

บทความที่น่าสนใจประจำเดือน มีนาคม 2558

สาขาวิทยาศาสตร์สุขภาพ

Title :	Genetic factors affecting dental caries risk
Author :	S Opal, S Garg, J Jain and I Wallia
Journal :	Australian Dental Journal: Volume 60, Issue 1, pages 2–11, March 2015 Article first published online: 26 FEB 2015 DOI: 10.1111/adj.12262
Abstract :	<p>This article reviews the literature on genetic aspects of dental caries and provides a framework for the rapidly changing disease model of caries. The scope is genetic aspects of various dental factors affecting dental caries. The PubMed database was searched for articles with keywords 'caries', 'genetics', 'taste', 'diet' and 'twins'. This was followed by extensive handsearching using reference lists from relevant articles. The post-genomic era will present many opportunities for improvement in oral health care but will also present a multitude of challenges. We can conclude from the literature that genes have a role to play in dental caries; however, both environmental and genetic factors have been implicated in the aetiology of caries. Additional studies will have to be conducted to replicate the findings in a different population. Identification of genetic risk factors will help screen and identify susceptible patients to better understand the contribution of genes in caries aetiopathogenesis. Information derived from these diverse studies will provide new tools to target individuals and/or populations for a more efficient and effective implementation of newer preventive measures and diagnostic and novel therapeutic approaches in the management of this disease.</p>
Database :	Wiley Online Library

Title :	Evaluation of Acid Tolerance of Drugs Using Rats and Dogs Controlled for Gastric Acid Secretion
Author :	Yohei Kosugi, Syunsuke Yamamoto, Noriyasu Sano, Atsutoshi Furuta, Tomoko Igari, Yasushi Fujioka and Nobuyuki Amano

Journal :	Journal of Pharmaceutical Sciences: Article first published online, 26 FEB 2015 DOI: 10.1002/jps.24401
Abstract :	We attempted to establish animal models to evaluate the effects of drug degradation in the stomach on oral bioavailability. In addition, we assessed the utilization of animal studies in determining the need for enteric-coated formulations. In order to control the gastric pH in rats and dogs, appropriate dosing conditions were investigated using pentagastrin and rabeprazole, which stimulate and inhibit gastric acid secretion. Using animals controlled for gastric acid secretion, the area under curve (AUC) ratios (AUC with rabeprazole/AUC with pentagastrin) of all compounds unstable under acidic conditions were evaluated. The AUC ratios of omeprazole and erythromycin, which are administered orally to humans, as enteric-coated tablets, were greater than 1.9 in the rats and dogs controlled for gastric acid secretion. On the contrary, the AUC ratios of clarithromycin, azithromycin, and etoposide (commercially available as a standard immediate-release form) were less than 1.3 each. In conclusion, in vivo models using rats and dogs were optimized to evaluate the effects of gastric acid on the oral bioavailability of drugs, and demonstrated that in vivo models can lead to a better understanding of the oral bioavailability, with respect to the formulation development.
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Title :	Effect of long-acting versus short-acting stimulants for the treatment of Attention Deficit Hyperactivity Disorder (ADHD) on emergency room visits using Medical Expenditure Panel Survey (MEPS) data
Author :	Aylin Yucel, Jenil Patel and Mayurika N. Pise
Journal :	Journal of Pharmaceutical Health Services Research: Volume 6, Issue 1, pages 43–46, March 2015
Abstract :	Objective Emergency room (ER) visits are perceived with high costs and unpredictable outcomes. Although the association between Attention Deficit Hyperactivity Disorder (ADHD), stimulants and ER visits has been studied, the difference between the types of stimulants in terms of risk of ER visits has not been studied. Our objective is to identify the difference between the effects of long-acting and short-acting

	<p>stimulant use in ADHD on ER visits in 18- to 35-year-old adults (n = 636) in the year 2011.</p> <p>Methods</p> <p>This retrospective secondary data analysis used the Medical Expenditure Panel Survey data for the year 2011. Univariate and multivariate logistic regression were used to evaluate risk factors, influencing the type of stimulant use on ER visits. Risk factor and stimulant interactions were also included.</p> <p>Key findings</p> <p>The risk of ER visits in long-acting stimulant users, among the uninsured, on adjusting for race, marital and insurance status, is 14.25 times (P = 0.001) the risk of ER visits in short-acting stimulant users. If they are insured, the risk of ER visits in long-acting stimulant users is 1.83 times the risk of ER visits in short-acting stimulant users (P = 0.26).</p> <p>Conclusions</p> <p>Long-acting stimulants increase the risk of ER visits for people who do not have insurance. Therefore, besides the type of stimulants, lack of insurance is also a risk factor for increased ER visits for young ADHD adult population in the USA.</p>
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Title :	More action, less resistance: report of the 2014 summit of the Global Respiratory Infection Partnership
Author :	Attila Altiner, John Bell, Martin Duerden, Sabiha Essack, Roman Kozlov, Laura Noonan, John Oxford, Antonio Carlos Pignatari, Aurelio Sessa and Alike van der Velden
Journal :	International Journal of Pharmacy Practice : Article first published online, 25 FEB 2015 DOI: 10.1111/ijpp.12177
Abstract :	'Antimicrobial resistance is a global health security threat that requires concerted cross-sectional action by governments and society as a whole,' according to a report published by the WHO in April 2014[1]. On 24–25 June 2014, the Global Respiratory Infection Partnership (GRIP) met in London, UK, together with delegates from 18 different countries to discuss practical steps that can be taken at a local level to address this global problem in an aligned approach.

	<p>This was the second annual summit of GRIP. The group, formed in 2012, includes primary care and hospital physicians, microbiologists, researchers, and pharmacists from nine core countries. GRIP aims to unite healthcare professionals (HCPs) around the world to take action against inappropriate antibiotic use, focussing on one of the most prevalent therapy areas where antibiotics are inappropriately prescribed – upper respiratory tract infections (URTIs).</p>
Database :	Wiley Online Library

Title :	An evaluation of salt screening methodologies
Author :	Ana Fernández Casares, W. Mieke Nap, Glòria Ten Figás, Pieter Huizenga, Richard Groot and Marcel Hoffmann
Journal :	Journal of Pharmacy and Pharmacology : Article first published online, 14 FEB 2015 DOI: 10.1111/jphp.12377
Abstract :	<p>Objectives</p> <p>In this study, the advantages and disadvantages of three salt screening methodologies have been explored, and recommendations are put forward as to when each method is most appropriate.</p> <p>Methods</p> <p>Three salt screening methodologies have been investigated: the in-situ salt screen, the saturated solution or rational screen approach, and the cooling-evaporative or high-throughput method. Two Active Pharmaceutical Ingredients (APIs) with significant differences in aqueous solubility have been chosen for this study, namely aripiprazole and desvenlafaxine (see Figure 1).</p> <p>Key findings</p> <p>The in-situ salt formation screen appears to be a good method for early stage salt selection based on aqueous solubility, although this approach does not work for all APIs, as demonstrated in the comparison between aripiprazole and desvenlafaxine. The saturated solution method or rational approach demonstrated a valuable overview of the different salts that can be formed in an efficient and cost-effective manner. The cooling-evaporative screening method involved a complete examination of salt formation, including indication of polymorphism of the salts produced.</p>

	<p>Conclusions</p> <p>The three salt formation approaches are methods that deliver crystalline salts. The choice of salt screen approach depends on the physical properties of the drug substance, development stage and objective of the screen.</p>
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Title :	Stem cell state and the epithelial to mesenchymal transition: Implications for cancer therapy
Author :	Vera S. Donnemberg and Albert D. Donnemberg
Journal :	The Journal of Clinical Pharmacology: Accepted manuscript online, 24 FEB 2015 04:32AM EST DOI: 10.1002/jcph.486
Abstract :	<p>The cancer stem cell paradigm and the epithelial to mesenchymal transition (EMT) and its converse, MET, have reached convergence. Implicit in this understanding is the notion that cancer cells can change state, and with such change come bi-directional alterations in motility, proliferative activity, and drug resistance. As such, tumors present a moving target for anti-neoplastic therapy. This article will review the evolving adult stem cell paradigm and how changes in our understanding of the bidirectional nature of cancer cell differentiation may affect selection and timing of anti-neoplastic therapy. The goal is to determine how to best administer therapies potentially targeted against the cancer stem cell state in the context of established treatment regimens, and evaluate long-term effects beyond tumor regression.</p>
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Title :	Pantethine Alters Lipid Composition and Cholesterol Content of Membrane Rafts. With Down-Regulation of CXCL12-Induced T Cell Migration
Author :	Manuel van Gijssel-Bonnello, Niyazi Acar, Yves Molino, Lionel Bretillon, Michel Khrestchatisky, Max de Reggi and Bouchra Gharib
Journal :	Journal of Cellular Physiology: Accepted manuscript online: 27 FEB 2015 02:05PM EST DOI: 10.1002/jcp.24971
Abstract :	<p>Pantethine, a natural low-molecular-weight thiol, shows broad activity in a large range of essential cellular pathways. It has been long known as a hypolipidemic and</p>

	<p>hypocholesterolemic agent. We showed recently that it exerts a neuroprotective action in mouse models of cerebral malaria and Parkinson's disease through multiple mechanisms. In the present study we looked at its effects on membrane lipid rafts that serve as platforms for molecules engaged in cell activity, therefore providing a target against inappropriate cell response leading to chronic inflammation. We found that pantethine-treated cells showed a significant change in raft fatty acid composition and cholesterol content, with ultimate downregulation of cell adhesion, CXCL12-driven chemotaxis and transendothelial migration of various T cell types, including human Jurkat cell line and circulating effector T cells. The mechanisms involved include the alteration of the following: i) CXCL12 binding to its target cells; ii) membrane dynamics of CXCR4 and CXCR7, the two CXCL12 receptors; iii) cell redox status, a crucial determinant in the regulation of the chemokine system. In addition, we considered the linker for activation of T cells (LAT) molecule to show that pantethine effects were associated with the displacement from the rafts of the acylated signaling molecules which palmitoylation level was reduced. In conclusion, the results presented here, together with previously published findings, indicate that, due to its pleiotropic action, pantethine can down-regulate the multifaceted process leading to pathogenic T cell activation and migration.</p>
Database :	Wiley Online Library

Title :	Reward and Cognition: Integrating Reinforcement Sensitivity Theory and Social Cognitive Theory to Predict Drinking Behavior
Author :	Penelope Hasking, Mark Boyes, and Barbara Mullan
Journal :	Substance Use & Misuse: Posted online on February 23, 2015. (doi:10.3109/10826084.2015.1005315)
Abstract :	<p>Background: Both Reinforcement Sensitivity Theory and Social Cognitive Theory have been applied to understanding drinking behavior. We propose that theoretical relationships between these models support an integrated approach to understanding alcohol use and misuse.</p> <p>Objectives: We aimed to test an integrated model in which the relationships between reward sensitivity and drinking behavior (alcohol consumption, alcohol-related</p>

	<p>problems, and symptoms of dependence) were mediated by alcohol expectancies and drinking refusal self-efficacy.</p> <p>Methods: Online questionnaires assessing the constructs of interest were completed by 443 Australian adults (M age = 26.40, sd = 1.83) in 2013 and 2014.</p> <p>Results: Path analysis revealed both direct and indirect effects and implicated two pathways to drinking behavior with differential outcomes. Drinking refusal self-efficacy both in social situations and for emotional relief was related to alcohol consumption. Sensitivity to reward was associated with alcohol-related problems, but operated through expectations of increased confidence and personal belief in the ability to limit drinking in social situations. Conversely, sensitivity to punishment operated through negative expectancies and drinking refusal self-efficacy for emotional relief to predict symptoms of dependence.</p> <p>Conclusions: Two pathways relating reward sensitivity, alcohol expectancies, and drinking refusal self-efficacy may underlie social and dependent drinking, which has implications for development of intervention to limit harmful drinking.</p>
Database :	Informa Healthcare

Title :	An in-depth analysis of ethics teaching in Canadian physiotherapy and occupational therapy programs
Author :	Maude Laliberté, Anne Hudon, Barbara Mazer, Matthew R. Hunt, Debbie Ehrmann Feldman, and Bryn Williams-Jones
Journal :	Disability and Rehabilitation: Posted online on February 23, 2015. (doi:10.3109/09638288.2015.1015687)
Abstract :	<p>Purpose: The purpose of this study was to examine current approaches and challenges to teaching ethics in entry-level Canadian physiotherapy (PT) and occupational therapy (OT) programs.</p> <p>Methods: Educators responsible for teaching ethics in the 28 Canadian PT and OT programs (n = 55) completed an online survey.</p> <p>Results: The quantity of ethics teaching is highly variable, ranging from 5 to 65 h. Diverse obstacles to ethics teaching were reported, relating to the organization and structure of academic programs, student issues and the topic of ethics itself. Specific challenges included time constraints, large class sizes, a lack of</p>

	<p>pedagogical tools adapted to teaching this complex subject, a perceived lack of student interest for the subject and a preference for topics related to clinical skills. Of note, 65% of ethics educators who participated in the survey did not have any specialized training in ethics.</p> <p>Conclusion: Significant cross-program variation in the number of hours dedicated to ethics and the diversity of pedagogical methods used suggests that there is little consensus about how best to teach ethics. Further research on ethics pedagogy in PT and OT programs (i.e. teaching and evaluation approaches and effectiveness of current ethics teaching) would support the implementation of more evidence-based ethics education.</p>
Database :	Informa Healthcare

Title :	ProstateAnalyzer: web-based medical application for the management of prostate cancer using multiparametric MR imaging
Author :	Christian Mata, Paul M. Walker, Arnau Oliver, François Brunotte, Joan Martí, and Alain Lalande
Journal :	Informatics for Health and Social Care: Posted online on February 24, 2015. (doi:10.3109/17538157.2015.1008488)
Abstract :	<p>Objectives: In this paper, we present ProstateAnalyzer, a new web-based medical tool for prostate cancer diagnosis. ProstateAnalyzer allows the visualization and analysis of magnetic resonance images (MRI) in a single framework.</p> <p>Methods: ProstateAnalyzer recovers the data from a PACS server and displays all the associated MRI images in the same framework, usually consisting of 3D T2-weighted imaging for anatomy, dynamic contrast-enhanced MRI for perfusion, diffusion-weighted imaging in the form of an apparent diffusion coefficient (ADC) map and MR Spectroscopy. ProstateAnalyzer allows annotating regions of interest in a sequence and propagates them to the others.</p> <p>Results: From a representative case, the results using the four visualization platforms are fully detailed, showing the interaction among them. The tool has been implemented as a Java-based applet application to facilitate the portability of the tool to the different computer architectures and software and allowing the possibility to work remotely via the web.</p>

	<p>Conclusion: ProstateAnalyzer enables experts to manage prostate cancer patient data set more efficiently. The tool allows delineating annotations by experts and displays all the required information for use in diagnosis. According to the current European Society of Urogenital Radiology guidelines, it also includes the PI-RADS structured reporting scheme.</p>
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