บทความที่น่าสนใจประจำเดือน เมษายน 2559

สาขาวิทยาศาสตร์สุขภาพ

Title :	Greek cultural adaption and validation of the Kujala anterior knee pain scale in patients with patellofemoral pain syndrome
Author :	Costas Papadopoulos, Antonis Constantinou, Areti-Zoi Cheimonidou & Dimitrios Stasinopoulos
Journal :	Disability and Rehabilitation: Published online: 06 Apr 2016 -- DOI:10.3109/09638288.2016.1161834
Abstract :	**Purpose**: To cross-culturally adapt and validate the Greek version of the Kujala anterior knee pain scale (KAKPS). **Methods**: The Greek KAKPS was translated from the original English version following standard forward and backward translation procedures. The survey was then conducted in clinical settings by a questionnaire comprising the Greek KAKPS and patellofemoral pain syndrome (PFPS) severity scale. A total of 130 (62 women and 68 men) Greek-reading patients between 18 and 45 years old with anterior knee pain (AKP) for at least four weeks were recruited from physical therapy clinics. To establish test–retest reliability, the patients were asked to complete the KAKPS at initial visit and 2–3 days after the initial visit. The Greek version of the PFPS severity scale was also administered once at initial visit. Internal consistency of the translated instrument was measured using Cronbach's α. An intraclass correlation coefficient was used to assess the test–retest reliability of the KAKPS. Concurrent validity was measured by correlating the KAKPS with the PFPS severity scale using Pearson's correlation coefficient. **Results**: The results showed that the Greek KAKPS has good internal consistency (Cronbach's α = 0.942), test–retest reliability (ICC = 0.921) and concurrent validity ($r > 0.7$). **Conclusions**: This study has shown that the Greek KAKPS has good internal consistency, test–retest reliability and concurrent validity when correlated with the PFPS severity scale in adult patients with AKP for at least four weeks.
Database :	Taylor & Francis Online

Title :	How to review a surgical paper: a guide for junior referees
Author :	Philip F. Stahel and Ernest E. Moore
Journal :	BMC Medicine201614:29 -- DOI: 10.1186/s12916-016-0578-6
Abstract :	Reviewing a surgical manuscript is not an easy task, and there is no formal training available for young referees in the early stage of their careers. Accepting a peer review assignment represents a personal honor for the invited referee and a fundamental ethical responsibility towards the scientific community. Designated reviewers must be accomplished and knowledgeable in the area of the respective topic of investigation. More importantly, they must be aware and cognizant about the cardinal ethical responsibility and stewardship for ensuring the preservation of scientific knowledge of unbiased and unquestionable accuracy in the published literature. Accepting a review assignment should never be taken lightly or considered a simple task, regardless of the reviewer's level of seniority and expertise. Indeed, there are multiple challenges, difficulties, and 'hidden dangers' that jeopardize the completion of a high-quality review, particularly in the hands of less experienced or novice reviewers. The present article was designed to provide a brief, concise, and practical guide on how to review manuscripts for the 'junior referee' in the field of surgery.
Database :	Biomed Central

Title :	Pharmacokinetic Variability of Mycophenolic Acid in Pediatric and Adult Patients with Hematopoietic Stem Cell Transplantation
Author :	Daping Zhang, Jamie L. Renbarger and Diana S-L. Chow
Journal :	The Journal of Clinical Pharmacology: Accepted manuscript online: 6 APR 2016 04:52AM EST | DOI: 10.1002/jcph.745
Abstract :	The aim of this study was to evaluate the pharmacokinetic variations of mycophenolic acid (MPA), the active metabolite of mycophenolate mofetil (MMF), in both pediatric and adult patients following hematopoietic stem cell transplantation (HSCT). Twenty pediatric patients with a median age of 3 years (range, 0.2-12 years) and thirteen adult patients with a median age of 54 years (range, 18–63 years) were enrolled. Blood samples were collected on days 0, 7, 14, 21 and 30

	after allogeneic HSCT. Total and free (unbound) MPA, as well as MPAG were quantified using a validated LC-MS/MS assay. The plasma protein binding of MPA and MPAG did not change significantly in pediatric patients over the one month sampling period post HSCT. However, it increased in adult patients from day 7 to day 30 post HSCT, from 97.3±0.8% to 98.3±0.6% for MPA (P <0.05), and 74.6±9.4% to 82.9±8.1% for MPAG (P <0.05). The plasma protein binding of MPA was significantly higher in males compared to females in both pediatric (98.3±1.1 vs 97.4±1.1%) and adult (98.1±0.7 vs 97.4±1.2%) patients (P <0.05). The MPAG/MPA ratios on an mg/kg dose basis in adult patients were significantly higher than those in pediatric patients (4.3±3.4 vs 2.4±2.6; P <0.05). Time-dependent plasma protein binding and age-related differences in MPA metabolism, at least in part, impact the reported large inter- and intra-individual variability in MPA pharmacokinetics. These patient and pharmacologic factors, if incorporating into MMF regimen design and modification, may contribute to the rational dose selection of MMF in HSCT patients.
Database :	Wiley Online Library

Title :	How Informative Are Drug-Drug Interactions of Gene-Drug Interactions?
Author :	Chakradhar V. Lagishetty, Jiexin Deng, Lawrence J. Lesko, Hobart Rogers, Michael Pacanowski and Stephan Schmidt
Journal :	A The Journal of Clinical Pharmacology: Accepted manuscript online: 4 APR 2016 03:51AM EST | DOI: 10.1002/jcph.743
Abstract :	FDA recommendations to manage polymorphic CYP-mediated drug-drug interactions (DDIs) and gene-drug interactions (GDIs) are typically similar (Pharmacogenomics 14:215-23; 2013). However, DDIs may not always reliably predict GDIs because the victim drug may have multiple metabolic pathways and the perpetrator drug may affect multiple enzymes or transporters. Consequently, it is of great interest to both the pharmaceutical industry and regulatory agencies to determine if DDI studies can be leveraged to inform GDIs or vice versa for dose adjustment and labeling. The objective of this study was to investigate under what circumstances DDIs can be used to predict GDIs for prototypical CYP2C9, CYP2C19 and CYP2D6 substrates. We investigated model substrates for CYP2D6 (metoprolol, dextromethorphan, atomoxetine and vortioxetine), CYP2C9 (warfarin,

	flurbiprofen and celecoxib) and CYP2C19 (omeprazole and clopidogrel). Data on drug exposure for poor metabolizers (GDI) and for DDIs mediated by strong/moderate inhibitors in extensive metabolizers was collected. The impact of DDIs and GDIs on drug exposure was compared using: i) a descriptive and ii) a physiologically-based pharmacokinetic convergence analysis. Results from both approaches indicate that information on DDIs can be used to reliably predict GDIs for CYP2D6 substrates. The situation is more complex for CYP2C9 and CYP2C19 substrates because dose of the inhibitor (CYP2C9) and potency of the inhibitor (CYP2C19) impact the extent to which perpetrator drugs phenotypically convert extensive metabolizers to poor(er) metabolizers.
Database :	Wiley Online Library

Title :	A Drug-free Tumor Therapy Strategy: Cancer Cell Targeting Calcification
Author :	Ruibo Zhao, Ben Wang, Xinyan Yang, Yun Xiao, Xiaoyu Wang, Changyu Shao, Ruikang Tang,
Journal :	Angewandte Chemie International Edition 2016. DOI: 10.1002/anie.201601364
Abstract :	Herein, we propose a drug-free approach to cancer therapy that involves cancer cell targeting calcification (CCTC). Several types of cancer cells, such as HeLa cells, characterized by folate receptor (FR) overexpression, can selectively adsorb folate (FA) molecules and then concentrate Ca2+ locally to induce specific cell calcification. The resultant calcium mineral encapsulates the cancer cells, inducing their death, and in vivo assessments confirm that CCTC treatment can efficiently inhibit tumor growth and metastasis without damaging normal cells compared with conventional chemotherapy. Accordingly, CCTC remarkably improve the survival rate of tumor mice. Notably, both FA and calcium ions are essential ingredients in human metabolism, which means that CCTC is a successful drug-free method for tumor therapy. This achievement may further represent an alternative cancer therapy characterized by selective calcification-based substitution of sclerosis for tumor disease.
Database :	Wiley Online Library

Title :	Multilayered Graphene Hydrogel Membranes for Guided Bone Regeneration
Author :	Jiayu Lu, Chi Cheng, Yu-Shi He, Chengqi Lyu, Yufei Wang, Jia Yu, Ling Qiu, Derong Zou, Dan Li,
Journal :	Advanced Materials 2016. DOI: 10.1002/adma.201505375
Abstract :	A multilayered graphene hydrogel (MGH) membrane is used as an excellent barrier membrane for guided bone regeneration. The unique multilayered nanostructure of the MGH membrane results in improved material properties, which benefits protein adsorption, cell adhesion, and apatite deposition, and allows higher quality and fast bone regeneration.
Database :	Wiley Online Library

Title :	Glucocorticoids Hijack Runx2 to Stimulate Wif1 for Suppression of Osteoblast Growth and Differentiation
Author :	Eri Morimoto, Meng Li, Aysha B. Khalid, Susan A. Krum, Nyam-Osor Chimge and Baruch Frenkel
Journal :	Journal of Cellular Physiology: Accepted manuscript online: 6 APR 2016 | DOI: 10.1002/jcp.25399
Abstract :	Inhibition of RUNX2 is one of many mechanisms that suppress bone formation in glucocorticoid (GC)-induced osteoporosis (GIO). We profiled mRNA expression in ST2/Rx2dox cells after treatment with doxycycline (dox; to induce Runx2) and/or the synthetic GC dexamethasone (dex). As expected, dex typically antagonized Runx2-driven transcription. Select genes, however, were synergistic stimulated and this was confirmed by RT-qPCR. Among the genes synergistically stimulated by GCs and Runx2 was Wnt inhibitory Factor 1 (Wif1), and Wif1 protein was readily detectable in medium conditioned by cultures co-treated with dox and dex, but neither alone. Cooperation between Runx2 and GCs in stimulating Wif1 was also observed in primary preosteoblast cultures. GCs strongly inhibited dox-driven alkaline phosphatase (ALP) activity in control ST2/Rx2dox cells, but not in cells in which Wif1 was silenced. Unlike its anti-mitogenic activity in committed osteoblasts, induction of Runx2 transiently increased the percentage of cells in S-phase and accelerated proliferation in the ST2 mesenchymal pluripotent cell culture model.

	Furthermore, like the inhibition of Runx2-driven ALP activity, dex antagonized the transient mitogenic effect of Runx2 in ST2/Rx2dox cultures, and this inhibition eased upon Wif1 silencing. Plausibly, homeostatic feedback loops that rely on Runx2 activation to compensate for bone loss in GIO are thwarted, exacerbating disease progression through stimulation of Wif1.
Database :	Wiley Online Library

Title :	A panel of four decreased serum microRNAs as a novel biomarker for early Parkinson's disease
Author :	Hui Dong, Cheng Wang, Sunbin Lu, Cuiyu Yu, Lei Huang, Wuruo Feng, Hui Xu, Xi Chen, Ke Zen, Qiao Yan, Weiguo Liu, Chunni Zhang & Chen-Yu Zhang
Journal :	Biomarkers: Volume 21, Issue 2, 2016 pages 129-137 - - DOI:10.3109/1354750X.2015.1118544
Abstract :	**Context**: Sensitive, non-invasive biomarkers that facilitate Parkinson's disease (PD) detection and stage assignment are currently unavailable. **Objective**: The objective of this study is to investigate the potential of circulating microRNAs (miRNAs) as novel biomarkers for PD. **Materials and methods**: Solexa sequencing technology and quantitative real-time PCR were applied to screen and verify altered serum miRNAs in PD patients. **Results**: Serum miR-141, miR-214, miR-146b-5p, and miR-193a-3p were decreased significantly in PD patients compared with controls. Furthermore, the 4-miRNA panel enabled the differentiation of HY stage 1 and 2 PD patients from controls. Discussion and conclusion: The four serum miRNAs may represent novel biomarkers for the early detection of PD.
Database :	Taylor & Francis Online

Title :	Intelligent task management platform for health care workers
Author :	Femke Ongenae, Thomas Vanhove, Femke De Backere & Filip De Turck
Journal :	Informatics for Health and Social Care: Published online: 18 Feb 2016 - - DOI:10.3109/17538157.2015.1113178
Abstract :	The medical staff in a hospital could benefit from a specialized task management system, considering their high workload covering different patients. This article presents an intelligent task management platform that automatically prioritizes and (re-)assigns tasks to the appropriate caregivers based on the current health care context captured in a continuous care ontology. Moreover, this platform provides the caregivers with a smartphone allowing them to easily view and process their assigned tasks.
Database :	Taylor & Francis Online

Title :	Microneedle delivery of trivalent influenza vaccine to the skin induces long-term cross-protection
Author :	Yeu-Chun Kim, Su-Hwa Lee, Won-Hyung Choi, Hyo-Jick Choi, Tae-Won Goo, Ju-Hie Lee & Fu-Shi Quan
Journal :	Journal of Drug Targeting: Published online: 27 Mar 2016 -- DOI:10.3109/1061186X.2016.1159213
Abstract :	A painless self-immunization method with effective and broad cross-protection is urgently needed to prevent infections against newly emerging influenza viruses. In this study, we investigated the cross-protection efficacy of trivalent influenza vaccine containing inactivated A/PR/8/34 (H1N1), A/Hong Kong/68 (H3N2) and B/Lee/40 after skin vaccination using microneedle patches coated with this vaccine. Microneedle vaccination of mice in the skin provided 100% protection against lethal challenges with heterologous pandemic strain influenza A/California/04/09, heterogeneous A/Philippines/2/82 and B/Victoria/287 viruses 8 months after boost immunization. Cross-reactive serum IgG antibody responses against heterologous influenza viruses A/California/04/09, A/Philippines/2/82 and B/Victoria/287 were induced at high levels. Hemagglutination inhibition titers were also maintained at high levels against these heterogeneous viruses. Microneedle vaccination induced

	substantial levels of cross-reactive IgG antibody responses in the lung and cellular immune responses, as well as cross-reactive antibody-secreting plasma cells in the spleen. Viral loads in the lung were significantly ($p < 0.05$) reduced. All mice survived after viral challenges. These results indicate that skin vaccination with trivalent vaccine using a microneedle array could provide protection against seasonal epidemic or new pandemic strain of influenza viruses.
Database :	Taylor & Francis Online