PCN1

BONE SAFETY PROFILE OF DENOSUMAB THERAPY: A PHARMACOVIGILANCE CHARACTERIZATION ANALYSIS

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OBJECTIVES: Denosumab is a biologic approved in June 2010 to treat bone tumors and hypercalcemia of malignancy. This study characterizes bone safety signals of subcutaneous antiresorptive bimolecular (SAF) and osteonecrosis of the jaw (ONJ) in relation to denosumab therapy. METHODS: The FDA Adverse Event Reporting System (AERS) was used to detect signals of SAF and ONJ in relation to denosumab therapy. Adverse event reports submitted between July 2010 and December 2014 were retrieved and disproportionional reporting of SAF and ONJ was calculated by Empirical Bayes Geometric Mean (EBGM). Denosumab-event pairs with EBGM 95% confidence interval (CI) > 1.0 and AERS=EBGM-26.9, 95%CI=21.5-35.0 were compared to other drugs. The majority of denosumab users who experienced both events were females, and average age was 69 years (SAF SD=9.5, ONJ SD=11.3). 12 SAF and 65 ONJ events lead to hospitalization. 55 and 14 ONJ events contributed to patient disability and death, respectively. Other factors could have lead to these serious outcomes, including comedations and comorbidities. CONCLUSIONS: SAF and ONJ are potential risks of denosumab therapy. Patients with thigh or hip pain should seek immediate medical help, and periodic dental and maxilofacial evaluations should be performed before and during denosumab therapy. Pharmacoepidemiologic studies are recommended to further characterize these risks, as some patients were treated with other medications, including systemic corticosteroids at the time of event occurrence.

RESEARCH POSTER PRESENTATIONS - SESSION IV

DISEASE - SPECIFIC STUDIES
CANCER – Clinical Outcomes Studies

PCN2

META-ANALYSIS OF THE SAFETY OF SIPULUCEL-T IMMUNOTHERAPY IN PROSTATE CANCER

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OBJECTIVES: SIPULUCEL-T is an autologous active cellular immunotherapy designed to reduce the risk of death in patients with prostate cancer. The aim of this study was to evaluate the safety of SIPULUCEL-T for patients with prostate cancer. METHODS: PubMed, EMBASE and the Cochrane Central Register of Controlled Trials were searched through January 10, 2015. Criteria for inclusion were randomized, placebo-controlled clinical trials on SIPULUCEL-T, patients receiving three infusions, 36 months follow-up and the availability of outcomes data for adverse events. The primary outcome was the total number of adverse events. Secondary outcomes were examined as eighteen specified adverse events. Two investigators selected studies independently and assessed the quality of studies using the Jadad scale. Point estimates with a 95% confidence interval were generated. Fixed-effect or random-effect models were based on the evaluation of heterogeneity. RESULTS: Five clinical trials encompassing 1031 patients were included. The overall adverse event rate was 1.02 (95% CI 1.00 to 1.04; p=0.035, 1031 patients), pyrexia (RR 1.50; 95% CI 1.40 to 1.60; p=0.002, 1031 patients), headache (RR 2.68; 95% CI 1.75 to 4.10; p<0.001, 1031 patients), influenza like illness (RR 3.07; 95% CI 1.48 to 6.36; p=0.003, 681 patients), myalgia (RR 2.24; 95% CI 1.26 to 4.00; p=0.006, 681 patients), nausea (RR 1.40; 95% CI 1.05 to 1.88; p=0.023, 1031 patients), vomiting (RR 1.86; 95% CI 1.21 to 2.88; p=0.005, 851 patients) and dyspepsia (RR 3.72; 95% CI 1.34 to 10.36; p=0.012, 350 patients). CONCLUSIONS: SIPULUCEL-T significantly increased the risk of selected adverse events in patients with prostate cancer. Although many adverse events were transient, patients and providers should consider the potential risk of treatment with SIPULUCEL-T.

PCN3

TREATMENT FOR CHEMOTHERAPY-RELATED COGNITIVE DYSFUNCTION: REVIEW OF THE LITERATURE

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OBJECTIVES: Chemotherapy-related cognitive dysfunction (CRCD), colloquially known as ‘chemo fog’ or ‘chemo brain,’ describes the impact of chemotherapy on cognitive functioning in domains ranging from memory to expressive language. CRCD is generated by a direct or indirect effect of chemotherapy on the brain. In the temporal lobe, the bluba, and pyrorgen. Half of the studies focused on breast cancer. Most resulted in small effect sizes, with significant findings, but two studies of etoposide and carboplatin had trial significant results. All 3 of the non-pharmacological studies focused on patients with breast cancer, two using a form of cognitive-behavior therapy (CBT) and the third studying a yoga program. CONCLUSIONS: The review found a large number of studies investigating the psychoeducational approaches, underscoring the extent of the cognitive impairment, and discussing etiological theories, such as the relationship of CRCD to fatigue and anxiety. However, there was a paucity of well-designed, sufficiently powered studies of potential treatments, given the extent of the problem and its impact on patient functioning. This is an area of clear patient need which warrants further scientific study.

PCN4

HYPOFRACTIONATED RADIOTHERAPY IN THE TREATMENT OF EARLY BREAST CANCER: SYSTEMATIC REVIEW AND META-ANALYSIS

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OBJECTIVES: To evaluate short and long term effects of hypofractionated radiation therapy in women with early stage breast cancer, after undergoing breast conservatory surgery. METHODS: The review found a large number of studies investigating the psychoeducational approaches, underscoring the extent of the cognitive impairment, and discussing etiological theories, such as the relationship of CRCD to fatigue and anxiety. However, there was a paucity of well-designed, sufficiently powered studies of potential treatments, given the extent of the problem and its impact on patient functioning. This is an area of clear patient need which warrants further scientific study.

PCN5

RISK OF CARDIOXotoxicITY AND ALL-CAUSE MORTALITY IN BREAST CANCER PATIENTS AFTER ADJUVANT CHEMOTHERAPY OR HORMONAL THERAPY

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OBJECTIVES: The purpose of this study was to estimate incidence of and identify factors associated with cardiotoxicity, defined as heart failure and/or cardiomyopathy, and all-cause mortality in breast cancer patients undergoing adjuvant chemotherapy or hormones. METHODS: A retrospective, population-based cohort study of 108,672 women newly diagnosed with breast cancer from 2001-2009 was conducted using the Surveillance, Epidemiology, and End Results (SEER)-Medicare-linked database. Adjuvant chemotherapy were classified as mutually exclusive groups: anthracycline-based, taxane-based, and taxane-/anthracyline-based. Adjuvant/neo-adjuvant hormone therapy included tamoxifen and/or taxane-/anthracyline and/or taxane- and/or hormone. Propensity score matching adjusted for differences in patient characteristics across treatments. The final sample included a total of 11,250 women. Multivariate Cox proportional hazards regression models estimated hazard ratios (HRs) of cardiotoxicity and all-cause mortality with adjustment for inverse probability weights, sociodemographics, cancer characteristics, comorbidities, surgery, radiation, and age, and year at diagnosis. RESULTS: Compared with hormone, risk of cardiotoxicity was higher in patients treated with anthracycline and taxotaxalum-based (adjusted HR=1.87; 95% confidence intervals [CI]=1.51-2.33), trastuzumab-based (HR=1.32; 95%CI=1.14-1.52), and anthracycline-based (HR=1.14; 95%CI=1.03-1.27) regimens, respectively. Certain baseline characteristics were significant predictors of cardiotoxicity, including demographics (older age vs. ≤70 years, non-Hispanic black), cancer characteristics (advanced stage), comorbidities (cardiovascular conditions or renal failure), year at diagnosis, and West region (vs. Northeast). Additionally, risk of all-cause mortality was higher in patients treated with taxane-/anthracyline-based (HR=1.54; 95%CI=1.43-1.67) regimens compared to hormone and anthracycline-based regimens. Baseline characteristics including sociodemographics, cancer characteristics, cardiovascular or renal failure comorbid conditions, year at diagnosis, and Southeast region were significant predictors of all-cause mortality (all P<0.05). CONCLUSIONS: Women with breast cancer treated with trastuzumab-based and/or taxane-/anthracyline-based regimens had increased cardiotoxicity risk compared with hormone regimens, while women with taxane-based regimens had higher rates of all-cause mortality. Types of chemotherapy are associated with increased risk of cardiotoxicity and all-cause mortality. Practitioners should further evaluate treatment and patient characteristics for risk mitigation strategies.