causes of SDY. Sequencing of genes associated with congenital arrhythmia susceptibility and familial cardiomyopathy reveals pathogenic variants in 30% of postmortem cases (often called "molecular autopsy"). However, better data are needed to determine the prevalence of phenotype and genotype abnormalities in surviving relatives. METHODS/STUDY POPULATION: A retrospective cohort study was performed at a tertiary pediatric center including all subjects with a family history of SDY. Cases were identified using ICD-9 codes (798.1 or .9, V17.41, V17.49, V19.8, V61.07), search of cardiology databases, and by recursive identification of all family members of a subject. Phenotype data was independently reviewed by a pediatric cardiologist. Genotype results were available when obtained by the original treating physician. RESULTS/ANTICIPATED RESULTS: Cardiac evaluations were performed in 279 subjects from 175 families, of whom 117 subjects (42%) were first-degree relatives of the proband. Mean age of the subject at time of evaluation was 9 years (SD 5.9). Most probands were over 18 years at the time of SDY: 1–4 years of age (9%); 5–12 (5%); 13–17 (16%); 18–24 (18%); 25–40 (42%). A final diagnosis was determined in 55 families (20%), and a variant in a gene potentially causative of SDY was discovered in 20/55 (36%) of those families. Variants were classified as 50% pathogenic/likely pathogenic, 50% variants of unknown significance. Cardiac testing (ECG, echo, EST, signal averaged ECG, cardiac MRI, or EP study) was abnormal in 124/279 subjects (44%). Among those with abnormal studies, 57/124 (46%) were from a family where a final diagnosis could be determined (LQT 43%, HCM 21%, ARVC 4%, other cardiomyopathy 19%, WPW 5%, CPVT 2%). However, 67/279 of total subjects (24%) had at least 1 abnormal study and a final diagnosis was not determined in the family. DISCUSSION/SIGNIFICANCE OF IMPACT: An abnormal phenotype is common among relatives referred for cardiac evaluation after SDY. While testing identifies a family diagnosis in 20% of families, many patients have abnormal cardiac testing and no clear diagnosis can be made. An improved postmortem protocol for phenotype testing in relatives of a SDY victim and improved postmortem genetic testing may lead to a higher diagnosis rate and improved risk determination in surviving family members.

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Association of medical and psychosocial risk factors with engagement in prenatal home visiting

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OBJECTIVES/SPECIFIC AIMS: The purpose of this study is to understand factors that are associated with identifying which eligible pregnant women in Baltimore City accept a referral for HV services. Taking into account demographic and obstetrical variables, we will examine the extent to which 13 medical and 14 psychosocial risk factors differentiate pregnant women who (1) accepted a HV referral, (2) could not be located, or (3) refused a HV referral. METHODS/STUDY POPULATION: In this observational study, we will use secondary data on 8172 pregnant women collected by Health Care Access Maryland (HCAM) between 2014 and 2016. HCAM is the single point of entry for all pregnant women in Baltimore City into HV. HV eligibility includes being a pregnant woman, residing in Baltimore City, being uninsured or receiving Medicaid, and being identified by a prenatal care provider who completed an assessment profile of the woman's medical and psychosocial risk (prenatal risk assessment). The outcome variable, HV engagement status (ie, accepted referral, could not be located, refused referral), will be based on HCAM discharge codes. Medical risk factors include BMI, hypertension, anemia, asthma, sickle cell, diabetes, vaginal bleeding, genetic risk, sexually transmitted disease, last dental visit >1 year ago, and taking prescription medications. Psychosocial risk factors include current pregnancy unintended; <1 year since last delivery; late entry to prenatal care (>20 wk gestation); mental, physical, or developmental disability; history of abuse or violence within past 6 months; tobacco use; alcohol use; illegal substance use within the past 6 months; resides in home built before 1978; homelessness; lack of social/emotional support; exposure to long-term stress; lack of transportation; and history of depression or mental illness. All risk factor variables are categorical (yes/no). Control variables will include demographics (eg, age, race, ethnicity, marital status, educational level) and OB history (eg, history of preterm labor, history of fetal or infant death). We will conduct descriptive statistics to characterize the sample and look for interrelatedness among the risk factors. Where there is a high level of inter-relatedness we will consider combining or omitting variables to reduce redundancy. We will use multinomial regression to examine which medical and psychological factors are associated with referral category. RESULTS/ANTICIPATED RESULTS: We hypothesize that (a) women with more medical risk factors will be more likely to accept a referral for HV services, (b) women with more psychosocial risk factors will be more likely to refuse HV or not be located, and (c) certain risk factors, such as depression/mental illness, history of abuse/violence, illegal substance use, homelessness, and exposure to long-term stress will be the strongest predictors of not accepting HV referral and/or not being located. DISCUSSION/SIGNIFICANCE OF IMPACT: The translation of effective randomized control trials (RCTs) to successful implementation in community-based programs can be challenging. Community-based programs serving low-income communities typically lack the same resources available to recruit and retain participants in RCTs. And, exclusion criteria applied in RCTs are often not applied in real world implementation which can open program to participants with more complex social and medical characteristics. Findings from this study will inform the translation of evidence-based HV programs into real world settings through an enhanced understanding of the characteristics of women who are not engaged by HV programs. This will inform development of improved outreach methods that may more effectively engage at-risk women for prenatal HV services.

2408

Sleep apnea is associated with increased risk for sudden unexpected death in epilepsy (SUDEP)

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OBJECTIVES/SPECIFIC AIMS: To assess the association between probable OSA and the sudden unexpected death in epilepsy (SUDEP-7) risk profiling index in monitored adult inpatients with epilepsy. METHODS/STUDY POPULATION: We analyzed 49 consecutive adults (>18 years) with refractory epilepsy admitted to our inpatient epilepsy monitoring unit. The SUDEP-7 inventory was performed for all subjects. Probable OSA was identified using overnight oximetry, the Sleep Apnea Sleep Disorder Questionnaire (SA-SDQ), and STOP-BANG inventory. RESULTS/ANTICIPATED RESULTS: Thirty-nine percent of participants screened positive for probable sleep apnea. Patients with high SUDEP-7 scores were more likely to have a positive screen for OSA. DISCUSSION/SIGNIFICANCE OF IMPACT: OSA is an independent risk factor for sudden cardiac death. OSA may be a hitherto unrecognized contributor to sudden death risk in epilepsy. Further studies determining the relationship between OSA, neural circulatory control and SUDEP are warranted.

2435

Accuracies of using Her2 for prognosis of breast cancer recurrence in Life After Cancer Epidemiology (LACE) Study

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OBJECTIVES/SPECIFIC AIMS: The goal of the study is to evaluate the prognostic importance and accuracies of a biomarker, human epidermal receptor 2 (Her2), for breast cancer recurrence in a cohort study, namely Lifetime after Cancer Epidemiology (LACE). We specifically interested in the role that Her2 plays in prognosis of breast tumor recurrence for women after a previously diagnosed and treated breast cancer. METHODS/STUDY POPULATION: The study cohort includes 2267 women enrolled in LACE who had previously diagnosed breast cancer. Patients were enrolled from each of the 2 LACE registries in California and Utah. The main endpoint of the study is the right-censored time to breast cancer recurrence. Patients' enrollments were, on average, 2 years after diagnosis of the first breast cancer. The patients' characteristics at baseline were obtained through self-administered questionnaires. Cox proportional hazard model with time-varying covariates was used to relate the Her2 status (Her2+ and Her2−) to the primary end point (time to breast cancer recurrence). Hazard ratios (HRs) and their 95% confidence interval comparing Her2+ and Her2− arms were estimated. Time-dependent sensitivity and specificity were used to investigate the performance of using Her2 for classifying patients into high and low risk (Her2 + is classified as hi risk and Her− as low risk) of future breast cancer recurrence at time points after baseline. The time-dependent sensitivity was calculated as the proportion of patients being classified as high risk of recurrence who had breast cancer recurrence before a series of pre-specified time points after baseline, and the time-dependent specificity was calculated as the proportion of subjects being classified as low risk of recurrence who did not have breast cancer recurrence at the same time points. RESULTS/ANTICIPATED RESULTS: The average patient follow-up time was 9.8 years, and 18% of the women got positive Her2 test results at baseline. Among 2267 patients in the study cohort, 2031 had records on their Her2 status, among whom 326 (16.1%) patients were Her2+ and 1705 (83.9%) were Her2−. The mean tumor size among the 2031 patient

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