บทความที่น่าสนใจประจำเดือน มิถุนายน 2559

สาขาวิทยาศาสตร์สุขภาพ

Title :	New approach to treating spinal cord injury using PEG-TAT-modified, cyclosporine-A-loaded PLGA/polymeric liposomes
Author :	Shi-Jie Gao, Yang Liu, Han-Jie Wang, De-Xiang Ban, Shi-Zhao Cheng, Guang-Zhi Ning, Liang-Liang Wang, Jin Chang & Shi-Qing Feng
Journal :	Journal of Drug Targeting: Published online: 02 Jun 2016 | DOI:10.1080/1061186X.2016.1191082
Abstract :	Cyclosporine-A (CsA) is an immunosuppressant agent that has shown effectiveness as a neuroprotective drug; however, it does not readily cross the blood-spinal cord barrier (BSCB), which constrains the clinical applications of CsA for the treatment of spinal cord injury (SCI). Our group recently tested the ability of novel polyethylene glycol (PEG)-transactivating-transduction protein (TAT)-modified CsA-loaded cationic multifunctional polymeric liposome-poly(lactic-co-glycolic acid) (PLGA) core/shell nanoparticles (PLGA/CsA NPs) to transport and deliver CsA across the BSCB to treat SCI. The PLGA/CsA NPs were successfully constructed. In vitro drug release studies have demonstrated that the sustained release of CsA from PLGA/CsA NPs occurs over $\sim$25 h. The in vivo study presented here showed that injured animals that received PLGA/CsA NPs through the tail vein, exhibited a significant up-regulation of growth-associated protein-43 (GAP-43) expression and an increased number of GAP-43-stained neurons compared with animals that received CsA or the vehicle alone. The improvement in neurological function was also evaluated by the Basso–Beattie–Bresnahan (BBB) open-field test. Moreover, fluorescein isothiocyanate (FITC)-attached PLGA/CsA NPs were successfully aggregated in the intact spinal cord 4 h after injection. Our data suggest that PLGA/CsA NPs have the potential for use as a new treatment method for SCI.
Database :	Taylor & Francis Online Journal

Title :	[Deferasirox pharmacokinetic evaluation in β-thalassaemia paediatric patients](#)
Author :	Sarah Allegra, Jessica Cusato, Silvia De Francia, Elisa Pirro, Davide Massano, Antonio Piga and Antonio D'Avolio
Journal :	Journal of Pharmacy and Pharmacology: Version of Record online 27 MAY 2016 | DOI: 10.1111/jphp.12559
Abstract :	**Objectives** Iron chelation in the transfusion-dependent anaemias management is essential to prevent end-organ damage and to improve survival. Deferasirox is a once-daily orally active tridentate selective iron chelator which pharmacokinetic disposition could influence treatment efficacy and toxicity. Therapeutic drug monitoring is an important tool for optimizing drug utilization and doses. **Methods** A fully validated chromatographic method was used to quantify deferasirox concentration in plasma collected from paediatric patients with β-thalassaemia. Samples obtained after 5 days of washout or in naïve patients before and after 2, 4, 6 and 24 h drug administration were evaluated. **Key findings** Associations between variables were tested using the Pearson test. Twenty paediatric patients were enrolled; they were mainly men (13.65%), with median age of 6.35 years and body mass index of 15.45 kg/m2. Concerning pharmacokinetic parameters, a higher interindividual variability was shown. A positive, but not significant, correlation (r = 0.363; P = 0.115) was found between deferasirox area under the concentration curve over 24 h (AUC) and drug dose. **Conclusions** Monitoring plasma deferasirox concentrations appears beneficial for guiding appropriate patient treatment, enhancing effectiveness and minimizing toxicity.
Database :	Taylor & Francis Online Journal

Title :	[Substitution and Complementarity of Alcohol and Cannabis: A Review of the Literature](#)
Author :	Meenakshi Sabina Subbaraman

Journal :	Substance Use & Misuse: Published online: 01 Jun 2016 | DOI:10.3109/10826084.2016.1170145
Abstract :	**Background**: Whether alcohol and cannabis are used as substitutes or complements remains debated, and findings across various disciplines have not been synthesized to date. **Objective**: This article is a first step towards organizing the interdisciplinary literature on alcohol and cannabis substitution and complementarity. **Method**: Electronic searches were performed using PubMed and ISI Web of Knowledge. Behavioral studies of humans with "alcohol" (or "ethanol") and "cannabis" (or "marijuana") and "complement*" (or "substitut*") in the title or as a keyword were considered. Studies were organized according to sample characteristics (youth, general population, clinical and community-based). These groups were not set a priori, but were informed by the literature review process. **Results**: Of the 39 studies reviewed, 16 support substitution, ten support complementarity, 12 support neither and one supports both. Results from studies of youth suggest that youth may reduce alcohol in more liberal cannabis environments (substitute), but reduce cannabis in more stringent alcohol environments (complement). Results from the general population suggest that substitution of cannabis for alcohol may occur under more lenient cannabis policies, though cannabis-related laws may affect alcohol use differently across genders and racial groups. **Conclusions**: Alcohol and cannabis act as both substitutes and complements. Policies aimed at one substance may inadvertently affect consumption of other substances. Future studies should collect fine-grained longitudinal, prospective data from the general population and subgroups of interest, especially in locations likely to legalize cannabis.
Database :	Taylor & Francis Online Journal

Title :	[Novel strategies for the treatment of grass pollen-induced allergic rhinitis](#)
Author :	Olivia Larsson, Laila Hellkvist, Ulla Peterson-Westin & Lars Olaf Cardell
Journal :	Expert Opinion on Biological Therapy: Published online: 09 Jun 2016| DOI:10.1080/14712598.2016.1190829
Abstract :	**Introduction**: Allergic rhinitis (AR) affects over 20% of the population of Europe and the United States. Allergen immunotherapy (AIT) is currently the only form of

	treatment that affects symptoms and modifies the progression of disease. Established forms of AIT include subcutaneous (SCIT) and sublingual (SLIT) immunotherapy and are widely effective, yet only 2-9% of eligible patients undergo therapy, likely due to the long duration of treatment. As a result, novel, faster forms of AIT are currently under development.
	Areas covered: This article provides an overview of AR and summarises the efficacy and mechanisms of established forms of AIT, highlighting the current drawbacks. We discuss novel strategies of AIT that have been developed in an attempt to tackle these limitations, including epicutaneous, intradermal and intralymphatic immunotherapy (ILIT), focusing on ILIT, the treatment that has been most comprehensively assessed.
	Expert opinion: Current strategies to treat AR suffer from a poor safety profile and, importantly, lack of adherence. ILIT is a faster and safer form of AIT, with a treatment regime of only 12 weeks. Further validation is required, but ILIT, with its short and comparatively inexpensive protocol, has the potential to offer disease-modifying therapy to a larger number of patients.
Database :	Taylor & Francis Online Journal

Title :	More than just dancing: experiences of people with Parkinson's disease in a therapeutic dance program
Author :	Stephanie Bognar, Anne Marie DeFaria, Casey O'Dwyer, Elana Pankiw, Jennifer Simic Bogler, Suzanne Teixeira, Joyce Nyhof-Young & Cathy Evans
Journal :	Disability and Rehabilitation : Published online: 23 May 2016 | DOI:10.1080/09638288.2016.1175037
Abstract :	**Purpose**: To understand why individuals with Parkinson's disease (PD) participate in a community-based therapeutic dance program and to explore its influence on perceived physical, social and emotional well-being of participants. **Methods**: A qualitative descriptive design was employed using one-on-one semi-structured interviews. Individuals with PD who participated in the Dancing with Parkinson's program were recruited from two locations. Interviews were audio-recorded, transcribed, de-identified and then placed into NVivo 10 software for analysis. A content analysis approach was used with an inductive analysis method

	to generate a coding scheme. Group discussion facilitated development of overarching themes. Results: Ten participants' responses revealed that the dance program allows for self-improvement and regaining identity through disease self-management. Positive influences of socialization arose through the class, decreasing isolation and improving quality of life. Participants communicate through music and dance to enhance connection with others. Conclusions: Dancing with Parkinson's classes allow for re-development of the social self, which can increase sense of enjoyment in life. Dance programs provide opportunities for social interaction, non-verbal communication and self-improvement, reestablishing self-identity and a sense of usefulness. This study provides unique insight into the experience of participating in a dance program from the perspective of individuals with PD.
Database :	Taylor & Francis Online Journal

Title :	Systemic causes of hair loss
Author :	Richard L. Lin, Lilit Garibyan, Alexandra B. Kimball & Lynn A. Drake
Journal :	Annals of Medicine : Published online: 05 May 2016 | DOI:10.1080/07853890.2016.1180426
Abstract :	Hair loss is both a common chief complaint by patients and a clinical challenge for physicians, especially general practitioners, yet few dermatological problems yield as much patient satisfaction when resolved as hair loss. The diagnosis is often attributed to androgen-related hair loss, while other causes, some of which are life-threatening but treatable, are overlooked. We searched for relevant literature on hair loss and supported these findings with our clinical experience to identify seven major systemic etiologies of hair loss, ranging from infectious agents to consumption of unsafe supplements. Many causes are only described in the literature through case studies, though some original articles and meta-analyses are available. Careful history taking, proper examination techniques, and judicious use of laboratory tests are essential to reach at the correct diagnosis in a cost-effective manner when performing patient work-up. Such methodical evaluation of hair loss can result in the appropriate treatment plan and provide significant patient satisfaction.

Database :	Taylor & Francis Online Journal

Title :	Prospects and progress of antibody-drug conjugates in solid tumor therapies
Author :	Serengulam V. Govindan, Robert M. Sharkey & David M. Goldenberg
Journal :	Expert Opinion on Biological Therapy : Published online: 03 May 2016 | DOI:10.1517/14712598.2016.1173203

Abstract :	**Introduction**: Antibody-drug conjugates (ADCs) for targeted chemotherapy have evolved in the past 2–3 decades to become a validated clinical cancer therapy modality. While considerable strides have been made in treating hematological tumors, challenges remain in the more difficult-to-treat solid cancers.
	Areas covered: The current model for a successful ADC uses a highly potent cytotoxic drug as the payload, with stringent linker requirements and limited substitutions. In solid tumor treatment, a number of ADCs have not progressed beyond Phase I clinical trials, indicating a need to optimize additional factors governing translational success. In this regard, insights from mathematical modeling provide a number of pointers relevant to target antigen and antibody selection. Together with the choice of targets, these can be expected to complement the gains made in ADC design towards the generation of better therapeutics.
	Expert opinion: While highly potent microtubule inhibitors continue to dominate the current ADC landscape, there are promising data with other drugs, linkers, and targets that suggest a more flexible model for a successful ADC is evolving. Such changes will undoubtedly lead to the consideration of new targets and constructs to overcome some of the unique natural barriers that impede the delivery of cytotoxic agents in solid tumor.
Database :	Taylor & Francis Online Journal

Title :	Is There a Role for PET/CT Parameters to Characterize Benign, Malignant, and Metastatic Parotid Tumors?
Author :	Ayse Tuba Karagulle Kendi, et al.
Journal :	American Journal of Roentgenology | Jun 8, 2016 (e-View Preprints) citation: American Journal of Roentgenology: 1-6. 10.2214/AJR.15.15590

| Abstract : | OBJECTIVE. Assessment of benign and malignant lesions of the parotid gland, including metastatic lesions, is challenging with current imaging methods. Fluorine-18 FDG PET/CT is a noninvasive imaging modality that provides both anatomic and metabolic information. Semiquantitative data obtained from PET/CT, also known as PET/CT parameters, are maximum, mean, or peak standardized uptake values (SUVs); metabolic tumor volume; total lesion glycolysis; standardized added metabolic activity; and normalized standardized added metabolic activity. Our aim was to determine whether FDG PET/CT parameters can differentiate benign, malignant, and metastatic parotid tumors.

MATERIALS AND METHODS. Thirty-four patients with parotid neoplasms underwent PET/CT before parotidectomy; maximum SUV, mean SUV, peak SUV, total lesion glycolysis, metabolic tumor volume, standardized added metabolic activity, and normalized standardized added metabolic activity were calculated on a dedicated workstation. Univariate analyses were performed. A ROC analysis was used to determine the ability of PET/CT parameters to predict pathologically proven benign, malignant, and metastatic parotid gland neoplasms.

RESULTS. Fourteen patients had a benign or malignant primary parotid tumor. Twenty had metastases to the parotid gland. When the specificity was set to at least 85% for each parameter to identify cut points, the corresponding sensitivities ranged from 15% to 40%. Assessment of benign versus malignant lesions of parotid tumors, as well as metastasis from squamous cell carcinoma versus other metastatic causes, revealed that none of the PET/CT parameters has enough power to differentiate among these groups.

CONCLUSION. PET/CT parameters, including total lesion glycolysis, metabolic tumor volume, standardized added metabolic activity, and normalized standardized added metabolic activity, are not able to differentiate benign from malignant parotid tumors, primary parotid tumors from metastasis, or metastasis from squamous cell carcinoma and nonsquamous cell carcinoma metastasis. |
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| Database : | American Roentgen Ray Society (Publisher) |

Title :	Preparation and in-vitro/in-vivo evaluation of curcumin nanosuspension with solubility enhancement

Author :	Xin Li, Huiling Yuan, Caiyun Zhang, Weidong Chen, Weiye Cheng, Xin Chen and Xi Ye
Journal :	Journal of Pharmacy and Pharmacology: Version of Record online -- 10 JUN 2016 | DOI: 10.1111/jphp.12575
Abstract :	**Objectives** We developed Cur nanosuspension (Cur-NS) with PVPK30 and SDS as stabilizers to improve poor water solubility and short biological half-time of Cur. **Methods** Physicochemical characterization of Cur-NS was characterized systematically. The in-vitro dissolution, cytotoxicity and in-vivo pharmacokinetic experiments of Cur-NS were also evaluated. **Key findings** Scanning electron microscope indicated that the morphologies of Cur-NS were spherical or ellipsoidal in shape. X-ray diffraction verified that Cur was successfully developed as nanoparticles with an amorphous phase in Cur-NS. Fourier transform infrared spectroscopy suggested there was no degradation about Cur in the Cur-NS. Furthermore, the in-vitro study showed that the cumulative release of the Cur-NS was 82.16 ± 2.62% within 34 h and the cytotoxicity of the Cur-NS against HepG2 cells was much better than raw Cur. Besides, in-vivo pharmacokinetics in rats by intravenous injection displayed that the in-vivo process of Cur-NS pertained to two-compartment model. Meanwhile, the $t_{1/2}$ and AUC_{0-t} of Cur-NS were enhanced by 11.0-fold and 4.2-fold comparing to Cur solution. **Conclusions** The Cur-NS significantly increased the water solubility and half-time of Cur, suggesting its potential as a nanocarrier in the delivery of Cur for future clinical application.
Database :	Wiley Online Library

Title :	You have full text access to this contentExploratory Literature Meta-analysis to Characterize the Relationship between Early and Longer-Term Body Weight Loss for Anti-Obesity Compounds

Author :	Nele Plock, Leon Bax, Douglas Lee, Deborah DeManno, Gezim Lahu and Marc Pfister
Journal :	The Journal of Clinical Pharmacology : Accepted manuscript online -- 9 JUN 2016 04:02AM EST | DOI: 10.1002/jcph.781
Abstract :	The presented analysis was performed to characterize the relationship between treatment-related early (week 4) and longer-term (3-6 months) weight loss to understand the potential utility of 4-week proof-of-mechanism studies in the early decision-making process during clinical development of new anti-obesity compounds. A regression-based meta-analysis was performed leveraging publically available clinical outcomes data to (i) characterize the within-trial relationship between treatment-related early and longer-term body weight loss, (ii) identify and quantify key covariate effects on this relationship. Data from 89 randomized clinical trials with 209 treatment arms, representing observations from 54,461 patients and 9 treatments, were available for the meta-analysis. Results indicated that (i) there is a correlation between treatment-related early and longer-term body weight loss (r >0.9), (ii) baseline body weight influences the relationship between early and long-term weight loss, whereas co-morbidity such as type 2 diabetes mellitus, class of drugs including GLP-1 analogues and the anti-obesity compounds lorcaserin or phentermine/topiramate showed no significant effects on this relationship. The model was externally evaluated with data from the investigational compound beloranib, for which longer-term weight loss could be successfully predicted based on early response data. Based on these results, the identified strong relationship between treatment-related early and longer-term weight loss appears to be independent of mechanism of action. Thus, findings from this analysis can optimize design of clinical studies and facilitate development of new anti-obesity compounds.
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