rate (HR) and lowered heart rate variability (HRV). This study aimed to examine the relationship between cardiac reactivity and subjective response following intravenous (IV) alcohol in non-dependent drinkers. METHODS/STUDY POPULATION: Non-dependent drinkers (N = 46, average age = 25.2) completed a human laboratory IV alcohol self-administration (IV-ASA) session. Subjective response to alcohol was assessed using the Drug Effects Questionnaire (DEQ) and Alcohol Urge Questionnaire (AUQ). Drinking behavior was assessed using the Alcohol Timeline Followback (TLFB) and Alcohol Use Disorders Identification Test (AUDIT). HR was recorded using the Polar Pro Heart Rate monitor throughout the session. HRV measures were calculated using guidelines determined by the Task Force of the European Society of Cardiology and The North American Society of Pacing and Electrophysiology. RESULTS/ANTICIPATED RESULTS: Recent drinking history as measured by the AUDIT and TLFB was not significantly different by sex. Results showed heavier drinking measures (AUDIT and TLFB) were positively associated with HRV measures (all p-values < 0.02). Those who reported a greater increase in alcohol craving (AUQ score) and wanted more alcohol (DEQ) following an alcohol prime, showed a greater change in HRV ($p < 0.005$). When examining HRV change from baseline throughout the priming session, there was a significant sex interaction for NN50 ($p < 0.03$) and a trend for PNN50 (p-value < 0.07). DISCUSSION/SIGNIFICANCE OF IMPACT: Acute IV alcohol alters cardiac reactivity measures in non-dependent drinkers. Future directions include examining the role of sex in HRV changes during alcohol consumption during IV-ASA. Understanding the effect of alcohol on cardiac reactivity and physiology may help characterize those at risk for alcohol use disorders.

4577

Resistant hypertension potentiates the risk of End-Stage Kidney Disease among African-Americans independent of APOL1 genotype in the Million Veteran Program

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OBJECTIVES/GOALS: African-Americans have a 3-fold higher risk of end-stage kidney disease (ESKD) compared to Whites due in part to APOL1 risk alleles. Whether resistant hypertension (RH) magnifies the risk of ESKD among African Americans beyond APOL1 is not known. We examined the interaction between RH and race on ESKD risk and the independent effect of RH beyond *APOL1*. METHODS/STUDY POPULATION: We designed a retrospective cohort of 240,038 veterans with HTN, enrolled in the Million Veteran Program with an estimated glomerular filtration rate (eGFR) >30 ml/min/1.73m^2. The primary exposure was incident RH (time-varying). The primary outcome was incident ESKD during a 13.5 year follow up: 2004-2017. Secondary outcomes were myocardial infarction (MI), stroke, and death. Incident RH was defined as failure to achieve outpatient blood pressure (BP) <140/90 mmHg with 3 antihypertensive drugs, including a thiazide, or use of 4 or more drugs. Poisson models were used to estimate incidence rates and test additive interaction with race and *APOL1* genotype. Multivariable Cox models (with Fine-Gray competing-risks models as sensitivity analyses) were used to examine independent effects. RESULTS/ANTICIPATED RESULTS: The cohort comprised 235,046 veterans; median age was 60 years; 21% were African-American and 6% were women, with 23,010 incident RH cases observed over a median follow-up time of 10.2 years [interquartile range, 5.6-12.6]. Patients with RH had higher incidence rates [per 1000 person-years] of ESKD (4.5 vs. 1.3), myocardial infarction (6.5 vs. 3.0), stroke (16.4 vs. 7.6) and death (12.0 vs. 6.9) than non-resistant hypertension (NRH). African-Americans with RH had a 2.6-fold higher risk of ESKD compared to African-Americans with NRH; 3-fold the risk of Whites with RH, and 9.6-fold the risk of Whites with NRH [p-interaction<.001]. Among African-Americans, RH was associated with a 2.2-fold (95%CI, 1.86-2.58) higher risk of incident ESKD in models adjusted for *APOL1* genotype and in the subset of African-Americans with no *APOL1* risk alleles, RH was associated with an adjusted 2.75-fold (95% CI: 2.00-3.50) higher risk of incident ESKD. DISCUSSION/SIGNIFICANCE OF IMPACT: RH was independently associated with a higher risk of ESKD and cardiovascular outcomes, especially among African-Americans. This elevated risk is independent of *APOL1* genotype. Interventions that achieve BP targets among patients with RH could curtail the incidence of ESKD and cardiovascular outcomes in this high-risk population. CONFLICT OF INTEREST DESCRIPTION: None.

4332

Septic Shock Epidemiology and Sociodemographic Predictors of Mortality: Results from One Florida Data Trust Cohort

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OBJECTIVES/GOALS: Septic shock is a lethal condition. Research suggests that overall sepsis mortality varies by race, but less is known about demographic differences in septic shock mortality. Our objectives were to describe the septic shock population using a large, statewide data repository and identify demographic predictors of septic shock mortality. METHODS/STUDY POPULATION: This was a retrospective review of patients with septic shock in the One Florida Data Trust from 2012-2018. Patients were classified as having septic shock if they received vasopressors and had either 1) an ICD-9 or 10 code for septic shock or 2) an ICD-9 or 10 code for infection and an ICD-9 or 10 code for organ dysfunction. Demographic data and place of residence prior to admission was collected. The primary outcome was 90 day mortality. T-test and chi-square tests were used to test association of individual predictors and mortality. Multiple logistic regression was used to identify predictors of mortality after adjustment for other variables. Level of significance was set at 0.05. SAS v9.4 (Cary, NC) was used for analyses. RESULTS/ANTICIPATED RESULTS: There were 11,790 patients with septic shock. The mean(SD) age was 61(16) years. With regard to race/ethnicity 66% identified as white, 27% as black, 3.7% as Hispanic, and 3.5% as other races (non-white, non-black, non-Hispanic). Most

https://doi.org/10.1017/cts.2020.145 Published online by Cambridge University Press

came from home (57%). Overall, 39% died. Mortality varied by race (p<0.01): white 39%, black 39%, Hispanic 31%, other races 51%. In the logistic regression model, age, race, and residence were significant predictors of mortality, after adjustment for other variables. Each additional year of age had a 2.7% increased odds of mortality (OR 1.03; 95% CI 1.02-1.03; p<0.01). Compared to white patients, odds of death were 1.6 times higher for other races (95% CI 1.3-2.0; p <0.01) and non-significantly higher for black patients (OR 1.1; 95% CI 1.0-1.2; p = 0.05). Compared to those from home, odds of death were highest for those from a skilled nursing facility (OR 1.5; p<0.01). DISCUSSION/SIGNIFICANCE OF IMPACT: Patients who identified as other races had increased mortality from septic shock compared to white patients after adjusting for other variables. Septic shock mortality also increased with age and varied by residence. Further analyses are needed to examine racial disparities and control for comorbidities, severity of illness, and aspects of resuscitation. CONFLICT OF INTEREST DESCRIPTION: The authors report no conflicts of interest, except for Dr. Fernandez, who reports personal payment from Physio-Control, Inc. for speaker fees.

4433

SGRQ score is associated with treatment status for patients with non-tuberculous mycobacterial lung disease

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OBJECTIVES/GOALS: The Saint Georges Respiratory Questionnaire (SGRQ) is used as a patient reported outcome tool for clinical research in COPD and bronchiectasis. We established a registry and biospecimen repository of bronchiectasis patients with and without NTM and report associations between clinical phenotype and SGRQ scores. METHODS/STUDY POPULATION: Patients were recruited in a cross-sectional format from the Bronchiectasis, Cystic Fibrosis, and NTM clinics at our institution. All patients provided at least one sputum sample in the six months prior to inclusion. Clinical and epidemiologically relevant data was obtained, and blood specimens were processed and preserved. Patients were grouped based on clinical phenotype and differences in SGRQ scores were analyzed using ANOVA or Student's t-test. Descriptive statistics are reported as means and standard deviations, p<0.05 considered significant. RESULTS/ANTICIPATED RESULTS: 72 NTM patients completed the SGRQ including 39 patients not on treatment (Colonized), 29 patients on NTM directed antibiotics, and 4 patients whose infection was cured in the past year. Among patients on treatment, 14 were treatment refractory (positive cultures beyond 12 months of therapy). The mean age of all NTM patients was 59.5±17.6 and 80.5% were female. Mean SGRQ Total scores were significantly higher among patients receiving treatment compared to patients considered colonized (35.7± 22.0 colonized group versus 48.8± 15.8 treatment group, p = 0.011). The SGRQ subdomain scores including Impacts (26.2± 26.2 colonized group versus 42.5± 17.0 treatment group, p = 0.01) and Activities (41.7± 31.8 colonized group versus 59.3± 24.5 treatment group, p = 0.018) were also significantly different between groups. DISCUSSION/SIGNIFICANCE OF IMPACT: We developed a cross sectional cohort of NTM patients and assessed associations between clinical phenotype and SGRQ score. Preliminary data suggests that female sex, treatment status, and therapeutic duration are associated with higher SGRQ scores. We intend to continue to assess the potential for specific SGRQ questions to be used for quantifying disease symptom severity for NTM patients.

4236

Sleep Disorders and Diabetic Complications

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OBJECTIVES/GOALS: Diabetes is a prevalent chronic illness that imposes health-related burdens including nephropathy, retinopathy and sleep disorders. The goal of this study was to examine the relation between both sleep disorders and sleep duration and diabetic chronic kidney disease (CKD) and retinopathy. METHODS/STUDY POPULATION: We analyzed data from the National Health and Nutrition Examination Survey 2005-2016 related to diabetic nephropathy and retinopathy, sleep disorders and duration, demographics, and risk factors among diabetics. The subjects were adults with diabetes type 2. Multiple logistic regression analysis was performed to look at the relationship between diabetic complications (CKD and retinopathy) and sleep disorders and sleep duration adjusting for demographics and risk factors. RESULTS/ANTICIPATED RESULTS: Of the 4087 diabetics, 45% had CKD, 19% had retinopathy, and 15% had sleep disorders. CKD and retinopathy were not associated with sleep disorders (p>0.05) but CKD was associated with sleep duration (Adjusted odds ration = 1.014, 95% confidence interval = 1.001-1.027, p<0.05). Cardiovascular disease was a predictor of both CKD and nephropathy (P<0.05). Other predictors of CKD and nephropathy were age >60 years, Non-Hispanic Black, hypertension, low education level, and living under 200% of the Federal Poverty Level (P<0.05). DISCUSSION/SIGNIFICANCE OF IMPACT : Among diabetics, CKD and retinopathy were not associated with sleep disorders, and only CKD was associated with sleep duration. These findings may impact the management of diabetes in the future, since it has effects on a range of other health conditions.

4327

Structural Neural Correlates of Social Functioning in First Episode Psychosis and Malleability in Response to Targeted Cognitive Training

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OBJECTIVES/GOALS: Development of interventions that improve social functioning (SF) in first episode psychosis (FEP) is hindered by a poor understanding of the neural mechanisms underlying SF deficits. This research aims to identify neural correlates of social functioning in FEP, and to evaluate whether this substrate is malleable in response to cognitive training. METHODS/STUDY POPULATION: This is a secondary data-analysis of participants in an ongoing randomized clinical trial investigating whether 12 weeks of targeted cognitive training is neuroprotective in FEP, versus treatment as usual. Baseline and post-training assessments include a brain MRI, three

https://doi.org/10.1017/cts.2020.145 Published online by Cambridge University Press