peptic ulcer disease (PUD) and its complications among hospitalized patients. METHODS/STUDY POPULATION: We performed case-control studies with records from the NHANES III (n=4,556) and HCUP-NIS 2014 (n=4,555,029), and respectively identified subjects with seropositivity for H pylori and clinical PUD, and their cannabis usage status. In the NHANES III, we estimated the adjusted prevalence rate ratio (aPRR) of having HPI with cannabis use, using generalized estimating equations. In the NIS, we propensity-matched cannabis users to non-users in ratio 1:1 (68,073:68,073) and measured the aPRR of having PUD and its complications (SAS 9.4). RESULTS/ANTICIPATED RESULTS: In NHANES III, associated with decreased HPI seropositivity were cannabis ever-users (aPRR: 0.79[0.66-0.95]), greater than 10 times lifetime usage (0.65[0.5-0.84]) and recent 31-day usage (0.67[0.48-0.98]), compared to never usage. In the HCUP-NIS, cannabis users had decreased risk for total PUD (aPRR: 0.74[0.61-0.89]), duodenal PUD (0.48[0.35-0.60]) and PUD complications including hemorrhage (0.58[0.37-0.90]), perforation (0.66[0.51-0.87]), but not obstruction (1.75[0.51-5.98]). DISCUSSION/SIGNIFICANCE OF IMPACT: Cannabis usage is related to a reduced likelihood of having HPI in the community and also mitigate against having complicated presentations to the hospital. More translational studies are needed to illuminate the details of this relationship, given the high worldwide prevalence of both cannabis use and HPI.

3425

Cardiac Replacement Fibrosis in Cancer Treatment Related Cardiotoxicity

Chetan Shenoy[1] and Kalpit Modi
[1]University of Minnesota CTSI

OBJECTIVES/SPECIFIC AIMS: Our goals were to understand the pattern, location, and extent of cardiac replacement fibrosis seen as late gadolinium enhancement on cardiovascular magnetic resonance imaging in a large cohort of cancer patients treated with anthracyclines and/or trastuzumab. METHODS/STUDY POPULATION: We performed a retrospective cohort study of consecutive adult cancer patients treated with anthracyclines and/or trastuzumab from 2004 through 2017. CMRs were analyzed for the presence, location, and pattern of LGE. RESULTS/ANTICIPATED RESULTS: Of 238 patients, 220/(92.4%) had no LGE. Among the 18/(7.6%) patients with LGE, 13/(72.2%) were ischemic in pattern (myocardial infarctions); 10 of these had known coronary artery disease (CAD). Of 5/(27.8%) patients with non-ischemic LGE, the etiologies were known for 4 – myocarditis, cardiac sarcoidosis, eosinophilic myocarditis, and acute myocardial calcification. Only 4/(1.7%) patients had unexpected LGE, of which 3 were unrecognized myocardial infarctions. DISCUSSION/SIGNIFICANCE OF IMPACT: The assessment of fibrosis helps to diagnose the cause of LVSD in cancer patients treated with potentially cardiotoxic medications. This is necessary because currently, the cause of LVSD in cancer patients cannot be established conclusively even though the cause is closely linked to patient outcomes. Our results demonstrate that cancer treatment-related LVSD is not associated with fibrosis. A minority of cancer patients with LVSD have fibrosis related to other reasons, most commonly CAD. Identification of the correct cause of LVSD in cancer patients treated with cardiotoxic medications allows for appropriate treatment. This, in turn, could improve patient outcomes.

3217

Catatonia, Delirium and Coma: Implications for Mortality

Jo Ellen Wilson[1], Sarasota Mihalko, Stephan Heckers, Pratik P. Pandharipande, Timothy D. Girard, Ahra Kim, Simon Vandekar, Rameela Chandrasekhar, Andrew Francis, Robert S. Dittus and Eugene "Wes" Ely
[1]Vanderbilt University Medical Center

OBJECTIVES/SPECIFIC AIMS: Delirium, a form of acute brain dysfunction, characterized by changes in attention and alertness, is a known independent predictor of mortality in the Intensive Care Unit (ICU). We sought to understand whether catatonia, a more recently recognized form of acute brain dysfunction, is associated with increased 30-day mortality in critically ill older adults. METHODS/STUDY POPULATION: We prospectively enrolled critically ill patients at a single institution who were on a ventilator or in shock and evaluated them daily for delirium using the Confusion Assessment for the ICU and for catatonia using the Bush Francis Catatonia Rating Scale. Coma, was defined as a Richmond Agitation Scale score of −4 or −5. We used the Cox Proportional Hazards model predicting 30-day mortality after adjusting for delirium, coma and catatonia status. RESULTS/ANTICIPATED RESULTS: We enrolled 335 medical, surgical or trauma critically ill patients with 1103 matched delirium and catatonia assessments. Median age was 58 years (IQR: 48 - 67). Main indications for admission to the ICU included: airway disease or protection (32%; N=100) or sepsis and/or shock (25%; N=79. In the unadjusted analysis, regardless of the presence of catatonia, non-delirious individuals have the highest median survival times, while delirious patients have the lowest median survival time. Comparing the absence and presence of catatonia, the presence of catatonia worsens survival (Figure 1). In a time-dependent Cox model, comparing non-delirious individuals, holding catatonia status constant, delirious individuals have 1.72 times the hazards of death (IQR: 1.321, 2.231) while those with coma have 5.48 times the hazards of death (IQR: 4.298, 6.984). For DSM-5 catatonia scores, a 1-unit increase in the score is associated with 1.18 times the hazards of in-hospital mortality. Comparing two individuals with the same delirium status, an individual with a DSM-5 catatonia score of 0 (no catatonia) will have 1.178 times the hazard of death (IQR: 1.086, 1.278), while an individual with a score of 3 catatonia items (catatonia) present will have 1.63 times the hazard of death. DISCUSSION/SIGNIFICANCE OF IMPACT: Non-delirious individuals have the highest median survival times, while those who are comatose have the lowest median survival times after a critical illness, holding catatonia status constant. Comparing the absence and presence of catatonia, the presence of catatonia seems to worsen survival. Those individual who are both comatose and catatonic have the lowest median survival time.

3162

Colonization of Pregnant Women with Group B streptococcus in Latin America and Infant Outcomes

Elena HogenEsch[1], Lisa Haddad, Inci Yildirim and Saad B Omer
[1]Emory University

OBJECTIVES/SPECIFIC AIMS: The primary objective of this study is to determine the prevalence of maternal GBS colonization and demographic risk factors associated with maternal GBS colonization

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in Latin America. Secondary objectives include: To determine if there is an association between maternal colonization with GBS and stillbirth or preterm birth in Latin America. To determine the effect of cesarean section (CS) on the incidence of neonatal sepsis with GBS in mothers colonized with GBS. METHODS/STUDY POPULATION: Study Population: Pregnant women who received prenatal care at sites that utilize the Perinatal Information System (SIP) from 1989 through 2015, and were screened for GBS between 35 and 37 weeks of gestation. Maternal exclusion criteria included spontaneous abortion, stillbirth before 35 weeks, and lack of screening for GBS. Methods: Estimated prevalence (and 95% confidence interval) of maternal GBS colonization for the entire data set, by region, and by country. The prevalence data for each country further stratified by maternal age, ethnicity, education, civil status and habitation. Descriptive statistics calculated for each clinical prenatal and clinical perinatal health indicator as well as for each clinical history variable for GBS colonized and non-GBS colonized women. Odds ratios will be calculated for each demographic and clinical risk factor. Fisher's exact tests will be used to test hypotheses about the relationship between maternal GBS colonization and specific perinatal outcomes such as stillbirth or preterm birth. We will use multiple logistic regression models to test the hypotheses about the relationships between demographic variables, maternal GBS colonization and perinatal outcomes. RESULTS/ANTICIPATED RESULTS: Preliminary results: 712,061 records included in database. 98,852 records with data for GBS screening. o90.6% White, 7.4% Mixed, 0.6% Black, 0.3% Native Indian, 0.1% Other. GBS prevalence among screened women, 17.5% There was a significant association between maternal GBS colonization and ethnicity (X2 (4, N=97006)=569.901, p<0.01) o Prevalence rates by ethnicity: 20.5% Black, 18.4% White, 15.2% Native Indian, 8.8% Mixed, 3.3% Other. There was a significant association between maternal GBS colonization and age (X2 (4, N=98655)=119.901, p<0.01) o Prevalence rates by age group:. Age ≤ 20 - 15.2%. Age 21-34 – 17.8%. Age ≥ 35 – 19.6% Anticipated results:. GBS positive mothers will have an increased burden of stillbirth and preterm birth compared to GBS negative mothers. Neonates born to GBS colonized mothers who deliver via cesarean section will have a decreased incidence of sepsis compared to neonates born to GBS colonized mothers who deliver vaginally DISCUSSION/SIGNIFICANCE OF IMPACT: There have been no comprehensive studies to date that use the CLAP data to characterize the epidemiology of maternal GBS colonization and GBS disease and the burden of neonatal GBS disease in Latin America. Taking advantage of this unique database, this is the first region-wide study using systematically collected data. Our preliminary analysis indicates that GBS colonization status among pregnant women in Latin America is 17.5%, which is greater than previously reported. While there is evidence that maternal carriage of GBS is associated with stillbirth, this will be the first study to quantify the burden of GBS-associated stillbirth in Latin America. Additionally, previous work has been inconclusive in regards to maternal colonization with GBS and its association with preterm birth. This will be the largest study to evaluate the association of maternal GBS carriage with preterm birth. Findings from this study have the potential to inform public health policy and interventions by identifying the prevalence and risk factors.

3124

Early Electrographic Seizure Detection by Neuro ICU Nurses via Bedside Real-Time Quantitative EEG

Safa Kaleem[1] and Christa B. Swisher, MD
[1]Duke University

OBJECTIVES/SPECIFIC AIMS: 1. Determine positive predictive value, negative predictive value, sensitivity, and specificity of Neuro ICU nurse interpretation of real-time bedside qEEG. 2. Determine difference in time to detection of first seizure between Neuro ICU nurse qEEG interpretation and EEG fellow reads of cEEG. 3. Determine what qualities of seizures make detection by neuro ICU nurses more or less likely – e.g. duration of seizures, type of seizures, spatial extent of seizures. METHODS/STUDY POPULATION: Recruit neuro ICU nurses taking care of 150 patients admitted to the Neuro ICU at Duke University Hospital who are initiated on cEEG monitoring. Nurses will be consented for their participation in the study. Neuro ICU nurses will evaluate the qEE RESULTS/ANTICIPATED RESULTS: From literature estimates of a 20% seizure prevalence in critical care settings, we hope to have 30 patients with seizures and 120 without. Based on prior study in the Duke Neuro ICU, we hypothesize that Neuro ICU nurses will have sensitivity and DISCUSSION/SIGNIFICANCE OF IMPACT: This is the first prospective study of neuro ICU nurse interpretation of real-time bedside qEEG in patients with unknown NCSE/NCS presence. If nurse sensitivity, specificity, and positive predictive value are clinically useful, which we deem would be so at a sensitivity of 70% or greater, with acceptable false alarm rate, nurse readings of qEEG could significantly decrease the time to treatment of seizures in the Neuro ICU patient population, and perhaps could improve patient outcomes.

3574

Effect modification between kidney function and adiposity in the association with central and peripheral insulin sensitivity among Nondiabetic patients with moderate Chronic Kidney Disease and Healthy Controls

Elvis Akwo[1], Aseel Alsouqi[1], Edward Siew[1], Alp Ikilzer[1] and Adriana Hung[1]
[1]Vanderbilt University Medical Center

OBJECTIVES/SPECIFIC AIMS: The main aim of this study was to investigate the interaction between glomerular filtration rate (GFR) and body mass index (as well as serum leptin) as determinants of peripheral and central insulin sensitivity (IS). METHODS/STUDY POPULATION: This was a cross-sectional investigation of 140 non-diabetic participants – 56 with CKD (GFR = 15-59 ml/min/1.73m2) and 94 with normal GFR (≥ 60 ml/min/1.73m2) – recruited as part of the relationship of insulin sensitivity in kidney disease and vascular health (RISKD) study. Peripheral (skeletal muscle) and central (hepatic) IS were assessed with the hyperinsulinemic euglycemic glucose clamp (HEGC) and homeostasis assessment of insulin resistance (HOMA-IR) respectively. Creatinine-based estimated GFR (eGFR) was obtained using the CKD-EPI equation and body mass index (BMI) was computed from baseline weight and height measurements. Linear regression models with robust standard errors (to relax homoscedasticity assumptions) and interaction terms were used to investigate GFR and BMI as predictors of HEGC-derived insulin sensitivity index (ISI) and HOMA-IR. RESULTS/ANTICIPATED

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