KAUH), Jeddah, Saudi Arabia. DESIGN AND SETTING: Retrospective hospital-based study conducted on data collected for the period between January 2001 and March 2010. PATIENTS AND METHODS: Data for all children and adolescents diagnosed at KAUH with CD in the period were retrieved and analyzed. RESULTS: Ninety-six patients were identified. The median age at diagnosis was 11.3 years (range, 0.12-17.6 years). Fifty (52.1%) were males. Sixty-four (66.7%) were Saudis. Nine (9.4%) had a first degree relative with inflammatory bowel disease. The most common presenting symptoms were diarrhea (88.5%), weight loss (84.2%) and anorexia (80.2%). At least one extraintestinal manifestation occurred in 24% of patients. Forty-two percent were underweight and 19% had short stature. The most common distribution was ileocolonic (37.5%), followed by colonic in 31.2%. Twenty-five (26%) patients had perianal disease, 13 (13.5%) had strictures and 15 (15.6%) had penetrating disease. Laboratory investigations revealed anemia in 84.4%, thrombocytosis in 50%, hypoalbuminemia in 64.6%, elevated erythrocyte sedimentation rate (ESR) in 50% and elevated C-reactive protein in 58.3%. Induction of remission was achieved with enteral nutrition in 20% of patients and with corticosteroids in the remaining. CONCLUSIONS: The clinical pattern of CD in children from the Western Province of Saudi Arabia was found to be similar to reports from the West. Pediatricians should be aware of the varying presentations of CD. Early referral to specialized centers is crucial.
2. Collapsing Focal Segmental Glomerulosclerosis in a Young Child

Kari JA (Kari, Jameela A.); Jalalah S (Jalalah, Sawsan); Singh A (Singh, Ajay); Mokhtar G (Mokhtar, Ghadeer)

Abstract

Not Available
3. Eosinophilic Esophagitis in Children from Western Saudi Arabia: Relative Frequency, Clinical, Pathological, Endoscopic, and Immunological Study

SaadahOI(Saadah,OmarI.);AburizizaAJ(ABuriziza,AbdullahJ.);AbuShakraRI
(ABuShakra,Rafat I.)

Abstract

Background and Purpose. Eosinophilic esophagitis (EE) is an evolving allergic disease with an accelerated incidence. The purpose of this study was to delineate the relative frequency and clinicopathological characteristics of EE in children from western Saudi Arabia. Methods. Children with EE were studied retrospectively between October 2002 and December 2011 at King Abdulaziz University Hospital and International Medical Center. Results. The relative frequency of EE was 0.85% of 2127 upper gastrointestinal endoscopies performed during the study period. Eighteen patients were identified with EE. The median age was 8.6 years (range, 1.5-18 years). Thirteen (72.2%) were males. Dysphagia and vomiting were the most common symptoms. Ten (55.6%) children had history of atopy. Testing for food allergy by skin prick test was positive in 11 (61.1%). The most common endoscopic abnormalities were mucosal longitudinal furrow and loss of vascular pattern followed by patchy specks and strictures. The histopathological findings included increased intraepithelial eosinophils, eosinophilic degranulation, lamina propria fibrosis, and eosinophilic microabscesses. Treatment was initiated by swallowed topical corticosteroids in 12 (66.7%) and oral prednisolone in 6 (33%) patients, followed by low dose of topical corticosteroids and dietary elimination. Conclusions. Eosinophilic esophagitis is an uncommon but evolving problem. A high index of suspicion is required for early identifications and intervention to avoid possible complications.
4. Gastrointestinal basidiobolomycosis in a child; an unusual fungal infection mimicking fistulising Crohn's disease

Saadah OI (Saadah, Omar I.); Farouq MF (Farouq, Mohammad F.); Al Daajani N (Al Daajani, Nawaf); Kamal JS (Kamal, Jamal S.); Ghanem AT (Ghanem, Ahmad T.)

Abstract

Background: Gastrointestinal basidiobolomycosis is a rare disease caused by the fungus Basidiobolus ranarum. It has been reported in both children and adults. The disease mainly affects the colon and the small bowel; however, cases of the stomach, liver, pancreas, and renal system being affected have been reported. Case report: A 2 year old boy presented with the following symptoms; abdominal pain, vomiting, diarrhea, fever and palpable right iliac fossa mass. Laboratory investigations revealed elevated inflammatory markers and peripheral eosinophilia. Colonoscopy showed severely inflamed mucosa of the terminal ileum, cecum and ascending colon. CT scan of the abdomen demonstrated an inflammatory mass with wall thickening of the terminal ileum and the colon. Surgical exploration demonstrated retroperitoneal mass and inflamed terminal ileum, cecum and ascending colon. Upon laparotomy, multiple internal fistulas involving the bowel loops, the urinary bladder, the right ureter and the gallbladder were observed. Further investigations using histopathology of the resected diseased bowel showed extensive necrosis, multinucleated giant cells and numerous eosinophils and large fungal hyphae surrounded by strongly eosinophilic material were seen in the tissue suggestive of B. ranarum infection. The patient responded well to treatment with voriconazole. Conclusion: Gastrointestinal basidiobolomycosis should be considered in the differential diagnosis of every child presenting with abdominal pain, fever and palpable abdominal mass with peripheral eosinophilia. The presence of bowel inflammation and fistulas should not preclude such diagnosis. (C) 2011 European Crohn’s and Colitis Organisation.

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Research Areas: Gastroenterology & Hepatology
Faculty Name: Faculty of Medicine
Department: Pediatric DSR No.: 1173
5. Gastrointestinal basidiobolomycosis in a child; an unusual fungal infection mimicking fistulising Crohn's disease

Saadah OI (Saadah, Omar I.); Farouq MF (Farouq, Mohammad F.); Al Daajani N (Al Daajani, Nawaf); Kamal JS (Kamal, Jamal S.); Ghanem AT (Ghanem, Ahmad T.)

Abstract

Background: Gastrointestinal basidiobolomycosis is a rare disease caused by the fungus Basidiobolus ranarum. It has been reported in both children and adults. The disease mainly affects the colon and the small bowel; however, cases of the stomach, liver, pancreas, and renal system being affected have been reported. Case report: A 2 year old boy presented with the following symptoms; abdominal pain, vomiting, diarrhea, fever and palpable right iliac fossa mass. Laboratory investigations revealed elevated inflammatory markers and peripheral eosinophilia. Colonoscopy showed severely inflamed mucosa of the terminal ileum, cecum and ascending colon. CT scan of the abdomen demonstrated an inflammatory mass with wall thickening of the terminal ileum and the colon. Surgical exploration demonstrated retroperitoneal mass and inflamed terminal ileum, cecum and ascending colon. Upon laparotomy, multiple internal fistulas involving the bowel loops, the urinary bladder, the right ureter and the gallbladder were observed. Further investigations using histopathology of the resected diseased bowel showed extensive necrosis, multinucleated giant cells and numerous eosinophils and large fungal hyphae surrounded by strongly eosinophilic material were seen in the tissue suggestive of B. ranarum infection. The patient responded well to treatment with voriconazole. Conclusion: Gastrointestinal basidiobolomycosis should be considered in the differential diagnosis of every child presenting with abdominal pain, fever and palpable abdominal mass with peripheral eosinophilia. The presence of bowel inflammation and fistulas should not preclude such diagnosis. (C) 2011 European Crohn’s and Colitis Organisation. Published by Elsevier B.V. All rights reserved

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[Saadah, OI (reprint author), King Abdulaziz Univ, Fac Med, Dept Pediat, POB 80215, Jeddah 21589, Saudi Arabia]

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Research Areas: Gastroenterology & Hepatology
Faculty Name: Faculty of Medicine
Department: Pediatric
DSR No.: 1174
6. Identification of a novel ZNF469 mutation in a large family with Ehlers-Danlos phenotype

Al-Owain M (Al-Owain, Mohammed); Al-Dosari MS (Al-Dosari, Mohammed S.); Sunker A (Sunker, Asma); Shuaib T (Shuaib, Taghreed); Alkuraya FS (Alkuraya, Fowzan S.)

Abstract

Brittle cornea syndrome (BCS) is a genetically heterogeneous disorder characterized by extreme corneal fragility and thinning, which may lead to spontaneous or trauma-induced corneal rupture. BCS-1 and BCS-2 are caused by recessive mutations in ZNF469 and PRDM5, respectively. Both genes play a role in the regulatory pathway of corneal development and maintenance. We report a consanguineous family with five patients affected with the cardinal ocular features of BCS and significant musculoskeletal findings primarily in the form of joint hypermobility and severe kyphoscoliosis. The patients had thin velvety skin, hallux valgus, variable sensorineural hearing loss and arachnodactyly. Interestingly, one of the patients additionally had phenylketonuria and showed a milder ophthalmological and musculoskeletal phenotype than his affected siblings. The urinary pyridinoline and deoxypyridinoline concentrations and their ratios were mildly elevated indicating increased bone-collagen turnover. A novel homozygous 14 bp duplication in exon 2 of ZNF469 (c.8817_8830dup) was uncovered by direct sequencing. This family highlights the phenotypic overlap between BCS and Ehlers-Danlos syndrome. (C) 2012 Elsevier B.V. All rights reserved.
7. Metabolic cataract in an 8-year-old diabetic boy

Al-Agha A (Al-Agha, Abdulmoein); Ocheltree A (Ocheltree, Ali); Rashad R (Rashad, Reem); Abdelsalam I (Abdelsalam, Ihab)

Abstract

Al-Agha A, Ocheltree A, Rashad R, Abdelsalam I. Metabolic cataract in an 8-year-old diabetic boy. Mirk J Pediatr 2012; 54: 83-85. Cataracts are uncommon among children with insulin-dependent diabetes mellitus (IDDM); nonetheless, they could result in significant morbidity and a decrease in the life quality of these children. Duration of diabetes and metabolic control over the disease are important contributing factors in the development and advancement of cataract among diabetic pediatric patients. Ophthalmological examination at the time of IDDM diagnosis is recommended. Furthermore, persistent poor diabetic control and/or blurred vision in IDDM pediatric patients warrant prompt ophthalmological evaluation. We present the case of an 8-year-old with poorly controlled IDDM, who presented with bilateral cataract 27 months after his diagnosis with IDDM. We believe that such a presentation is rare; thus, increasing awareness of this particular diabetic complication is imperative.
8. Pediatrician knowledge, perception, and experience on child abuse and neglect in Saudi Arabia

Habib HS (Habib, Hamed S.)

Abstract

BACKGROUND AND OBJECTIVES: The objective of this study was to assess the knowledge, perception, and professional experience of pediatricians in Saudi Arabia regarding child abuse and neglect. DESIGN AND SETTING: Descriptive study during a one day pediatric conference held on King King Abdulaziz University Hospital, a tertiary care teaching hospital in western Saudi Arabia. PATIENTS AND METHODS: The study targeted 198 attendees who were invited from different healthcare sectors in the country. RESULTS: The overall knowledge of participants about some important aspects of child abuse and negligence was adequate, ranging between 82% and 91%. However, their knowledge about reporting cases of child abuse and neglect was quite deficient, ranging between 66% and 79%. As for "professional experience about child abuse and negligence," it showed considerable variation between participants ranging between 43% and 82%, in which pediatricians who received their medical education in Saudi Arabia scored statistically significantly higher, while pediatricians who received their medical education in Western countries scored higher in all other aspects of the study. CONCLUSIONS: Currently, the knowledge and clinical experience on the subject of child abuse and neglect in Saudi Arabia is enough to adopt a comprehensive strategy for the prevention and interventions of child maltreatment at all levels. Pediatricians are expected to play a key role by leading and facilitating this process.

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Reprint Address: Habib, HS (reprint author), King Abdulaziz Univ, Dept Pediat, Coll Med, Jeddah 21413, Saudi Arabia.
Publisher: K FAISAL SPEC HOSP RES CENTRE
Web of Science Categories: Medicine, General & Internal
Research Areas: General & Internal Medicine
Faculty Name: Faculty of Medicine
Department: Pediatric
DSR No.: 509
9. Pharmacokinetic approach for optimizing gentamicin use in neonates during the first week of life

Ali AS (Ali, Ahmed S.); Farouq MF (Farouq, M. FadulAllah); Al-Faiify KA (Al-Faiify, Khalid A.)

Abstract

Introduction: Gentamicin is an essential drug for the treatment of sepsis in neonates. The current work aims to optimize the use of gentamicin in neonates during the first week of life. Materials and Methods: The study was done at King Abdul-Aziz university hospital. Seventy-three neonates who received gentamicin 4-5 mg/kg and dosing interval at 24-48 hr were enrolled. Peak and trough serum levels of gentamicin were determined by immunoassay. Pharmacokinetic parameters were estimated assuming one compartment model and first order elimination kinetic. Analysis of variance was used to test the difference between means using Statistical Package for the Social Sciences (SPSS) Version 13. Results: About 73% of the patients attained peak gentamicin level within therapeutic range (6-12 μg/ml), while 12% showed potentially toxic trough level (>2 μg/ml). The incidence of trough level was higher among patients receiving the drug every 24 hr. There was no clear correlation between high trough level and serum creatinine. High volume of distribution (Vd) of gentamicin (0.40-0.45) L/kg was observed. Neonates with proven sepsis showed higher mean Vd. Those with extremely low birth weight showed significantly longer half life of 11.5 h. Other neonates showed half life of (8-9) hr. Conclusions: Gentamicin dose of 4.5 mg/kg every 36 hr is recommended as simple empirical regimen during the 1st week of life for neonates with normal or LBW and every 48 hr for those with ELBW

Sources: INDIAN JOURNAL OF PHARMACOLOGY
ISO Source Abbrev: Indian J. Pharmacol
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Year: 2012 Volume: 44 Issue: 1 Pages: 36-40
DOI: 10.4103/0253-7613.91864 Cited reference count: 18
Language: English Document Type: Article
Reprint Address: Ali, AS (reprint author), King Abdulaziz Univ, Dept Pharmacol, Jeddah 21413, Saudi Arabia
Publisher: MEDKNOW PUBLICATIONS
Web of Science Categories: Pharmacology & Pharmacy
Research Areas: Pharmacology & Pharmacy
Faculty Name: Faculty of Medicine
Department: Pediatric
DSR No.: 1007
10. Prevalence of celiac disease in children with type 1 diabetes mellitus screened by anti-tissue transglutaminase antibody from Western Saudi Arabia

Saadah OI (Saadah, Omar I.); Al-Agha AE (Al-Agha, Abdolmoein E.); Al Nahdi HM (Al Nahdi, Haifa M.); Bokhary RY (Bokhary, Rana Y.); Bin Talib YY (Bin Talib, Yagoub Y.); Al-Mughales JA (Al-Mughales, Jamil A.); Al Bokhari SM (Al Bokhari, Shatha M.)

Abstract

Objectives: To determine the prevalence of celiac disease (CD) in children and adolescents with type 1 diabetes mellitus (T1DM) using anti-tissue transglutaminase (anti-tTG) antibodies. Methods: A retrospective hospital record-based study of all children and adolescents with T1DM who were screened for CD was conducted at the Pediatric Diabetes Clinic of King Abdulaziz University Hospital, Jeddah, Kingdom of Saudi Arabia (KSA) between October 2002 and June 2011. Results: A total of 430 children with T1DM were screened by anti-tTG antibody. The median age at screening was 10.7 years (range; 1.1-18). The study cohort included 232 (54%) Saudi patients, and females constituted 58.8% of the total number. AntitTG antibody screening was positive in 91(21.2%) patients. Forty-eight (11.2%) out of 430 children screened had biopsy-proven CD. Forty-two patients with CD (87.5%) were asymptomatic. Patients with CD had less weight for age (p=0.007), and height for age (p=0.03) z-scores than non-CD patients. They showed more association with anemia (p<0.001), low albumin level (p<0.001), and autoimmune thyroid disease (p=0.002). There was no difference in the mean glycosylated hemoglobin level (p=0.38), or insulin requirements (p=0.74) between the 2 groups. Conclusion: The prevalence of CD in patients with T1DM from the Western region of KSA is considered among the highest reported. Therefore, routine screening through proper serological testing is recommended.
Web of Science Categories: Medicine, General & Internal Research Areas: General & Internal Medicine Faculty Name: Faculty of Medicine Department: Pediatric DSR No.: 1684
11. Prevalence of Smoking among Female Medical Students in Saudai Arabia

Azhar A (Azhar, Ahmad); Alsayed N (Alsayed, Nouf)

Abstract

Background: Women make up half of the world's population, and comprise 20% of the world's one billion smokers. The aim of this study was to assess the prevalence of smoking among female medical students in comparison to female non-medical students, and to assess the importance of medical education and knowledge in decreasing the prevalence of smoking among female university students in Saudi Arabia. Method: We used a self-administered questionnaire to collect cross-sectional data from a randomly selected sample of 320 female students attending King Abdul-Aziz University, Jeddah. Medical students comprised 50% of the sample. Results: A total of 310 students (96.9%) completed and returned the questionnaire. The prevalence of smoking was higher in non-medical female students (4.2%) compared to medical female students (0.32%) (P < 0.001). Conclusion: The prevalence of smoking is low among female medical students compared to female non-medical students, presumably because of their awareness, level of education, and knowledge of the risks to health associated with smoking. Our study highlights the need for increased knowledge, health education, and awareness of the risks of smoking to reduce smoking among female university students.

Sources

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Web of Science Categories: Oncology
Research Areas: Oncology
Faculty Name: Faculty of Medicine
Department: Pediatric
DSR No.: 604
12. Propionic Acidemia Associated With Visual Hallucinations

Shuaib T (Shuaib, Taghreed); Al-Hashmi N (Al-Hashmi, Nadia); Ghaziuddin M (Ghaziuddin, Mohammad); Megdad E (Megdad, Eman); Abebe D (Abebe, Dejene); Al-Saif A (Al-Saif, Amr); Doubi A (Doubi, Alaa); Aldhalaan H (Aldhalaan, Hesham); Abouzied ME (Abouzied, Mo)

Abstract

Propionic acidemia, an autosomal recessive disorder, is a common form of organic aciduria resulting from the deficiency of propionyl-CoA carboxylase. It is characterized by frequent and potentially lethal episodes of metabolic acidosis often accompanied by hyperammonemia. A wide range of brain abnormalities have been reported in propionic acidemia. We report recurrent visual hallucinations in 2 children with propionic acidemia. Four visual hallucination events were observed in the 2 patients. Three episodes were preceded by an intercurrent illness, and 2 were associated with mild metabolic decompensation. The 2 events in one patient were associated with a seizure disorder with abnormal electroencephalogram. Brain magnetic resonance imaging showed abnormal basal ganglia and faint temporo-occipital swelling bilaterally. This is probably the first report of visual hallucinations in propionic acidemia and should alert the treating clinicians to look for visual hallucinations in patients with organic acidurias, especially in an unusually anxious child.

Sources: JOURNAL OF CHILD NEUROLOGY
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DOI: 10.1177/0883073811426929 Cited reference count: 27
Language: English Document Type: Article
Reprint Address: Al-Owain, M (reprint author), King Faisal Specialist Hosp & Res Ctr, Dept Med Genet, Riyadh 11211, Saudi Arabia
Publisher: SAGE PUBLICATIONS INC
Web of Science Categories: Clinical Neurology; Pediatrics
Research Areas: Neurosciences & Neurology; Pediatrics
Faculty Name: Faculty of Medicine
Department: Pediatric
DSR No.: 1153
Ruptured giant middle cerebral artery aneurysm in infancy

Al-Youbi RA (Al-Youbi, Reem A.); Binmahfoodh MS (Binmahfoodh, Mohammed S.); Kamfar HZ (Kamfar, Hayat Z.); Jan MM (Jan, Mohammed M.)

Abstract

Intracranial aneurysms are uncommon in children. Rupture of giant intracranial aneurysms is extremely uncommon in infants even in autopsy studies. In this report, we present an unusual case of ruptured giant middle cerebral artery aneurysm in an 11-month-old female infant who presented acutely with unresponsiveness and seizures. The aneurysm was clipped during an urgent craniotomy for evacuation of an associated hematoma. She recovered slowly with mild residual right-sided weakness. Follow up arterial angiography revealed no residual or other aneurysms. Further follow up revealed motor delay and recurrent partial seizures. Active physiotherapy was performed and she could walk independently by 3 years of age. We conclude that intracranial aneurysms have to be considered in the differential diagnosis of infants presenting with acute raised intracranial pressure. Favorable outcome is noted in children who are managed promptly in hospitals with neurosurgical units.
Smith-Lemli-Opitz syndrome among Arabs

Al-Owain M (Al-Owain, M.); Imtiaz F (Imtiaz, F.); Shuaib T (Shuaib, T.); Edrees A (Edrees, A.); Al-Amoudi M (Al-Amoudi, M.); Sakati N (Sakati, N.); Al-Hassnan Z (Al-Hassnan, Z.); Bamashmous H (Bamashmous, H.); Rahbeeni Z (Rahbeeni, Z.); Al-Ameer S (Al-Ameer, S).

Abstract

Al-Owain M, Imtiaz F, Shuaib T, Edrees A, Al-Amoudi M, Sakati N, Al-Hassnan Z, Bamashmous H, Rahbeeni Z, Al-Ameer S, Faqeih E, Meyer B, Al-Hashem A, Garout W, Al-Odaib A, Rashed M, Al-Aama JY. SmithLemliOpitz syndrome among Arabs. SmithLemliOpitz syndrome (SLOS) is an autosomal recessive disorder of variable presentation caused by the deficiency of the 3 beta-hydroxycholesterol 7-reductase. Over the past 10 years, our biochemical laboratory has screened 191 plasma samples for possible SLOS, measuring the plasma cholesterol and 7-dehydrocholesterol using gas chromatographymass spectrometry (GC-MS). The SLOS was confirmed in only five Arab patients with growth retardation, global developmental delay, dysmorphic features, and 23 toe syndactyly, among other findings. All cases represented moderate to severe form of SLOS. One patient had a unique cardiovascular malformation (cor triatriatum with significant obstruction of the right pulmonary veins). Two previously reported N287K (861 C>A) and R352Q (1055 G>A) and a novel R352L (1055 G>T) mutations were identified in the DHCR7 gene in these patients. The paper sheds light on this rare disease among Arabs and reviews all reported SLOS cases in the Arab population.

Sources

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Document Type: Article
Reprint Address: Al-Owain, M (reprint author), King Faisal Specialist Hosp & Res Ctr, Dept Med Genet, MBC 75, Riyadh 11211, Saudi Arabia.
Publisher: WILEY-BLACKWELL
Web of Science Categories: Genetics & Heredity
Research Areas: Genetics & Heredity
Faculty Name: Faculty of Medicine
Department: Pediatric
DSR No.: 775
15. Vitamin D insufficiency and deficiency in children with chronic kidney disease

Kari JA (Kari, Jameela Abdulaziz); El Desoky SM (El Desoky, Sherif Mohamed); El-Morshedy SM (El-Morshedy, Salah Mohamed); Habib HS (Habib, Hamid Saed)

Abstract

BACKGROUND AND OBJECTIVES: Hypovitaminosis D is a frequent condition in normal populations. Children with chronic kidney disease (CKD) present a high risk of developing complications due to hypovitaminosis D. Our aim was to determine the frequency of vitamin D insufficiency/deficiency in children with different stages of CKD who were followed up at King Abdulaziz University Hospital (KAUH), Jeddah, Saudi Arabia. DESIGN AND SETTING: University hospital-based case-control study of children followed up between March 2010 and March 2011. PATIENTS AND METHODS: Blood was extracted from children with CKD to measure urea, creatinine, hemoglobin, calcium, phosphorus, alkaline phosphatase, intact parathyroid hormone (iPTH), and vitamin D3 levels. We calculated correlations between iPTH and vitamin D levels, and associations between vitamin D levels and CKD stages. RESULTS: The frequency of vitamin D insufficiency/deficiency was high among the cases and controls. Children with CKD had significantly lower levels of vitamin D than their peers with normal kidney function (P=.05) with a mean (SD) level of 17.5 (9.9) ng/mL versus 21.0 (13.4) ng/mL for the control group. Among the children with CKD, 36 (45.0%) had vitamin D insufficiency, 24 (30.0%) had vitamin D deficiency, and 10 (12.5%) had severe deficiency. There was a positive correlation between vitamin D3 level and CKD stages (Kendall tau=0.22, P=.003). A significant association existed between glomerular filtration rate and vitamin D3 deficiency (P=.002). There was a significant negative correlation between iPTH and vitamin D3 concentrations (Spearman correlation coefficient=−0.27, P=.01). A significant association existed between age and vitamin D3 level (P<.0001). CONCLUSION: Vitamin D insufficiency/deficiency is more frequent in children with CKD than in those with normal kidney function.
DEPARTMENT
PHARMACOLOGY
Chronic obstructive pulmonary disease and associated healthcare resource consumption in the Middle East and North Africa: The BREATHE study

Polatli M (Polatli, Mehmet); Ben Kheder A (Ben Kheder, Ali); Wali S (Wali, Siraj); Javed A (Javed, Arshad); Khattab A (Khattab, Adel); Mahboub B (Mahboub, Bassam); Iraqi G (Iraqi, Ghali); Nejjari C (Nejjari, Chakib); Taright S (Taright, Samya); Koniski ML (Koniski, Marie-Louise); Rashid N (Rashid, Nauman); El Hasnaoui A (El Hasnaoui, Abdelkader)

Abstract

Data on COPD-related healthcare resources use are rarely documented in developing countries. This article presents data on COPD-related healthcare resource consumption in the Middle East, North Africa and Pakistan and addresses the association of this variable with illness severity. A large survey of COPE was conducted in eleven countries of the region, namely Algeria, Egypt, Jordan, Lebanon, Morocco, Pakistan, Saudi-Arabia, Syria, Tunisia, Turkey and United Arab Emirates, using a standardised methodology. A total of 62,086 subjects were screened. This identified 2,187 subjects fulfilling the "epidemiological" definition of CORD. A detailed questionnaire was administered to document data on COPD-related healthcare consumption. Symptom severity was assessed using the CORD Assessment Test (CAT). 1,392 subjects were analysable. Physician consultations were the most frequently used healthcare resource, ranging from 43,118 [95% CI: 755-85,548] consultations in UAE to 4,276,800 [95% CI: 2,320,164-6,230,763] in Pakistan, followed by emergency room visits, ranging from 15,917 [95% CI: 0-34,807] visits in UAE to 683,697 [95% CI: 496,993-869,737] in Turkey and hospitalisations, ranging from 15,563 [95% CI: 7,911-23,215] in UAE to 476,674 [95% CI: 301,258-652,090] in Turkey. The use of each resource increased proportionally with the GOLD 2011 severity groups and was significantly (p < 0.0001) higher in subjects with more symptoms compared to those with lower symptoms and in subjects with exacerbations to those without exacerbations. The occurrence of exacerbations and the CAT score were independently associated with use of each healthcare resource. In conclusion, the BREATHE study revealed that physician consultation is the most frequently CORD-related healthcare resource used in the region. It showed that the deterioration of CORD symptoms and the frequency of exacerbations raised healthcare resource consumption. (C) 2012 Elsevier Ltd. All rights reserved.

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Language : English Document Type : Article
Reprint Address : El Hasnaoui, A (reprint author), GlaxoSmithKline, POB 50199, Dubai, U Arab Emirates.
Publisher : W B SAUNDERS CO LTD
Web of Science Categories : Cardiac & Cardiovascular Systems; Respiratory System
Research Areas : Cardi ovascular System & Cardiology; Respiratory System
Faculty Name : Faculty of Medicine
Department : Pharmacology
DSR No. : 1649
2. Comparative analysis of hemagglutinin of 2009 H1N1 influenza A pandemic indicates its evolution to 1918 H1N1 pandemic

Masoodi TA (Masoodi, Tariq Ahmad); Shaik NA (Shaik, Noor Ahmad); Shafi G (Shafi, Gowhar); Munshi A (Munshi, Anjana); Ahamed AK (Ahamed, A. Khaleel); Masoodi ZA (Masoodi, Zahid A.)

Abstract

To gain insight into the possible origin of the hemagglutinin of 2009 outbreak, we performed its comparative analysis with hemagglutinin of influenza viral strains from 2005 to 2008 and the past pandemics of 1977, 1968, 1957 and 1918. This insilico analysis showed a maximum sequence similarity between 2009 and 1918 pandemics. Primary structure analysis, antigenic and glycosylation site analyses revealed that this protein has evolved from 1918 pandemic. Phylogenetic analysis of HA amino acid sequence of 2009 influenza A (H1N1) viruses indicated that this virus possesses a distinctive evolutionary trait with 1918 influenza A virus. Although the disordered sequences are different among all the isolates, the disordered positions and sequences between 2009 and 1918 isolates show a greater similarity. Thus these analyses contribute to the evidence of the evolution of 2009 pandemic from 1918 influenza pandemic. This is the first computational evolutionary analysis of HA protein of 2009 H1N1 pandemic. (C) 2011 Elsevier B.V. All rights reserved.
3. Distribution of COPD-related symptoms in the Middle East and North Africa: Results of the BREATHE study

Tageldin MA (Tageldin, Mohamed Awad); Nafti S (Nafti, Salim); Khan JA (Khan, Javaid Ahmed); Nejjari C (Nejjari, Chakib); Beji M (Beji, Majed); Mahboub B (Mahboub, Bassam); Obeidat NM (Obeidat, Nathir M.); Uzaslan E (Uzaslan, Esra); Sayiner A (Sayiner, Abdullah); Wali S (Wali, Siraj); Rashid N (Rashid, Nauman); El Hasnaoui A (El Hasnaoui, Abdelkader)

Abstract

Chronic obstructive pulmonary disease (COPD) is a major cause of morbidity and mortality worldwide. However, its epidemiology in many developing countries is poorly characterised. The objective of this analysis was to evaluate respiratory symptoms which could be COPD-related in a large sample of individuals aged 40 years in ten countries in the Middle East and North Africa (Algeria, Egypt, Jordan, Lebanon, Morocco, Saudi Arabia, Syria, Tunisia, Turkey and United Arab Emirates), together with Pakistan, using a standardised methodology. A random sample of 457,258 telephone numbers was contacted. A screening questionnaire was administered to each eligible participant, which included six questions relating to respiratory symptoms. Of 65,154 eligible subjects, 62,086 agreed to participate and 61,551 provided usable data. The age- and gender-adjusted prevalence of symptoms (persistent productive cough or breathlessness or both) was 14.3% [95% CI: 14.0-14.6%], ranging from 7.2% in UAE to 19.1% in Algeria. Symptoms were more frequent (p < 0.0001) in women (16.7%) than in men (12.2%). The adjusted prevalence of COPD according to the "epidemiological" definition (symptoms or diagnosis and cigarette use >= 10 pack-years) was 3.6% [95% CI: 3.5-3.7%] (range: 1.9% in UAE to 6.1% in Syria). COPD was more frequent (p < 0.0001) in men (5.2%) than in women (1.8%). The frequency of symptoms was significantly higher in cigarette smokers (p < 0.001), as well as in waterpipe users (p < 0.026). In conclusion, the prevalence of COPD in this region seems to be lower than that reported in industrialised countries. Under-reporting and risk factors other than smoking may contribute to this difference. (C) 2012 Elsevier Ltd. All rights reserved.
4. Does Selenium Ameliorate Toxic Effects of Prenatal Aluminium on Brain of Full Term Rat Fetuses?

Al Saggaf SM (Al Saggaf, Samar M.); Abdel-Hamid GA (Abdel-Hamid, Ghada A.); Hagras M (Hagras, Magda); Saleh HA (Saleh, Hamid A.)

Abstract

Aluminum (Al) has been implicated in the pathogenesis of dialysis dementia and Alzheimer's diseases. The present study aimed to investigate the protective effect of selenium on fetal parietal cortex treated with aluminum chloride. Eighty pregnant rats were divided into two groups (Control and Aluminium). Aluminium treated group was given oral AlCl3, (150 mg kg(-1) body weight/day) for 3 months before mating. Pregnant rats were randomly divided in to four groups (20 dams in each), control, Al-treated, control + Selenium (200 μg/kg/day) and Al + Selenium. Al and Selenium was administered through in. tragastric tube from GD1 to GD20. All growth parameters significantly reduced in all Al-treated groups. AlCl3 induced increase thickness of pia matter and increase glia fibers in the molecular layer, disruption, shrinkage and degeneration of neurons in all cortical layers. Parietal cortex in fetuses treated with selenium and AlCl3 had nearly control appearance. Also, AlCl3 induced significant reduction of layer I and the total thickness of parietal cortex. Selenium when added to AlCl3 significantly reduced all harmful effect of AlCl3 on fetal growth parameters, histopathological changes and increased thickness of layer I of parietal cortex in rat fetuses when compared with control. It is concluded that oral AlCl3 had deleterious effects on cerebral cortex of rat fetuses whereas selenium alleviated these negative effects.
5. Impact of pharmacovigilance on adverse drug reactions reporting in hospitalized internal medicine patients at Saudi Arabian teaching hospital

Khan LM (Khan, Lateef M.); Al-Harthi SE (Al-Harthi, Sameer E.); Saadah OI (Saadah, Omar I.); Al-Amoudi AB (Al-Amoudi, Ahmed B.); Sulaiman MI (Sulaiman, Mansour I.); Ibrahim IM (Ibrahim, Ibrahim M.)

Abstract

Objectives: To determine the incidence, diversity of ADRs, and impact of pharmacovigilance on reporting. Methods: This prospective and retrospective study was carried out in the Department of Medicine, KingAbdulaziz University Hospital, Jeddah, Kingdom of Saudi Arabia between January to December 2011 in 600 patients of ADR. Data regarding age and gender distribution of the patients, incidence rate, drugs, body systems/organs involved in ADR, time of occurrence of adverse drug reactions, total number of drugs administered, and impact of pharmacovigilance on finding the incidence rate of ADR were recorded. Comparison of the 2 data was carried out to determine the impact of pharmacovigilance. Results: Incidence rate of ADRs in retrospective study was 3.1% and 5.5% in the prospective study. The highest incidence of ADR (retrospective 15% and prospective 14.5%) was observed in both groups in patients receiving more than 10 drugs. The frequency of ADR in relation to age in both groups showed higher in patients of age >60 years; it was 52.7% in retrospective study and 54.5% in prospective study. Antibiotics were the more frequently involved in ADR, (48.5% in prospective study and 36.9% in retrospective study). The system most commonly involved in ADR was gastrointestinal tract 47.4% in retrospective study and 57.6% in prospective study. None of the ADR proved to be fatal. Conclusion: Low incidence of hospitalized ADR in our study (5.5%) is due to lack of awareness in healthcare professionals in reporting ADR. Undoubtedly, pharmacovigilance brought more patients with ADR to record.
In vitro cytotoxic screening of selected Saudi medicinal plants

Almehdar H (Almehdar, Hussein); Abdallah HM (Abdallah, Hossam M.); Osman AMM (Osman, Abdel-Moneim M.); Abdel-Sattar EA (Abdel-Sattar, Essam A.)

Abstract

Many natural products from plants have been identified to exert anticancer activity. It might be expected to be a challenge to look at the Saudi plants in order to discover new molecules which may have anticancer activity. The methanolic extracts of forty species of plants traditionally used in Saudi Arabia for the treatment of a variety of diseases were tested in vitro for their potential anticancer activity on different human cancer cell lines. The cytotoxic activity of the methanolic extracts of the tested plants were determined using three human cancer cell lines, namely, breast cancer (MCF7), hepatocellular carcinoma (HEPG2), and cervix cancer (HELA) cells. In addition, human normal melanocyte (HFB4) was used as normal nonmalignant cells. Sulforhodamine B colorimetric assay was used to evaluate the in vitro cytotoxic activity of the different extracts. The growth inhibition of 50% (IC50) for each extract was calculated from the optical density of treated and untreated cells. Doxorubicin, a broad-spectrum anticancer drug, was used as the positive control. Nine plant extracts were chosen for further fractionation based on their activity and availability. Interesting cytotoxic activity was observed for Hypoestes forskoalii, Withania somnifera, Solanum glabratum, Adenium obesum, Pistacia vera oleoresin, Caralluma quadrangula, Eulophia petersii, Phragmanthera austroarabica, and Asparagus officinalis. Other extracts showed poor activity.
Mechanisms of Cardioprotective Effect of Aged Garlic Extract Against Doxorubicin-Induced Cardiotoxicity

Alkreathy HM (Alkreathy, Huda M.); Damanhouri ZA (Damanhouri, Zoheir A.); Ahmed N (Ahmed, Nessar); Slevin M (Slevin, Mark); Osman AMM (Osman, Abdel-Moneim M.)

Abstract

Aged garlic has been extensively studied and has been shown to have a number of medicinal properties, including immunomodulatory, hepatoprotective, antimutagenic, anticarcinogenic, and antioxidant effects. The objective of this study was to investigate the mechanisms of the cardioprotective effect of aged garlic extract (AGE), a widely used herbal medicine with potent antioxidant activity, against doxorubicin-induced cardiotoxicity. Moreover, the study investigated if the cardioprotective effect of AGE might be at the expense of the antitumor effect of the anticancer drug doxorubicin (DOX). Primary cultured neonatal rat cardiac myocytes were treated with DOX, AGE, and their combination for 24 hours. DOX increased p53 and caspase 3 activity-induced apoptotic cell death, whereas AGE pretreatment suppressed the action of DOX. AGE pretreatment did not interfere with the cytotoxic activity of DOX, but it increased the DOX uptake into tumor cells and increased the long term survivors of tumor-bearing mice from 30% to 70%. In conclusion, DOX impairs viability of cardiac myocytes, at least partially by activating the p53-mediated apoptotic signaling. AGE can effectively and extensively counteract this action of DOX and may potentially protect the heart from severe toxicity of DOX. At the same time, AGE did not interfere with antitumor activity of DOX.

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Faculty Name: Faculty of Medicine Department: Pharmacology
DSR No.: 1023
8. Modulation of doxorubicin cytotoxicity by resveratrol in a human breast cancer cell line

Osman AMM (Osman, Abdel-Moneim M.); Bayoumi HM (Bayoumi, Hadeel M.); Al-Harthi SE (Al-Harthi, Sameer E.); Damanhouria ZA (Damanhouria, Zoheir A.); ElShal MF (ElShal, Mohamed F.)

Abstract

Background: Breast cancer is the most common cancer in the Arab world and it ranked first among Saudi females. Doxorubicin (DOX), an anthracycline antibiotic is one of the most effective anticancer agents used to treat breast cancer. Chronic cardiotoxicity is a major limiting factor of the use of doxorubicin. Therefore, our study was designed to assess the role of a natural product resveratrol (RSVL) on sensitization of human breast cancer cells (MCF-7) to the action of DOX in an attempt to minimize doxorubicin effective dose and thereby its side effects. Methods: Human breast cancer cell line MCF-7, was used in this study. Cytotoxic activity of DOX was determined using (sulforhodamine) SRB method. Apoptotic cells were quantified after treatment by annexin V-FITC-propidium iodide (PI) double staining using flow-cytometer. Cell cycle disturbance and doxorubicin uptake were determined after RSVL or DOX treatment. Results: Treatment of MCF-7 cells with 15 µg/ml RSVL either simultaneously or 24 h before DOX increased the cytotoxicity of DOX, with IC50 were 0.056 and 0.035 µg/ml, respectively compared to DOX alone IC50 (0.417 µg/ml). Moreover, flow cytometric analysis of the MCF-7 cells treated simultaneously with DOX (0.5 µg/ml) and RSVL showed enhanced arrest of the cells in G0 (80%). On the other hand, when RSVL is given 24 h before DOX although there was more increased in the cytotoxic effect of DOX against the growth of the cells, however, there was decreased in percentage arrest of cells in G0, less inhibition of DOX-induced apoptosis and reduced DOX cellular uptake into the cells. Conclusion: RSVL treatment increased the cytotoxic activity of DOX against the growth of human breast cancer cells when given either simultaneously or 24 h before DOX.

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Department : Pharmacology
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9. Properties of peroxidase from chewing stick miswak

Mohamed SA (Mohamed, Saleh A.); Al-Malki AL (Al-Malki, Abdulrahman L.); Khan JA (Khan, Jalaluddin A.); Sulaiman MI (Sulaiman, Mansour I.); Kumosani TA (Kumosani, Taha A.)

Abstract

Miswak is a chewing stick prepared from the roots, twigs or stems of Salvadora persica L. and widely used in Middle Eastern and Eastern African cultures. Currently, its chemical components had antimicrobial and antioxidant activities. In the present study, peroxidase, as antioxidant and antibacterial enzyme, was screened in 4 parts of miswak and the level of peroxidase activity was recorded in the order of peel of stem > root without peel > peel of root > stem without peel. Generally, the people used the root without peel. By chromatography of miswak root without peel on DEAE-Spharose 3 peroxidases POI, POII and POIII were separated. Peroxidase POII with highest activity was reached to homogeneity by chromatography on Sephacryl S-200. The molecular weight of POII was found to be 70 kDa. o-Phenylenediamine was found to be the best substrate for the enzyme followed by guaiacol, o-dianisidine, pyrogallol and p-aminoantipyrine. The apparent Km for catalysis of H2O2 and guaiacol were 0.9 and 17.33 mM respectively. The enzyme had an optimum pH and temperature at 5.5 and 40 degrees C respectively. POII was stable at 10 to 40 degrees C and unstable above 50 degrees C. Most of the examined metal ions had partially inhibitory effects on POII, while Co2+, Fe3+ and Ca2+ were able to greatly enhance the activity. The metal chelators caused moderate inhibitory effects. The enzyme was highly inhibited by mercptoethanol, cysteine and ascorbic acid, while thiourea had moderate inhibitory effect. POII exhibited high resistance to protolyosion by trypsin. The highest storage stability at 4 degrees C was detected for POII in powder form compared to liquid form.
10. Subereamolline A as a Potent Breast Cancer Migration, Invasion and Proliferation Inhibitor and Bioactive Dibrominated Alkaloids from the Red Sea Sponge Pseudoceratina arabica

Shaala LA (Shaala, Lamiaa A.); Youssef DTA (Youssef, Diaa T. A.); Sulaiman M (Sulaiman, Mansour); Behery FA (Behery, Fathy A.); Foudah AI (Foudah, Ahmed I.); El Sayed KA (El Sayed, Khalid A.)

Abstract

A new collection of several Red Sea sponges was investigated for the discovery of potential breast cancer migration inhibitors. Extracts of the Verongid sponges Pseudoceratina arabica and Suberea mollis were selected. Bioassay-directed fractionation of both sponges, using the wound-healing assay, resulted into the isolation of several new and known brominated alkaloids. Active fractions of the sponge Pseudoceratina arabica afforded five new alkaloids, ceratinines A-E (2-6), together with the known alkaloids moloka'iamine (1), hydroxymoloka'iamine (7) and moloka'ikakitamide (8). The active fraction of the sponge Suberea mollis afforded the three known alkaloids subereamolline A (9), aerothionin (10) and homoaerothionin (11). Ceratinine B (3) possesses an unprecedented 5,7-dibrominated dihydroindole moiety with an epoxy ring on the side chain of a fully substituted aromatic moiety. Ceratinines D (5) and E (6) possess a terminal formamide moiety at the ethylamine side chain. Subereamolline A (9) potently inhibited the migration and invasion of the highly metastatic human breast cancer cells MDA-MB-231 at the nanomolar doses. Subereamolline A and related brominated alkaloids are novel scaffolds appropriate for further future use for the control of metastatic breast cancer.
COPD is a progressive pulmonary disease which may have a profound impact on general health status and quality of life. This article presents data on the burden of COPD obtained from the BREATHE study in the Middle East, North Africa and Pakistan. This study was a large general population survey of COPD conducted in eleven countries of the region using a standardised methodology. A total of 62,086 subjects were screened, of whom 2,187 fulfilled the "epidemiological" definition of COPD. Data on symptoms, perceived disease severity, impact on work, limitations in activities and psychological distress were collected. 1,392 subjects were analysable of whom 661 (47.5%) reported experiencing an exacerbation of their respiratory condition, 49.4% reported comorbidities and 5.5% reported severe breathlessness as measured with the MRC breathlessness questionnaire. The degree of breathlessness, as well as the perceived severity, was correlated with the overall disease impact as measured with the COPD Assessment Test (p < 0.001). 374 subjects (28.4%) reported that their respiratory condition prevented them from working and this proportion rose to 47.8% in subjects who perceived their respiratory condition as severe. 47.9% of subjects reported difficulties in normal physical exertion, 37.5% in social activities and 31.7% in family activities. Psychological distress was reported by between 42.3% and 53.2% of subjects, depending on the item. In conclusion, the burden of COPD is important, and covers central aspects of daily life. For this reason, physicians should take time to discuss it with their patients, and ensure that the management strategy proposed addresses all their needs. (C) 2012 Elsevier Ltd. All rights reserved.
12. The HDL proteome in acute coronary syndromes shifts to an inflammatory profile

Alwaili K (Alwaili, Khalid); Bailey D (Bailey, Dana); Awan Z (Awan, Zuhier); Bailey SD (Bailey, Swneke D.); Ruel I (Ruel, Isabelle); Hafiane A (Hafiane, Anouar); Krimbou L (Krimbou, Larbi); Laboissiere S (Laboissiere, Sylvie); Genest J (Genest, Jacques)

Abstract

Inflammation is a major factor underlying acute coronary syndromes (ACS). HDL particles may be remodeled, becoming functionally defective, under the inflammatory conditions seen in ACS. Shotgun proteomics was used to monitor changes in the HDL proteome between male age-matched control, stable CAD, and ACS subjects (n = 10/group). HDL was isolated by ultracentrifugation and separated by 1D-gel followed by LC-MS/MS. We identified 67 HDL-associated proteins, 20 of which validated recently identified proteins including vitronectin and complement C4B, and 5 of which were novel. Using gene ontology analysis, we found that the HDL-proteome consisted of proteins involved in cholesterol homeostasis (similar to 50%), with significant contributions by proteins involved in lipid binding, antioxidant, acute-phase response, immune response, and endopeptidase/protease inhibition. Importantly, levels of apoA-IV were significantly reduced in ACS patients, whereas levels of serum amyloid A (SAA) and complement C3 (C3) were significantly increased (spectral counting; t-test p <= 0.05), as confirmed by immunoblot or ELISA. Despite differences in protein composition, ABCA1, ABCG1, and SR-BI mediated cholesterol efflux assays did not indicate that HDL from ACS patients is functionally deficient as compared to controls, when corrected for apoA-I mass. Our results support that the HDL proteome differs between control, CAD and ACS patients. Increased abundance of SAA, C3, and other inflammatory proteins in HDL from ACS patients suggests that HDL reflects a shift to an inflammatory profile which, in turn, might alter the protective effects of HDL on the atherosclerotic plaque. This article is part of a Special, Issue entitled Advances in High Density Lipoprotein Formation and Metabolism: A Tribute to John F. Oram (1945-2010). (C) 2011 Elsevier B.V. All rights reserved.
13. Unusual case of recurrent falls Myasthenia gravis in an elderly patient

Alaama T (Alaama, Tareef); Basharat P (Basharat, Pari); Nicolle MW (Nicolle, Michael W.)

Abstract

Although myasthenia gravis (MG) is usually thought of as affecting young to middle-aged women, similar to other autoimmune diseases, recent evidence suggests that this might be changing. 1-5 In one study, a significant increase in incidence of late-onset MG (P<.05) and decrease in early-onset MG (P<.01) were detected. The median age at onset of the disease steadily increased over time (from 42 years in 1985 to 1990 to 66 years in 2007).(1) In another study, 59% of patients who required treatment with pyridostigmine for the first time for MG were 60 years or older and 38% were 70 years or older.(2) Falls are very common among the elderly, affecting at least a third of those aged 65 years or older. 6 Our patient presented with recurrent falls, at least some of which were likely secondary to undiagnosed MG.
DEPARTMENT
PHYSIOLOGY
1. Development and evaluation of study guide template for an integrated cardiovascular module

Al-Hazimi A (Al-Hazimi, Awdah)

Abstract

The undergraduate medical curriculum in the King Abdulaziz University in Jeddah, Saudi Arabia, was reformed in 2002. It is integrated, organized in courses and modules, and has an increasing proportion of problem-based and self-directed learning. The new curriculum has presented the faculty and students with specific challenges. Accustomed to a traditional teacher-centred approach, and because the language of instruction is English, students needed much more support and encouragement in taking advantages of independent learning than their western counterparts would require. A well-designed study guide may be more effective student learning tool in the new integrated curriculum. This article describes to simplify and modern approach to the production of study guides. The approach is based on the development and the use of a study guide template. The guide is evaluated by second year medical students at King Abdulaziz University. The study guide is highly appreciated by student evaluations and 'study guide template' that includes a well-designed layout is a useful aid for medical teachers who have had no experience in producing a study guide. The template allows medical teachers to invest their time in the production of the content rather than in the layout and format of the guide.
DEPARTMENT
RADIOLOGY
1. Female sexual dysfunction: what Arab gynecologists think and know

Auwad WA (Auwad, Wael A.); Hagi SK (Hagi, Sarah K.)

Abstract

We aimed to assess the knowledge and practice of gynecologists (Gyns) from different Arab countries with regard to female sexual dysfunction (FSD) in comparison with members of the American Urogynecologic Society (AUGS) and the British Society of Urogynecology (BSUG). An anonymous questionnaire was used to survey attendees of the annual meeting of the Saudi Obstetrics and Gynecology Society. Six hundred and forty questionnaires were distributed, and the response rate was 66%. The majority of Arab Gyns (73%) were unsatisfied with their training, and 87% never or rarely screened for FSD compared with 47% and 23% of BSUG and AUGS members, respectively (p < 0.001). Our results reveal an apparent global lack of adequate education in female sexuality and expose the breadth of the problem among Arab Gyns. Therefore, there is a need to improve training at the undergraduate and postgraduate levels to enable Gyns in Arab countries to provide better sexual healthcare.

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Department: Radiology
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2. High prevalence of vitamin D deficiency among healthy Saudi Arabian men: relationship to bone mineral density, parathyroid hormone, bone turnover markers, and lifestyle factors

Ardawi MSM (Ardawi, M. -S. M.); Sibiany AM (Sibiany, A. M.); Bakhsh TM (Bakhsh, T. M.); Qari MH (Qari, M. H.); Maimani AA (Maimani, A. A.)

Abstract

In this cross-sectional study, the prevalence of vitamin D deficiency [serum 25-hydroxyvitamin D (25(OH)D) < 50 nmol/L] was 87.8% among Saudi Arabian men. There was a linear inverse relationship between serum 25(OH)D and intact parathyroid hormone (PTH) levels, but without a threshold of 25(OH)D at which intact PTH values plateaued. Vitamin D insufficiency and/or deficiency has now reached epidemic proportions and has been linked to low bone mineral density (BMD), some lifestyle factors, and obesity in adults. This relationship is not well documented in Saudi Arabian men. This study examines the relationship between vitamin D status, intact parathyroid hormone (intact PTH), and lifestyle factors among Saudi Arabian men. This cross-sectional study involved 834 men aged 20-74 years living in Jeddah area who were randomly selected and medically examined. Men had their BMD (lumbar spine (L1-L4) and neck femur), 25(OH)D, intact PTH, and other parameters measured according to detailed inclusion criteria. Deficiency (25(OH)D < 50 nmol/L) and insufficiency (a parts per thousand yen50-75 nmol/L) were present in 87.8% and 9.7%, respectively. Deficiency was common among older and obese men with no education and sedentary lifestyle sampled during summer and spring. Serum 25(OH)D showed an inverse linear relationship with intact PTH, but there was no threshold of serum 25(OH)D at which PTH levels plateaued. There was a positive correlation between BMD values at both lumbar spine (L1-L4) (P < 0.023) and neck femur (P < 0.036) and serum 25(OH)D levels, respectively. Functionally significant vitamin D deficiency affects BMD and bone turnover markers among Saudi Arabian men and is largely attributed to older age, obesity, sedentary lifestyle, no education, poor exposure to sunlight, smoking, and poor dietary vitamin D supplementation. The data suggest that an increase in PTH cannot be used as a marker for vitamin D deficiency.
3. Adding a conduit to Glide Scope blade facilitates tracheal intubation Prospective randomized study

Almarakbi WA (Almarakbi, Waleed A.); Alhashemi JA (Alhashemi, Jamal A.); Kaki AM (Kaki, Abdullah M.)

Abstract

Objectives: To determine the effect of modifying the GlideScope (GVL) blade on the intubation time.

Methods: This prospective study was conducted at the Department of Anesthesia, King Abdulaziz University Hospital, Jeddah, Saudi Arabia between June 2011 and October 2011. Sixty patients requiring endotracheal tube (ETT) intubation for elective surgery in whom airway was anticipated normal were randomly allocated to one of 2 groups. Group M (n=30): intubated via a modified GVL blade in which a tube conduit along the side of the GVL blade was created to allow the passage of ETT through the cords. Group C (n=30): intubated with the conventional GVL blade and rigid intubating stylet. Results: Time to successful tracheal intubation (TTI) was 39.6 +/- 2.1 seconds in Group M versus 66.4 +/- 8.3 seconds in Group C (p=0.0001), tracheal intubation was deemed more easily in Group M than in Group C (VAS 2 +/- 1 versus 6 +/- 1, p=0.0001), and all patients in Group M were successfully intubated on the first attempt when compared with 90% in Group C (p=0.009). Conclusion: The addition of a conduit to the GVL blade made the passage of the ETT easier and TTI shorter without increasing adverse events or intubation failure.
4. An experiential teaching session on the anesthesia machine check improves resident performance

Chiu M (Chiu, Michelle); Arab AA (Arab, Abeer A.); Elliott R (Elliott, Robert); Naik VN (Naik, Viren N.)

Abstract

Purpose A preoperative machine check is imperative, yet machine faults are missed despite experience. We hypothesized that a simulation training session would improve junior residents’ ability to perform a machine check beyond the level of final year residents who received only didactic training.

Methods In 2005, an experiential machine check training session was introduced into residency training at the postgraduate year 1 (PGY-1) level. Three weeks later, the simulation residents were asked to perform a machine check and detect ten preset faults. The control group consisted of PGY-5 residents who had received a didactic anesthesia machine lecture during their residency; these control residents were asked to perform the same machine check as the simulation residents. Data were collected from 2005 to 2008 with each cohort of incoming PGY-1 residents and graduating PGY-5 residents. When the first group of PGY-1 residents became PGY-5 residents in 2009, they were invited to return for a retention test. In all tests, the number of faults detected was recorded, and the machine check was evaluated using a checklist.

Results Thirty-seven simulation residents and 27 control residents participated in the study. Simulation residents had significantly higher checklist scores than the control residents, and they identified more machine faults (both P < 0.001). Twenty-one simulation residents repeated the study in their senior year, and they continued to achieve higher checklist scores and identify more machine faults than the control residents (both P < 0.001). Conclusion Our results suggest that an experiential training session allowed junior residents to achieve skills superior to those of senior colleagues after a five-year residency. This training was retained for two to four years as they continued to outperform their comparative controls.
5. Antioxidants protect against increased risk of atherosclerosis induced by exposure to cigarette smoke: Histological and biochemical study

Ali SS (Ali, Soad Shaker); Ayuob NN (Ayuob, Nasra Naeim); Al Ansary AK (Al Ansary, Abeer Khaled); Soluman ER (Soluman, Ekram Rage)

Abstract

Background and objectives: This study aimed to assess the dose-dependent effect of antioxidants in protection against cardiovascular changes induced by exposure to cigarette smoke. Design and setting: This was an experimental study, conducted at King Fahd Medical Research Center, King Abdulaziz University. Materials and methods: This study was carried out on 57 male albino rats divided into nine groups. Rats of experimental groups were exposed to cigarette smoke from a total of 100 cigarettes per week for four weeks in a specially designed chamber. The antioxidants used (vitamin C, E, and B-carotene) were administrated at low (9, 7.2, and 0.27 mg/day) and high doses (18, 14.4, and 0.54 mg/day), respectively, through gastric feeding tubes. The lipid profile was estimated, and the carotids and heart were removed, weighed, and then processed, and the carotid intima-media thickness was measured. Statistical analysis was performed using the Statistical Package for Social Sciences. Results: The lipid profile was significantly improved in all groups treated with low or high doses of antioxidants after or during the exposure to cigarette smoke. Improvement was marked in the group treated with a high dose of antioxidants. The histological changes, as well as the intima-medial thickness of the carotid artery induced by exposure to cigarette smoke, have been improved by treatment with antioxidants (at either low or high doses), either after or during exposure to cigarette smoke. Improvement was marked in the group treated with a low dose of antioxidant. Treatment with antioxidants could not improve degenerated cardiac muscle fibers, while they could reduce the thickness of the branches of the coronary vessels. Conclusion: These results indicated that antioxidants ameliorated the cigarette smoke contribution to atherosclerosis, but they could not completely reverse the changes induced by cigarette smoke. Simultaneous intake of antioxidants could ameliorate the cigarette-smoke-induced changes apart from those of the heart. (c) 2012 King Saud University. Production and hosting by Elsevier B.V. All rights reserved.

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Faculty Name: Faculty of Medicine
Department: ANASTHESIA
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6. Benchmarking the post-accreditation patient safety culture at King Abdulaziz University Hospital

Al-Awa B (Al-Awa, Bahjat); Al Mazrooa A (Al Mazrooa, Adnan); Rayes O (Rayes, Osama); El Hati T (El Hati, Taghreed); Devreux I (Devreux, Isabelle); Al-Noury K (Al-Noury, Khaled); Habib H (Habib, Hamed); Ei-Deek BS (Ei-Deek, Basem Salama)

Abstract

BACKGROUND AND OBJECTIVES: Accreditation is an internationally recognized evaluation process used to assess, promote, and guarantee efficient and effective patient care and safety. Saudi Arabia is one of the first countries in the eastern Mediterranean region to implement health care accreditation standards. This study provides valuable information pertaining to the impact of accreditation in the unique multicultural, multilingual competitive environment at King Abdulaziz University Hospital in Saudi Arabia. The objective of this study was to perform an unbiased assessment of the impact of accreditation on patient safety culture. DESIGN AND SETTING: Cross-sectional retrospective and prospective study post-accreditation at King Abdulaziz University Hospital in Jeddah, Saudi Arabia from January 1, 2006 to December 31, 2009. PATIENTS AND METHODS: A total of 870 registered nurses from eight different cultural backgrounds working at 22 hospital units were given electronic access to the survey. A 5-point Likert scale was used, ranging from 1 for "Strongly disagree" to 5 for "Strongly agree." The survey results were matched with the international benchmarks from the Hospital Survey on Patient Safety Culture, 2005. RESULTS: A total of 605 nurses answered the survey questionnaire. The comparison between the percentages of nurses at King Abdulaziz University Hospital (KAUH) and those at international hospitals who answered "Agree" and "Strongly agree" showed a post-accreditation improved perception of the culture of patient safety. CONCLUSIONS: Accreditation has an overall statistically significant improvement in the perception of the culture of patient safety.
7. Does Selenium Ameliorate Toxic Effects of Prenatal Aluminium on Brain of Full Term Rat Fetuses?

Al Saggaf SM (Al Saggaf, Samar M.); Abdel-Hamid GA (Abdel-Hamid, Ghada A.); Hagras M (Hagras, Magda); Saleh HA (Saleh, Hamid A.)

Abstract

Aluminum (Al) has been implicated in the pathogenesis of dialysis dementia and Alzheimer's diseases. The present study aimed to investigate the protective effect of selenium on fetal parietal cortex treated with aluminum chloride. Eighty pregnant rats were divided into two groups (Control and Aluminium). Aluminium treated group was given oral AlCl₃, (150 mg kg⁻¹ body weight/day) for 3 months before mating. Pregnant rats were randomly divided into four groups (20 dams in each), control, Al-treated, control + Selenium (200 μg/kg/day) and Al + Selenium. Al and Selenium was administered through intragastric tube from GD1 to GD20. All growth parameters significantly reduced in all Al-treated groups. AlCl₃ induced increase thickness of pia mater and increase glia fibers in the molecular layer, disruption, shrinkage and degeneration of neurons in all cortical layers. Parietal cortex in fetuses treated with selenium and AlCl₃ had nearly control appearance. Also, AlCl₃ induced significant reduction of layer I and the total thickness of parietal cortex. Selenium when added to AlCl₃ significantly reduced all harmful effect of AlCl₃ on fetal growth parameters, histopathological changes and increased thickness of layer I of parietal cortex in rat fetuses when compared with control. It is concluded that oral AlCl₃ had deleterious effects on cerebral cortex of rat fetuses whereas selenium alleviated these negative effects.

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Faculty Name: Faculty of Medicine
Department: ANATHTESIA
DSR No.: 1104
8. Effect of (+)-Usnic Acid as a Fat Burner on the Rat Hepatocyte; Correlated Histological and Biochemical in vivo Study

Al-Ahmadi AA (Al-Ahmadi, Ahlam Abdulaziz); Ayuob NN (Ayuob, Nasra Naeim); Ali SS (Ali, Soad Shaker); Al-Robai AA (Al-Robai, Ali Ahmed); Abo-Khatwa NA (Abo-Khatwa, Nabil Abdulaziz)

Abstract

Liver injury from dietary supplement mimicking other liver diseases is increasingly recognized. Usnic acid has been marketed as weight-loss aid many years ago in spite its chronic or subchronic effects on animal were not studied. To assess the effect of Usnic acid on the structure of the hepatocytes of male rats and correlate this effect to those changes detected if any in the biochemical study. Forty adult male rats were divided into four groups ten animals each (n = 10); control received standard diet, G1 received 1% carboxymethyl cellulose water solution, G2 received 100 mg usnic acid kg(-1) and 03 received 300 mg usnic acid/kg, 5 days for 7 weeks using gastric gavages. Serum glucose, liver functions, lipid profile, lipase, leptin and Insulin were estimated. Liver was processed for electron microscope studies and results were analyzed using SPSS. The liver index was increased significantly in high-dose Usnic acid compared to the control. Hepatocytes showed an increase in lipid droplets, swollen mitochondria, fragmented rough endoplasmic reticulum cisterns, abundant smooth endoplasmic reticulum and focal damage of hepatocyte membranes near bile canaliculi, all these changes were dose dependent. There was significant increase in total protein, albumin and total bilirubin in group received low-dose of Usnic acid. Glucose, magnesium, total protein, alanine aminotransferase, aspartate aminotransferase, lactate dehydrogenase and total bilirubin were significantly increased in group received Usnic acid at high-dose. Serum cholesterol and high density lipoprotein were significantly increased in all treated groups while triglycerides were slightly increased.
9. Effect of acrylamide on testis of albino rats Ultrastructure and DNA cytometry study

Mustafa HN (Mustafa, Hesham N.)

Abstract

Objectives: To explore the harmful effects of acrylamide on the structure of testis in albino rats, in an attempt to clarify its potential risks on human health. Methods: The present study was carried out in the Department of Anatomy, Faculty of Medicine, King Abdulaziz University, Jeddah, Kingdom of Saudi Arabia from December 2010 to December 2011. Forty-eight adult male albino rats (250-300 g) were divided randomly into 6 groups. Electron microscopy and histochemical techniques using Feulgen stain were used to conduct the morphological study. In addition, DNA cytometry method was used. Results: Rats treated with acrylamide 25 mg/kg body weight for 10 days showed mild affection, whether acrylamide was administered orally or intraperitoneally. On the other hand, the testis of the group treated with a dose of 50 mg/kg/10 days showed damage, especially with intraperitoneal administration in comparison to oral treatment. This was in the form of degeneration of germ cells, numerous multinucleated giant cells with sloughed seminiferous epithelium, and vacuolation inbetween the germ cells. Conclusion: Exposure to acrylamide produced degenerative changes in the testis, which were more prominent with a longer period of exposure. Recommendations are necessary to decrease acrylamide level in different foods, and ways to decrease the acrylamide formation during preparation of different foods should be advertised.

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Morphology and clinical significance of the distribution of the median nerve within the arm of human cadavers

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Abstract

Objective: To describe the patterns of formation, level of beginning, variations of course, and relation of the median nerve within the arm of human cadavers. Methods: Sixty upper limbs of 20 male and 10 female adult human cadavers were used in this study. The cadavers were obtained from the Anatomy Department, Faculty of Medicine, King Abdulaziz University, Jeddah, Saudi Arabia, and the study was conducted between February and December 2011. The axillary regions, arm, and forearm, of each limb were dissected to clarify the different patterns of median nerve formation and distribution within the arm. Results: The formation of the median nerve from 2 roots was found in 88.3% of upper limbs, while in 11.7% of upper limbs, it had 3 roots. Moreover, the median nerve began at the level of the third part of the axillary artery in 93.3% of upper limbs, and at the coracobrachialis muscle insertion in 6.7% of upper limbs. However, in correlation to the brachial artery, the median nerve had 6 patterns of relationship. The median nerve passed deep to the coracobrachialis and brachialis muscles in 8.3% of upper limbs. Meanwhile, the median nerve supplied the front arm muscles in 3.3% of upper limbs where the musculocutaneous nerve was absent. In 13.3% of upper limbs, the musculocutaneous nerve gave a communicating branch to the median nerve. Conclusion: Knowledge of such variants of the median nerve helps clinicians and surgeons in the diagnosis of unexplained clinical cases.
11. The Prenatal Toxic Effect of Methylmercury on the Development of the Appendicular Skeleton of Rat Fetuses and the Protective Role of Vitamin E

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Abstract

Methylmercury (MeHg) is an environmental contaminant that is found in many ecosystems. Many studies reported that MeHg toxicity is accompanied by increased lipid peroxidation that may lead to oxidative damage to DNA, RNA, and proteins. Vitamin E is considered as the most effective antioxidant preventing lipid peroxidation. The aim of this study was to evaluate the effects of MeHg exposure during pregnancy on the development of the appendicular skeleton in rat fetuses and whether vitamin E administration could reduce this toxicity. Positively mated adult female Sprague-Dawley rats were used and divided into the following experimental groups: control group, received only deionized water, and four MeHg treated groups received 1 mg of MeHg/kg/d, 2 mg of MeHg/kg/d, 1 mg of MeHg/kg/d plus 150 mg of vitamin E/kg/d, and 2 mg of MeHg/kg/d, plus 150 mg of vitamin E/kg/d starting from Day 0 of gestation. On Day 20 of gestation, the fetuses from the pregnant rats were extracted and the fetal growth parameters were evaluated. Skeletal evaluation of ossification of both fore- and hind-limbs, and coxal bones were undertaken. Results showed that treatment with MeHg caused adverse effects on fetal growth parameters and ossification of the bones. The coadministration of vitamin E with MeHg revealed an improvement in these parameters. These results suggest that vitamin E may ameliorate some aspects of MeHg developmental toxicity. The underlying and human health implications warrant further investigations. Anat Rec, 2012. (c) 2012 Wiley Periodicals, Inc.
The radial artery and its variations: anatomical study and clinical implications

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Abstract

Background: To describe the radial artery and its variants in origin, branching pattern, mode of termination, and measurements of its length and external diameter. Material and methods: One hundred upper limbs of 30 men and 20 women adult cadavers were used in this study. The cadavers were obtained from the Anatomy Department, Faculty of Medicine, King Abdulaziz University, Jeddah, Saudi Arabia. The axillary region, arm, forearm, and hand of each limb were dissected to clarify the course and branches of the radial artery. This anatomical descriptive study was conducted between September 2010 and August 2012 after approval of the Ethical Committee. Results: The mean distance of the normal origin of the radial artery as one of two terminal branches of the brachial artery was 38.7 +/− 9.5 mm in men and 36.5 +/− 8.5 mm in the upper limbs of women below the intercondylar line, and variant origin of the radial artery was found in eight limbs. The mean of radial artery length was 226.2 +/− 21.7 mm in men and 209.9 +/− 13.9 mm in women and that of its external diameter was 3.3 +/− 0.7 mm in men and 3.2 +/− 0.66 mm in women at 1 cm distal to its origin; 3.1 +/− 0.73 mm in men and 3.0 +/− 0.66 in women at 2 cm proximal to the styloid process of the radius. The radial artery showed different branching patterns and three modes of termination. Conclusions: Knowledge of radial artery description and its variants has great importance in different clinical fields and basic medical studies.

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Objective: To assess the efficacy of pressure volume loop (PV-L) closure as an indicator of adequate endotracheal tube cuff (ETTc) function, and to compare this with commonly used methods of checking cuff pressure. Methods: We conducted a randomized clinical trial at the Department of Anesthesia, King Abdulaziz University Hospital, Jeddah, Kingdom of Saudi Arabia from October 2011 to February 2012. One hundred and forty patients were intubated, and the ETTc was inflated using one of 3 techniques. The intubating anesthesiologist inflated the cuff at his discretion until he detected no further air leak in the first technique. In the second technique, we maintained the ETTc pressure at 20 centimeter water, while the third technique used PV-L closure. Results: The PV-L technique required lower amounts of air to inflate the ETTc than the other 2 techniques (3.89 +/- 0.26 for PV-L versus 4.4 +/- 0.36 for fixed preset pressure, and 5.26 +/- 0.46 for pilot balloon palpation, p=0.00001) and the mean cuff pressure was lower than other techniques (18.67 +/- 0.72 for PV-L versus 20 for fixed preset pressure, and 33.48 +/- 3.49 for pilot balloon palpation, p=0.00001). Conclusion: The PV-L closure technique is an alternative way to check for ETTc function with a significantly lower ETTc pressure and volume than those recorded with a manually inflated cuff, or with preset cuff pressure of 20 cmH\(2\)O.