

sets. Finally, the standardized canonical coefficients, which are analogous to regression coefficients, evaluate the magnitude of variate relationships and determine which subscales best describe significant canonical dimensions. RESULTS/ANTICIPATED RESULTS: Prior to the canonical correlation analysis, total score descriptive statistics and subscale score zero-order correlations were carried out. The CAPS-5 total score was 33.24 (SD = 9.39) and the TFI total score was 50.81 (SD = 21.88) in this sample. Interpretation of the zero-order correlations indicated that TFI Relaxation subscale was the only tinnitus-related subscale moderately associated with a PTSD subscale (i.e., Reexperiencing, $r = .35$). Canonical correlation omnibus model fit analysis via the Wilks Lambda overall multivariate test indicated that the tinnitus variable set was significantly associated with the PTSD variable set, $F = 1.55$, $p = .04$. Evaluation of the canonical correlations indicated that one dimension was significant in explaining the relationship between the two variable sets and accounted for 25% of the overall variance, $F = 1.55$, $p < .04$, $R^2 = .249$. Standardized canonical coefficients indicated that the PTSD subscales Reexperiencing ($b = 0.64$) and Negative Alterations in Cognition and Mood ($b = 0.55$) were the most representative of the identified canonical dimension. In terms of the TFI, the Relaxation ($b = 1.28$) and Sleep ($b = 0.72$) subscales appeared to be most related to the canonical dimension. The TFI subscales Auditory Difficulty ($b = -0.30$) and Quality of Life ($b = 0.30$) also appeared to be related to the canonical dimension to a lesser degree. DISCUSSION/SIGNIFICANCE OF IMPACT: Findings support prior research suggesting particularly deleterious functional outcomes among individuals with comorbid tinnitus and PTSD. Results of this study suggest a latent variable that can explain the unique experience of individuals with both disorders. This latent variable consists of two PTSD constructs: Reexperiencing traumatic events (i.e., flashbacks, nightmares, intrusive memories), and Negative Alterations in Cognition and Mood (i.e., self- and other-blame, strong negative feelings, loss of interest, feeling distant). This latent variable also consists of two tinnitus-related constructs: Sleep (i.e., trouble falling and staying asleep, peaceful sleep) and Relaxation (i.e., ability to relax, enjoyment of peace and quiet). Auditory Difficulty (i.e., hear clearly, understand people) and Quality of Life (i.e., social activities, relationships, difficulty performing tasks) also contributed to the latent variable, but to a lesser degree. It is suggested that the constellation of symptoms related to the latent variable is a Dysphoric Factor, unique to individuals with PTSD, tinnitus, and posttraumatic headache. It may be necessary to incorporate different techniques into existing evidence-based treatments for both tinnitus and PTSD, for optimal symptom improvement.

4074

The Role of Immortal Time Bias When Linking Treatment to Outcomes among Older Patients with Incident Hodgkin Lymphoma (HL) using Surveillance, Epidemiology and End Results (SEER)-Medicare Data

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OBJECTIVES/GOALS: Older patients with HL have worse outcomes than younger patients, which may reflect treatment selection, including fewer chemotherapy cycles. Immortal time bias exists when patients must survive to initiation, and even completion, of

treatment. We described treatment length and death to evaluate the extent of immortal time bias. METHODS/STUDY POPULATION: This retrospective cohort study utilized SEER-Medicare data from 1999-2014. Patients diagnosed with incident advanced stage HL at age ≥ 65 years and enrolled in Medicare Part A and B fee for service were included. Chemotherapy or radiotherapy treatment initiated within 4 months of diagnosis was determined from inpatient, outpatient, and physician/supplier claims. No treatment was defined by lack of treatment claims. Dates from claims were used to define length of treatment; ≥ 4 months of treatment indicated complete chemotherapy cycles. Date of death was obtained from Medicare data. Analyses were limited to 1 year post-diagnosis. Summary statistics were used to describe treatment length and subsequent death. RESULTS/ANTICIPATED RESULTS: We included 1492 advanced stage HL patients with a mean age of 76 years (SD = 7). 428 (29%) patients had no documented treatment; 397 (27%) were treated < 4 months indicating fewer chemotherapy cycles; and 667 (45%) were treated for ≥ 4 months indicating complete chemotherapy cycles. Among those with no documented treatment, 15% died within 1 month of diagnosis with 78% dying by 1 year post-diagnosis. Among those treated < 4 months, 36% died within 1 month of their last treatment claim with 64% dying by 1 year post-diagnosis. Among those treated ≥ 4 months, 7% died within 1 month of their last treatment claim with 14% dying by 1 year post-diagnosis. DISCUSSION/SIGNIFICANCE OF IMPACT: Few untreated patients died within 1 month of diagnosis. One-third of patients treated < 4 months died soon after completion of treatment, while patients treated longer survived longer, suggesting some patients did not survive to complete treatment. To account for this immortal time bias, landmark analysis will be used to assess the relationship between treatment and survival.

4155

THE ROLE OF PERIODONTAL DISEASE IN CORONARY ARTERY DISEASE IN A HISPANIC POPULATION

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OBJECTIVES/GOALS: The purpose of this report is to describe the role of Periodontal Disease (PD) in Coronary Artery Disease (CAD) in a Hispanic country. METHODS/STUDY POPULATION: Literature and Puerto Rican experience was reviewed and will be discussed. RESULTS/ANTICIPATED RESULTS: PD produces inflammatory disease by bacterial infection in the gingiva. This factor PD activates an inflammatory process affecting the CAD cascade inducing myocytes, endothelial cells activation and cytokines. The incidence of gingival disease in the Puerto Rican population (P) is around 50%; of this group 80% will develop periodontal disease. Including this factor and diabetes mellitus Type 2, still the incidence of CAD is 20-30% less than the U.S.A. DISCUSSION/SIGNIFICANCE OF IMPACT : CAD is a systemic disease related to genetic factors and inflammation. PD is related to an inflammatory process, which will activate the CAD process, producing tissue infarcts. The daily use of resolving or liquid Omega 3 in the gingival tissue is useful in the prevention of gingival and periodontal disease. CONFLICT OF INTEREST DESCRIPTION: All authors have no relationship with any industry or financial associations in connection with the submitted abstract.

4148

Thrombocytopenia and whole blood transfusion in children with severe falciparum malaria

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OBJECTIVES/GOALS: Severe malarial anemia due to *Plasmodium falciparum* is often accompanied by thrombocytopenia. Treatment includes transfusion of whole blood, which contains erythrocytes, platelets, and other blood components. The objective of the study was to assess the effect of whole blood transfusion on survival in children with severe falciparum malaria and to examine the potential interaction of thrombocytopenia with malaria mortality and transfusion response. **METHODS/STUDY POPULATION:** We analyzed a retrospective cohort of 842 hospitalized children in Zambia with severe malarial anemia (703 transfused, 139 not transfused due to stock-out or other reason). Severe malarial anemia was defined as a positive rapid diagnostic test or blood smear in combination with an admission hemoglobin concentration ≤ 5 g/dL. **RESULTS/ANTICIPATED RESULTS:** Mortality was 13% (94/703) in the transfused group and 24% (34/139) in the non-transfused group. Kaplan-Meier survival estimates stratified by transfusion status and thrombocytopenia (150,000/ μ L threshold) showed increased mortality in children with thrombocytopenia who did not undergo transfusion, with no differences in mortality among the other transfused and non-transfused groups (log-rank test $P = 0.0001$). Effect modification analysis by Cox proportional hazards regression adjusted for age, sex, hemoglobin concentration, blood group type, and eosinophilia showed a significant interaction between platelet count and transfusion status ($P = 0.028$). Children with thrombocytopenia who were transfused and died had little or no post-transfusion increase in platelets, in contrast to those who survived. Freshness of transfused whole blood, construed from expiration dates, correlated with greater platelet recovery and improved survival. **DISCUSSION/SIGNIFICANCE OF IMPACT:** The role of platelets in malaria pathophysiology is complex and incompletely understood; prior studies describe preferential binding of platelets to parasitized erythrocytes and direct parasitocidal activity, whereas others detailed deleterious effects in malaria involving the central nervous system vasculature. These findings point to a potential clinical role for platelet-directed transfusion strategies to improve survival in children with severe falciparum malaria, which should be further assessed in randomized interventional studies.

4237

TL1 Team Approach to Peripartum Obsessive-Compulsive Disorder: a meta-analysis of the perceived impact of gestation and delivery on symptomatology

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OBJECTIVES/GOALS: Obsessive compulsive disorder (OCD) is a serious and impairing disorder. The peripartum is associated with

changes in pre-existing OCD, including exacerbation and improvement of the disorder. This meta-analysis seeks to understand the proportion of women reporting a change in OCD during this time. **METHODS/STUDY POPULATION:** Nine studies with independent samples examining change in obsessive-compulsive symptomatology (OCS) in the peripartum were included in the meta-analysis. Studies were included if the sample examined with women with a clinical diagnosis of OCD that pre-existed pregnancy onset. The meta-analysis was conducted using R Studio with Meta, Metafor and WeightR packages. A moderation analysis was conducted to examine the impact of gestational period on OCD symptoms. Gestational periods were defined as pregnancy, postpartum, or the peripartum. Peripartum refers to a collapsed postpartum/pregnant period such that the period was not identified or specified during data collection. **RESULTS/ANTICIPATED RESULTS:** The summary proportion of women who experienced no change in symptoms was 46.7% (CI: 42.0-51.4%). No change by period was: pregnancy 49.6% (CI: 36.3-62.9%); postpartum 45.6% (CI: 41.4-49.9%); peripartum 52.4% (CI: 42.4-50.3%). The summary proportion of women who experienced exacerbation was 39.2% (CI: 33.5-45.5%). Exacerbation by period: pregnancy 35.5% (CI: 24.8-47.9%); postpartum 42.9% (CI: 34.8-51.4%); peripartum 34.6% (CI: 23.7-47.4%). The summary proportion of women who experienced improvement was 11.5% (CI: 9.3-14.4%). Improvement by period: pregnancy 42.9% (CI: 14.7-77.0%); postpartum 7.8% (CI: 5.7-10.4%); peripartum 19.6% (CI: 13.7-27.3%). Gestational period had a moderating effect. **DISCUSSION/SIGNIFICANCE OF IMPACT:** During the peripartum 46% report no change, 40% a worsening and 12% an improvement. Improvement typically occurs during pregnancy and may be followed by a postpartum worsening. This may reflect a hormonally-sensitive subsection of women impacted by the acute changes that occur during this time.

4438

Twenty-four-hour Urinary Sodium Excretion Estimated from a Spot Urine Sample May Be Used as an Indicator of Intake in CKD Patients

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OBJECTIVES/GOALS: Sodium (Na) intake can elevate blood pressure and is a factor in developing chronic kidney disease (CKD). Twenty-four-hour urinary Na (24hUNa) is the gold standard for assessing Na intake but is burdensome. Validated equations estimate 24hUNa (e24hUNa) from a spot urine sample, but these estimations are not validated against a known Na intake in CKD. **METHODS/STUDY POPULATION:** The current study is a secondary analysis of a 9-day controlled feeding study in moderate CKD patients matched to healthy adults. Only CKD patients were used for the current analyses ($n = 8$). Participants consumed a controlled diet for 9 days, providing ~ 2400 mg Na/d as determined by inductively coupled plasma optical emission spectroscopy (ICP). On days 7 and 8, participants collected all urine in an inpatient setting, beginning with a fasting sample on day 7. Urine sample mineral analyses were performed by ICP and urinary creatinine by the Jaffe reaction. The day 7 fasting urine sample was used to calculate e24hUNa using 6 published equations. Log-transformed Na intake, measured 24hUNa, and e24hUNa were compared by repeated-measures ANOVA with planned contrasts using SAS. **RESULTS/**