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.

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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.

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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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