

บทความที่น่าสนใจประจำเดือน พฤศจิกายน 2558

สาขาวิทยาศาสตร์สุขภาพ

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| Title : | Evaluation of the Melody transcatheter pulmonary valve and Ensemble delivery system for the treatment of dysfunctional right ventricle to pulmonary artery conduits |
| Author : | Jeremy Asnes & William E Hellenbrand |
| Journal : | Expert Review of Medical Devices: Volume 12, Issue 6, 2015 pages 653-665. DOI:10.1586/17434440.2015.1102050 |
| Abstract : | Synthetic conduits and bioprosthetic valves are used in the treatment of patients with congenital heart disease involving the right ventricular outflow tract and pulmonary valve. In-situ time-dependent degradation uniformly results in conduit and valve dysfunction. The abnormal hemodynamics imposed by valve and conduit dysfunction have been linked to exercise intolerance, arrhythmia, right heart failure, and sudden death. Starting in childhood, affected patients are subjected to repeated open-heart surgeries to restore valve function and potentially reduce morbidity and mortality. Percutaneous transcatheter pulmonary valve replacement with the Melody® Transcatheter Pulmonary Valve (Medtronic, Inc., Minneapolis, MN) has been performed in ≈8000 patients worldwide. The valve and implant procedure provide a far less invasive means of restoring valve and conduit function and allow patients to forego multiple operations. Recent clinical trials have shown excellent and durable results in terms of valve function, relief of obstruction, and improvement in functional class up to 7 years from implant. |
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| Title : | Mitochondria-targeted drug delivery system for cancer treatment (Review Article) |
| Author : | Zhi-Peng Chen, Man Li, Liu-Jie Zhang, Jia-Yu He, Li Wu, Yan-Yu Xiao, Jin-Ao Duan, Ting Cai & Wei-Dong Li |
| Journal : | Journal of Drug Targetin, Published online: 07 Nov 2015, DOI:10.3109/1061186X.2015.1108325 |

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| Abstract : | Mitochondria are one type of the major organelles in the cell, participating in a variety of important physiological and biochemical processes, such as tricarboxylic acid cycle, fatty acid metabolism and oxidative phosphorylation. Meanwhile, it also happens to be the key regulator of apoptosis by triggering the complex cell-death processes through a variety of mechanisms. Since it plays a pivotal role in cell-death, a mitochondria-targeted treatment strategy could be promising for cancer therapy. In this comprehensive review, we focused on the mechanisms of mitochondrial targeting and a variety of strategies to realize the purpose of mitochondrial targeting, including that based on the use of lipophilic cations, and mitochondrial targeting signal peptides (MTS) as well as cell-penetrating peptides (CPPs). Then on this basis we present some several developed strategies for multifunctional mitochondria-targeted agents so as to achieve the good anti-cancer therapeutic effects. |
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| Title : | New pharmacological treatment options for irritable bowel syndrome with constipation (Review) |
| Author : | Salman Nusrat & Philip B. Miner Jr. |
| Journal : | Expert Opinion on Emerging Drugs, Published online: 07 Nov 2015, DOI:10.1517/14728214.2015.1105215 |
| Abstract : | <p>Introduction: Constipation predominant irritable bowel syndrome (IBS-C) is a common disorder and accounts for a large number of ambulatory visits. Sensory abnormalities, that is, presence of abdominal pain and discomfort, distinguish IBS-C from chronic idiopathic constipation.</p> <p>Area covered: This review focuses on the pharmacology, efficacy, safety, and future of prucalopride, YKP-10811, DSP-6952, dexloxyglumide, linaclotide, plecanatide, tenapanor, and elobixibat.</p> <p>Expert opinion: It is now well established that treatment focusing only on bowel transit provides incomplete relief to patients with IBS-C. Improved understanding of pathophysiology of IBS-C has led to use of sensory end points like complete spontaneous bowel movements and the FDA combined end point (abdominal pain and complete spontaneous bowel movements) in clinical trials. A number of drugs</p> |

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| | are in development and provide hope for this challenging group of patients. However, because of recent failures secondary to ineffectiveness and/or adverse events, we cautiously await how clinical data play out in larger studies and in clinical practice. |
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| Title : | Clinical effectiveness of CT-P13 (Infliximab biosimilar) used as a switch from Remicade (infliximab) in patients with established rheumatic disease. Report of clinical experience based on prospective observational data |
| Author : | Elena Nikiphorou, Hannu Kautiainen, Pekka Hannonen, Juha Asikainen, Arto Kokko, Tuomas Rannio & Tuulikki Sokk |
| Journal : | Expert Opinion on Biological Therapy, Published online: 07 Nov 2015, DOI:10.1517/14712598.2015.1103733 |
| Abstract : | <p>Objective: To gain clinical experience on the effectiveness and safety of switching from infliximab-Remicade(INX) to infliximab-biosimilar-CT-P13(INB) in patients with established rheumatic disease.</p> <p>Methods: Patients receiving INX treatment at a rheumatology clinic consented to switching from INX to INB. Patient reported outcomes (PROs), disease-activity, and inflammatory markers were recorded at every visit. Generalized estimating equation models and time-dependent area under the curve (AUC) before/during INX and INB treatments were employed.</p> <p>Results: Thirty-nine consecutive patients [mean (SD) age 53 (11), 17 F] with various rheumatic diseases were switched to INB after a mean (SD) of 4.1 (2.3) years on INX. Thirty-one patients were on concomitant methotrexate. At a median (range) of 11 (7.5-13) months following the first administration of INB, AUCs for disease activity and PROs were similar for INX and INB. They were better compared to those prior to INX. Eleven patients (28.2%) discontinued INB, due to INX antidrug antibodies detected prior to INB infusion (n = 3); latent tuberculosis (n = 1); new-onset neurofibromatosis (n = 1); subjective reasons with no objective deterioration of disease (n = 6).</p> <p>Conclusion: The clinical effectiveness of INB in both PROs and disease-activity measures was comparable to INX during the first year of switching, with no</p> |

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| | immediate safety signals. Subjective reasons (negative expectations) may play a role among discontinuations of biosimilars. Larger patient numbers and longer follow-up are necessary for confirming this clinical experience. |
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| Title : | A review of manual wheelchairs (Review Paper) |
| Author : | Claire L. Flemmer & Rory C. Flemmer |
| Journal : | Disability and Rehabilitation: Assistive Technology, Published online: 07 Nov 2015, DOI:10.3109/17483107.2015.1099747 |
| Abstract : | <p>Purpose: To review the scientific literature published in the last 14 years on the different types of manual wheelchairs. Method: A systematic review of the literature was conducted to find the recent research on manual wheelchairs. Results: The findings of 77 references on pushrim-propelled wheelchairs, crank-propelled wheelchairs, lever-propelled wheelchairs, geared manual wheelchairs and pushrim-activated power-assist wheelchairs are reported. Conclusion: The pushrim-propelled wheelchair is light, easy to steer and has good indoor manoeuvrability but is very inefficient and causes serious upper body overloading so that long-term use leads to steadily deteriorating capability for the user and ultimately a transition to a powered chair. Whilst the latter is less physically demanding, the sedentary lifestyle and decreasing muscle use lead to several secondary health problems. Crank- and lever-propelled wheelchairs and geared pushrim wheelchairs are more efficient and less demanding and may improve the quality of life of the user by expanding the range of accessible environments, reducing upper body pain, increasing independence and avoiding or delaying the 'debilitating cycle'. However, wheelchairs with these alternative modes of propulsion are often heavier, wider and/or longer and are less easy to steer, brake and fold than the pushrim wheelchair.</p> <p>Implications for rehabilitation</p> <p>Pushrim-propelled wheelchairs are difficult to drive on outdoor paths (grass and gravel/sand surfaces) and ramps so that users are confined to restricted environments and have limited participation in everyday activities.</p> |

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| | <p>The repetitive strain imposed on the upper body by pushrim propulsion leads to very high prevalence of shoulder and wrist pain in manual wheelchair users.</p> <p>Crank-propelled and lever-propelled wheelchairs are more efficient and less straining than pushrim propelled wheelchairs, allowing users to access more challenging environments, prolong independence and improve the quality of life.</p> |
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| Title : | Assessing and targeting key lifestyle cardiovascular risk factors at the workplace: Effect on hemoglobin A1c levels |
| Author : | Valérie Lévesque, Paul Poirier, Jean-Pierre Després & Natalie Alméras |
| Journal : | Annals of Medicine, Published online: 05 Nov 2015, DOI:10.3109/07853890.2015.1091943 |
| Abstract : | <p>Purpose: Despite the key role played by lifestyle habits in the epidemic of type 2 diabetes (T2D), nutritional quality and physical activity are not systematically considered in clinical practice. The project was conducted to verify whether assessing/targeting lifestyle habits could reduce hemoglobin A1c (HbA1c) levels of employees. Methods: The intervention consisted of a 3-month competition among teams of five employees to favor peer-based support in the adoption of healthier lifestyle habits (Eat better, Move more, and Quit smoking) (n = 900). A comprehensive cardiometabolic/cardiorespiratory health assessment was conducted before and after the contest (nutrition/physical activity questionnaires, blood pressure, anthropometric measurements, lipid profile, HbA1c, fitness). HbA1c levels were used to identify individuals with prediabetes (5.7%–6.4%) or T2D ($\geq 6.5\%$). Results: At baseline, 51% of the employees had increased HbA1c levels ($\geq 5.7\%$). The HbA1c levels were associated with waist circumference, independently of body mass index. Subjects with prediabetes showed a higher waist circumference as well as a more deteriorated cardiometabolic profile compared to workers with normal HbA1c levels. After the intervention, employees with elevated HbA1c significantly reduced their HbA1c levels. Conclusion: Results suggest that assessing/targeting key lifestyle correlates of the cardiometabolic profile represents a relevant approach to target abdominal obesity and fitness with a significant impact on HbA1c levels.</p> |

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| | <p>Key messages</p> <p>The prevalence of employees with prediabetes or undiagnosed type 2 diabetes (T2D) was rather high in our cohort, suggesting that, from a public health standpoint, identification of those individuals is not optimal.</p> <p>Employees with prediabetes or T2D showed a higher waist circumference and a more deteriorated cardiometabolic risk profile compared to those with normal HbA1c levels.</p> <p>The significant reduction in HbA1c levels observed in response to the 3-month intervention supports the notion that a program which assesses and manages cardiometabolic risk at the workplace by also focusing on key lifestyle factors (nutritional quality and physical activity levels) represents an interesting option to reduce the risk of developing diabetes among high-risk individuals or to improve glycemic control and related cardiometabolic risk in patients with T2D.</p> |
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| Title : | Proteomic Profiling of Serum-Derived Exosomes from Ethnically Diverse Prostate Cancer Patients |
| Author : | David Turay, Salma Khan, Carlos J. Diaz Osterman, Matthew P. Curtis, et. al. |
| Journal : | Cancer Investigation, Published online: 04 Nov 2015, DOI:10.3109/07357907.2015.1081921 |
| Abstract : | Prostate cancer (PCa) remains the most frequently diagnosed male malignancy in Western countries and the second most common cause of male cancer death in the United States. The relatively elevated PCa incidence and mortality among African American men makes this cancer type a challenging health disparity disease. To increase the chance for successful treatment, earlier detection and prediction of tumor aggressiveness will be important and need to be resolved. This study demonstrates that small membrane-bound vesicles shed from the tumor called exosomes contain ethnically and tumor-specific biomarkers, and could be exploited for their diagnostic and therapeutic potential. |
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| Title : | Drugs acting on homeostasis: challenging cancer cell adaptation (Review) |
| Author : | Maria Moschovi, Elena Critselis, Osman Cen, Maria Adamaki, George I Lambrou, George P Chrousos & Spiros Vlahopoulos |
| Journal : | Expert Review of Anticancer Therapy, Published online: 02 Nov 2015, DOI:10.1586/14737140.2015.1095095 |
| Abstract : | Cancer treatment aims to exploit properties that define malignant cells. In recent years, it has become apparent that malignant cells often survive cancer treatment and ensuing cell stress by switching on auxiliary turnover pathways, changing cellular metabolism and, concomitantly, the gene expression profile. The changed profile impacts the material exchange of cancer cells with affected tissues. Herein, we show that pathways of proteostasis and energy generation regulate common transcription factors. Namely, when one pathway of intracellular turnover is blocked, it triggers alternative turnover mechanisms, which induce transcription factor proteins that control expression of cytokines and regulators of apoptosis, cell division, differentiation, metabolism, and response to hormones. We focus on several alternative turnover mechanisms that can be blocked by drugs already used in clinical practice for the treatment of other non-cancer related diseases. We also discuss paradigms on the challenges posed by cancer cell adaptation mechanisms. |
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| Title : | Growth hormone for risk stratification and effects of therapy in acute myocardial infarction |
| Author : | Leong L. Ng, Sanjay S. Bhandari, Jatinderpal K. Sandhu, Paulene A. Quinn, et. al. |
| Journal : | Biomarkers , Published online: 02 Nov 2015, DOI:10.3109/1354750X.2015.1093031 |
| Abstract : | <p>Context: Excess growth hormone (GH) is associated with early mortality.</p> <p>Objectives: We assessed the association of GH with prognosis after acute myocardial infarction (AMI), and the effects of secondary prevention therapies.</p> <p>Methods: GH was measured using a high-sensitivity assay in 953 AMI patients (687 males, mean age 66.1 ± 12.8 years).</p> |

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| | <p>Results: During 2 years follow-up, there were 281 major adverse cardiac events (MACE). Patients with MACE had higher GH levels (median [range], 0.91 [0.04–26.28] $\mu\text{g/L}$) compared to event-free survivors (0.59 [0.02–21.6], $p < 0.0005$). In multivariate Cox survival analysis, GH was a significant predictor of MACE (hazard ratios 1.43, $p = 0.026$ and 1.49, $p = 0.01$, respectively) with significant interactions with beta blocker therapy ($p = 0.047$) and angiotensin converting enzyme inhibitor or angiotensin receptor blocker (ACE/ARB) therapy ($p = 0.016$).</p> <p>Conclusions: GH levels post-AMI are prognostic for MACE and may indicate those patients who benefit from beta blocker and ACE/ARB therapy.</p> |
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| Title : | Sapacitabine in the treatment of acute myeloid leukemia (Drug profiles) |
| Author : | Maxim Norkin & Ashley I Richards |
| Journal : | Expert Review of Anticancer Therapy, Published online: 02 Nov 2015, DOI:10.1586/14737140.2015.1102064 |
| Abstract : | <p>Prognosis of elderly patients with acute myeloid leukemia (AML) remains poor and new treatment approaches are urgently needed. A novel nucleoside analog sapacitabine has recently emerged as a feasible agent because of its oral administration and acceptable toxicity profile. Clinical efficacy of sapacitabine, both as a single agent and in combination, has been evaluated in elderly AML patients or AML patients unfit for standard intensive chemotherapy. Response rates varied from 15 to 45% in phase II studies. Sapacitabine was overall well-tolerated with gastrointestinal and myelosuppression-related complications were the most common side effects. Unfortunately, in a phase III study sapacitabine showed no clinical superiority as compared to low-dose cytarabine (LDAC) in patients with AML. Another large phase III study comparing the combination of sapacitabine with decitabine to decitabine alone is currently ongoing and is expected to be completed by the end of 2015 or by the first half of 2016.</p> |
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