

บทความที่น่าสนใจประจำเดือน กรกฎาคม 2557

Title :	Neuroprotection Against Degeneration of SK-N-MC Cells Using Neuron Growth Factor-Encapsulated Liposomes with Surface Cereport and Transferrin
Author :	Yung-Chih Kuo and Pei-Ru Chou
Journal :	Journal of Pharmaceutical Sciences: Article first published online: 7 JUL 2014 DOI: 10.1002/jps.24081
Abstract :	Liposomes with Cereport (RMP-7) and transferrin (Tf) (RMP-7/Tf/liposomes) were employed to target the blood–brain barrier (BBB) and to inhibit the degeneration of neurons insulted with fibrillar β -amyloid peptide 1–42 ($A\beta$ 1–42). Neuron growth factor (NGF)-encapsulated RMP-7/Tf/liposomes (RMP-7/Tf/NGF-liposomes) were used to permeate a monolayer of human brain-microvascular endothelial cells (HBMECs) regulated by human astrocytes (HAs) and to treat $A\beta$ 1–42-attacked SK-N-MC cells. An increase in RMT-7 concentration increased the particle size, zeta potential, propidium iodide (PI) permeability, and NGF permeability, but decreased the cross-linking efficiency of RMT-7, viability of HBMECs and HAs, and transendothelial electrical resistance (TEER). In addition, an increase in Tf concentration enhanced the particle size, viability of HBMECs, HAs, and SK-N-MC cells, PI permeability, and NGF permeability, but reduced the zeta potential, cross-linking efficiency of RMT-7 and Tf, and TEER. RMP-7/Tf/NGF-liposomes can transport NGF across the BBB and improve the neuroprotection for Alzheimer's disease therapy in preclinical trials.
Database :	Wiley Online Library

Title :	Foods and food components in the Mediterranean diet: supporting overall effects
Author :	Linda C Tapsell
Journal :	BMC Medicine 2014, 12:100 doi:10.1186/1741-7015-12-100
Abstract :	The recent publication of the PREDIMED trial provided definitive evidence that a Mediterranean diet provides protection against cardiovascular disease. Two articles published in BMC Medicine provide further understanding of why this may be the case, by considering contributory effects of olive oil, a core food in the diet, and polyphenols, a class of identifiable protective compounds. Using a number of statistical models, analyses were conducted to show around a 35% cardiovascular disease risk reduction in the highest consumers of olive oil and a similar degree of risk reduction for all-cause mortality comparing highest to lowest quintiles of polyphenol intake. The effects were an advance on cohort studies not related to trials. This suggests that it may be necessary to have better control of the background diet to enable exposure of the value of individual foods and nutrients in a dietary pattern, bearing in mind that, by nature, it is difficult to separate out effects of foods, nutrients and whole diets.
Database :	BMC Medicine

Title :	An exploration of the dynamic longitudinal relationship between mental health and alcohol consumption: a prospective cohort study
Author :	Steven Bell and Annie Britton
Journal :	BMC Medicine 2014, 12:91 doi:10.1186/ 1741-7015-12-91

Abstract :	<p>Background Despite intense investigation, the temporal sequence between alcohol consumption and mental health remains unclear. This study explored the relationship between alcohol consumption and mental health over multiple occasions, and compared a series of competing theoretical models to determine which best reflected the association between the two.</p> <p>Methods Data from phases 5 (1997 to 1999), 7 (2002 to 2004), and 9 (2007 to 2009) of the Whitehall II prospective cohort study were used, providing approximately 10 years of follow-up for 6,330 participants (73% men; mean \pm SD age 55.8 \pm 6.0 years). Mental health was assessed using the Short Form (SF)-36 mental health component score. Alcohol consumption was defined as the number of UK units of alcohol drunk per week. Four dynamic latent change score models were compared: 1) a baseline model in which alcohol consumption and mental health trajectories did not influence each other, 2) and model in which alcohol consumption influenced changes in mental health but mental health exerted no effect on changes in drinking and 3) vice versa, and (4) a reciprocal model in which both variables influenced changes in each other.</p> <p>Results The third model, in which mental health influenced changes in alcohol consumption but not vice versa, was the best fit. In this model, the effect of previous mental health on upcoming change in alcohol consumption was negative ($\gamma = -0.31$, 95% CI -0.52 to -0.10), meaning that those with better mental health tended to make greater reductions (or shallower increases) in their drinking between occasions.</p> <p>Conclusions Mental health appears to be the leading indicator of change in the dynamic longitudinal relationship between mental health and weekly alcohol consumption in this sample of middle-aged adults. In addition to fuelling increases in alcohol consumption among low-level consumers, poor mental health may also be a maintaining factor for heavy alcohol consumption. Future work should seek to examine whether there are critical levels of alcohol intake at which different dynamic relationships begin to emerge between alcohol-related measures and mental health.</p>
Database :	BMC Medicine

Title :	Diagnostic accuracy of quantitative PCR (Xpert MTB/RIF) for tuberculous pericarditis compared to adenosine deaminase and unstimulated interferon-γ in a high burden setting: a prospective study
Author :	Shaheen Pandie, Jonathan G Peter, Zita S Kerbelker, Richard Meldau, Grant Theron, Ureshnie Govender, Mpiko Ntsekhe, Keertan Dheda and Bongani M Mayosi
Journal :	BMC Medicine 2014, 12:101 doi:10.1186/1741-7015-12-101
Abstract :	<p>Background Tuberculous pericarditis (TBP) is associated with high morbidity and mortality, and is an important treatable cause of heart failure in developing countries. Tuberculous aetiology of pericarditis is difficult to diagnose promptly. The utility of the new quantitative PCR test (Xpert MTB/RIF) for the diagnosis of TBP is unknown. This study sought to evaluate the diagnostic accuracy of the Xpert</p>

	<p>MTB/RIF test compared to pericardial adenosine deaminase (ADA) and unstimulated interferon-gamma (uIFNγ) in suspected TBP.</p> <p>Methods From October 2009 through September 2012, 151 consecutive patients with suspected TBP were enrolled at a single centre in Cape Town, South Africa. Mycobacterium tuberculosis culture and/or pericardial histology served as the reference standard for definite TBP. Receiver-operating-characteristic curve analysis was used for selection of ADA and uIFNγ cut-points.</p> <p>Results Of the participants, 49% (74/151) were classified as definite TBP, 33% (50/151) as probable TBP and 18% (27/151) as non TBP. A total of 105 (74%) participants were human immunodeficiency virus (HIV) positive. Xpert-MTB/RIF had a sensitivity and specificity (95% confidence interval (CI)) of 63.8% (52.4% to 75.1%) and 100% (85.6% to 100%), respectively. Concentration of pericardial fluid by centrifugation and using standard sample processing did not improve Xpert MTB/RIF accuracy. ADA (≥ 35 IU/L) and uIFNγ (≥ 44 pg/ml) both had a sensitivity of 95.7% (88.1% to 98.5%) and a negative likelihood ratio of 0.05 (0.02 to 0.10). However, the specificity and positive likelihood ratio of uIFNγ was higher than ADA (96.3% (81.7% to 99.3%) and 25.8 (3.6 to 183.4) versus 84% (65.4% to 93.6%) and 6.0 (3.7 to 9.8); P = 0.03) at an estimated background prevalence of TB of 30%. The sensitivity and negative predictive value of both uIFNγ and ADA were higher than Xpert-MT/RIF (P < 0.001).</p> <p>Conclusions uIFNγ offers superior accuracy for the diagnosis of microbiologically confirmed TBP compared to the ADA assay and the Xpert MTB/RIF test.</p>
Database :	BMC Medicine

Title :	Chemical Modification of Hyaluronic Acid for Intraoral Application
Author :	Iavia Laffleur, Julia Röggl, Muneeb Ahmad Idrees and Julia Griessinger
Journal :	Journal of Pharmaceutical Sciences: Article first published online: 1 JUL 2014 DOI: 10.1002/jps.24060
Abstract :	<p>This study was aimed to investigate chemical preactivated thiomers for their potential use in mucosal drug delivery. Thiomers—thiolated polymers—are mucoadhesive polymers with sulfhydryl group-bearing side chains. Thiomers are synthesized by covalent attachment of low molecular mass compounds bearing sulfhydryl group to the polymeric backbone of well-established polymers. Hyaluronic acid–cysteine ethyl ester–mercaptocotinamide conjugates (HA–CYS–MNA) were synthesized by the oxidative S–S coupling of HA–CYS with 6-MNA. Conjugates were compressed into test discs to investigate cohesive properties, cytotoxicity assays, and mucoadhesion studies. Because of the immobilization of MNA, the HA–CYS–MNA conjugates exhibit comparatively higher swelling properties and cohesive properties corresponding unmodified HA. On the rotating cylinder, discs based on HA–CYS–MNA conjugates displayed fourfold improved mucoadhesion time compared with thiolated polymers. Tensile study results were found in good agreement with rotating cylinder results. Moreover, preactivated thiomers showed higher stability. All polymers were found nontoxic over Caco-2 cells. On the basis of achieved results, the preactivated thiomeric therapeutic agent seems to represent a promising generation of mucoadhesive polymers that are safe to use for a prolonged residence time to target the mucosa requested for</p>

	intraoral application.
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Title :	Impact of anticholinergic load of medications on the length of stay of cancer patients in hospice care
Author :	Komal P. Gupte and Wenchen Wu
Journal :	International Journal of Pharmacy Practice: Article first published online 23 JUN 2014 DOI: 10.1111/ijpp.12132
Abstract :	<p>Objectives An important goal of hospice care is to relieve pain and suffering of terminal cancer patients. Anticholinergic medications are effective in the symptom palliation among terminal cancer patients. However, use of these medications has been associated with increased risk of side effects, which might lead to premature mortality. Short lengths of stay in hospice care leave patients with a higher level of unmet needs. The study was conducted to examine the effect of increasing anticholinergic load on the length of stay of cancer patients in hospice care in the USA.</p> <p>Methods The National Home and Hospice Care Survey 2007 was used as the data source. The Cox proportional hazards model was used to investigate the risk of death among users of moderate and high anticholinergic load compared with users of low anticholinergic load in presence of other prognostic factors.</p> <p>Key findings Cancer patients on a moderate anticholinergic load had a 12.7% lower hazard of death ($P = 0.0244$), while those on a high anticholinergic load had a 15.6% lower hazard of death ($P = 0.0071$) as compared with those patients on a low anticholinergic load. Among other prognostic factors, non-elderly age group, male gender, white race, metropolitan hospice agency, non-profit hospice agency, severe activities of daily living dependency and cognitive impairment were significantly associated with a higher probability of death.</p> <p>Conclusions These results provide no evidence for increasing anticholinergic load increasing mortality in cancer patients using hospice care. Thus, high anticholinergic load might have conferred a protective effect on the patients because of better symptom control.</p>
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Title :	Musical auditory stimulation at different intensities and its effects on the geometric indices of heart-rate variability
Author :	Joice AT do Amaral, Herald L Guida, Marcela L Nogueira, Adriano L Roque, Luiz Carlos de Abreu, Rodrigo D Raimundo, Celso Ferreira and Vitor E Valenti
Journal :	Focus on Alternative and Complementary Therapies: Article first published online 8 JUL 2014 DOI: 10.1111/ftc.12124
Abstract :	<p>Introduction Previous studies have shown that relaxation music increases the heart's</p>

	<p>parasympathetic modulation as well as reducing its sympathetic activity. However, what is lacking in the literature is information on the acute effects of different intensities of music on cardiac autonomic regulation. We aimed to evaluate the acute effects of baroque and heavy-metal music on cardiac autonomic regulation at different intensities.</p> <p>Method The study was performed in 16 healthy men aged between 18 and 25 years. The main outcomes were the geometric indices of heart-rate variability (HRV) [i.e. triangular index (RRtri); triangular interpolation of RR intervals (TINN) and Poincaré plot: SD1, SD2 and SD1/SD2 ratio]. First, HRV was recorded at rest for 10 min. The volunteers were then exposed to baroque or heavy-metal music for 5 min through an earphone; subjects were exposed to each song at three different sound levels (60–70, 70–80 and 80–90 dB). After the first song, subjects remained at rest for 5 min before being exposed to the next song. The sequence of songs and sound intensity were randomised for each individual.</p> <p>Results Musical auditory stimulation with baroque music did not influence the geometric indices of HRV. The same was observed with heavy-metal musical auditory stimulation at the three sound-level ranges.</p> <p>Conclusion Musical auditory stimulation at different sound intensities did not influence the geometric indices of HRV in men.</p>
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Title :	Naturopathic medicine in India
Author :	Pradeep MK Nair BNYS and Awantika Nanda BNYS
Journal :	Focus on Alternative and Complementary Therapies: A rticle first published online 3 JUL 2014 DOI: 10.1111/fct.12125
Abstract :	<p>Background Naturopathy is a traditional system of medicine that believes in the body's innate capacity to heal itself. In India, the philosophy and practice of naturopathy differs from that of other countries. Yet little is known about the practice and regulatory affairs of naturopathy in India.</p> <p>Objectives To explore the Indian perspective of naturopathy in terms of philosophy, practice, regulatory issues, challenges and future directions.</p> <p>Methods An online literature search was carried out in PubMed and Google Scholar using the keywords 'naturopathic medicine', 'AYUSH systems', 'naturopathy' and 'CAM in India'. Websites of universities and government bodies were also searched for details regarding regulation and registration. Unstructured interviews were conducted with eminent experts and local physicians via telephone and in person to understand the challenges in practice and their views on the standardisation of naturopathy.</p> <p>Results Naturopathic medicine in India is a purely drugless approach. Naturopathic</p>

	<p>physicians use diet therapy, mud, hydrotherapy, massage, acupuncture, chromotherapy, magnet therapy, acupressure and yoga therapy as their main interventions. Lack of appropriate regulatory bodies, research, uniformity in practice and adequate support from the government are the main issues facing the naturopathic community in India.</p> <p>Conclusion Naturopathy, as practised in India, is a drugless system that believes in the body's self-healing capability. The lack of solid evidence for many of its modalities indicates the need to offer adequate research training to professionals to assist them in building an evidence-based practice. The standardisation of naturopathy can only happen by forming a central regulatory council and by calibrating its educational standards with respect to traditional philosophies.</p>
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Title :	Beta-Adrenoceptor Activation Reduces Both Dermal Microvascular Endothelial Cell Migration Via a cAMP-Dependent Mechanism and Wound Angiogenesis
Author :	Andrew P. O'Leary, James M. Fox and Christine E. Pullar
Journal :	Journal of Cellular Physiology: Accepted manuscript online 1 JUL 2014 10:06PM EST DOI: 10.1002/jcp.24716
Abstract :	<p>Angiogenesis is an essential process during tissue regeneration; however, the amount of angiogenesis directly correlates with the level of wound scarring. Angiogenesis is lower in scar-free fetal wounds while angiogenesis is raised and abnormal in pathophysiological scarring such as hypertrophic scars and keloids. Delineating the mechanisms that modulate angiogenesis and could reduce scarring would be clinically useful. Beta-adrenoceptors (β-AR) are G protein-coupled receptors expressed on all skin cell-types. They play a role in wound repair but their specific role in angiogenesis is unknown. In this study, a range of in vitro assays (single cell migration, scratch wound healing, ELISAs for angiogenic growth factors and tubule formation) were performed with human dermal microvascular endothelial cells (HDMEC) to investigate and dissect mechanisms underpinning β-AR-mediated modulation of angiogenesis in chick chorioallantoic membranes (CAM) and murine excisional skin wounds. β-AR activation reduced HDMEC migration via cAMP-dependent and PKA-independent mechanisms as demonstrated through use of an EPAC agonist that auto-inhibited the cAMP-mediated β-AR transduced reduction in HDMEC motility; a PKA inhibitor was, conversely, ineffective. ELISA studies demonstrated that β-AR activation reduced pro-angiogenic growth factor secretion from HDMECs (fibroblast growth factor 2) and keratinocytes (vascular endothelial growth factor A) revealing possible β-AR-mediated autocrine and paracrine anti-angiogenic mechanisms. In more complex environments, β-AR activation delayed HDMEC tubule formation and decreased angiogenesis both in the CAM assay and in murine excisional skin wounds in vivo. β-AR activation reduced HDMEC function in vitro and angiogenesis in vivo; therefore, β-AR agonists could be promising anti-angiogenic modulators in skin.</p>
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Title :	Production of High-Aroma Instant Tea Powder Using Various Novel Technologies
Author :	Danrong Ye, Ling Zhang, Shenlu Sun, Jinquan Chen and Ting Fang
Journal :	Journal of Food Process Engineering: Volume 37, Issue 3, pages 273–284, June

	2014
Abstract :	<p>Various nonthermal processing technologies were applied, including pulsed electric field (PEF) technology, freeze concentration and vacuum freeze-drying. The black tea was extracted with hot water extraction, cold extraction and PEF extraction. Results indicated that PEF-assisted extraction had the best extraction efficiency for the main chemical components from tea at lower temperatures. Optimal PEF extraction conditions were achieved (tea leaves/water ratio of 1:16, electric field strengths of 20 kV/cm and pulse frequency of 125 Hz). The effects of PEF-assisted extraction on the chemical component contents and sensory qualities of the tea infusion were investigated. Results showed that extraction yield (22.7%) of black tea powder could be enhanced over PEF-assisted extraction, whereas its original flavor could be retained by freeze concentration and vacuum freeze-drying. It also turned out that a total of 61 major aromatic compounds were identified in the tea powder. Floral and sweet flavor components were high and pure.</p>
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