I-131 albumin dilution measurements of blood, plasma and RBC volumes by +0.6±2.8%, −5.4±3.6%, and +11.0±4.7%, respectively. DISCUSSION/SIGNIFICANCE OF IMPACT: BIA is capable of tracking modest changes in total body water. Carbon monoxide rebreathe appears to be a viable alternative for the I-131 albumin dilution technique to determine blood volume. Together, these two techniques may be useful in monitoring fluid status in patients with impaired fluid regulation.

3459

## Modeling Emergency Department Length of Stay of Patients With Substance Use Disorder Using an Accelerated Failure Time Model

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OBJECTIVES/SPECIFIC AIMS: Emergency department (ED) length of stay (LOS) is one of the important indicators of quality and efficiency of ED service delivery and is reported to be both cause and result of ED crowding. Increased ED LOS is associated with ED crowding, increases service cost and sometimes poor patient outcome. Substance abuse is one of the major determinants of morbidity, mortality and healthcare needs. Substance abuse may confound the healthcare and service needs of patients in the ED irrespective of primary purpose of their ED visit and may lengthen the ED LOS. The aim of this study was to evaluate the effect of patients' demographic and clinical characteristics and of different patient-related activities such as screening brief intervention and referral to treatment (SBIRT) on the ED LOS of patients discharged from the ED with a diagnosis of substance abuse. METHODS/STUDY POPULATION: We conducted a retrospective data analysis of electronic health records. The study population included 26971 patients who visited our hospital ED between 2013 and 2017, had a history of substance abuse and were discharged from the ED. An accelerated failure time (AFT) model was used to analyze the influence of covariates on patient ED LOS. The predictor factors in the model included age, gender, ED arrival shift and weekday, diagnosis history of mental health and drug use, acuity triage level from 1 to 5, with 1 being worse severity, and whether any lab tests were ordered, SBIRT intervention and whether patient was homeless. The AFT model is an alternative to the Cox Proportional Hazard Ratio model, which directly models the log of ED LOS as a function of a vector of covariates. The model defines the increase or decrease in LOS with the changes in the covariate levels as an acceleration factor or time ratio (TR). RESULTS/ANTICIPATED RESULTS: The overall median ED LOS was 4 hours with IQR of 4.2 hours. The average age of the study population was 39.3 years, 58.6% of the patients were male and 57% where White; 63.4% had a history of drug use; 43% had a history of mental health issue, and 0.4% were homeless. In the analysis using the AFT model, increased age (a year increase, TR =1.01, p =0.008), female sex (TR=1.044, P<0.001), SBIRT (TR=1.525, P <0.001), history of mental health issue (TR=1.117, P<0.00), evening arrival (evening vs night, TR=1.04, p=0.006), history of drug use (drug vs alcohol only, TR=1.04, p=0.001), higher acuity (triage level 1 vs 5, TR=2.795, p <0.001) and homelessness (TR=1.073, P = 0.021) lengthened the ED LOS. In contrast, weekend arrival (TR=0.956, p=0.004) and day shift arrival (day vs night, TR=0.958, p=0.004) shortened the ED LOS. DISCUSSION/SIGNIFICANCE OF IMPACT: We identified gender, age, SBIRT, arrival shift, weekend arrival, mental health status, substance abuse, acuity level and homelessness to be significant predictor of ED LOS. The fact that SBIRT increased the LOS should be balanced with the advantages of engaging patients into substance use disorder treatment. Understanding the determinants of ED LOS in this population may provide useful information for physicians or patients to better anticipate an individual's LOS and to help administrators plan the ED staffing and other resources mobilization.

3316

## Mycoplasma Induced Rash and Mucositis: How Affected Are the Eyes?

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OBJECTIVES/SPECIFIC AIMS: To demonstrate the prevalence of ocular complications in patients suffering with Mycoplasma Induced Rash and Mucositis (MIRM). METHODS/STUDY POPULATION: In this retrospective observational study, we identified all patients in our hospital database who were diagnosed with MIRM. Diagnosis was confirmed by clinical information and positive Mycoplasma pneumoniae serology. Only patients with available records with formal ophthalmology consults were included. Clinical and laboratory data were collected from our electronic medical record system to capture key components of their clinical course. RESULTS/ANTICIPATED RESULTS: A total of 12 patients satisfied all inclusion and exclusion criteria and were included in our study. The average age of our included patients was 21.2 ± 14.7 years, and the majority were male vs. female (66.7% vs. 33.3%). In all 24 eyes, the only acute ocular findings included conjunctival hyperemia (n=20, 83.3%), meibomitis (n=4, 16.7%), and conjunctival epithelial defects (n=1, 4.2%). None of the patients required or were recommended to receive an amniotic membrane transplantation in the acute phase. Only 2 patients were followed in the chronic phase, one of whom showed evidence of meibomitis in both eyes. Otherwise, no other chronic complications were seen in either patient with chronic follow-up. DISCUSSION/SIGNIFICANCE OF IMPACT: Ocular complications from MIRM may be much milder in comparison to ocular complications found in other bullous and inflammatory conditions such as Stevens-Johnson Syndrome or Toxic Epidermal Necrolysis. Understanding MIRM's specific sequelae is important in understanding disease manifestation and prognosis in order to better inform acute and chronic management.

3252

## Neuroclinical fingerprint of high-risk psychosis

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OBJECTIVES/SPECIFIC AIMS: The study aims to utilize event-related potentials (ERPs) coupled with observable reports of symptoms to comprehensively understand neurological and symptomatic profile of individuals at risk for developing psychosis. The study is a short-term longitudinal design which allows for examination of course as well as structure of illness. The primary outcome is to

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map known neuroclinical deficits among individuals with schizophrenia onto a high-risk, non-clinical sample. A secondary aim of the study is to demonstrate prediction of symptom severity over time measured by a combination of ERPs and clinical symptom scores. METHODS/STUDY POPULATION: Recruited participants are pre-screened for eligibility via telephone interview. This process includes administration of Community Assessment of Psychotic Experiences (CAPE), and the Mini International Neuropsychiatric Interview (MINI). During in-person lab assessment, participants provide written informed consent and complete a battery of ERP tasks, semi-structured clinical interviews, and self-report questionnaires that assess for presence and severity of sub-threshold psychotic-like experiences. Six months following the laboratory visit, participants will be provided a link to online questionnaires that were completed during laboratory visit in order to reassess presence and severity. RESULTS/ANTICIPATED RESULTS: The target number of participants included in this study is 60. We hope to recruit individuals who range in symptom severity as measured by CAPE. It is of interest to determine relationship among known deficits in individuals with schizophrenia and individuals exhibiting sub-clinical symptoms of psychosis. Additionally, we plan to examine ERPs and symptoms together as a "profile" of high risk psychosis, yielding more robust information about this population than any one ERP or symptom measure alone. The within subjects design of this study allows for examination of symptom progression and potential prediction of symptoms based on brain activity. Many studies examine only single ERP components thus limiting the ability to draw broader conclusions regarding general cognitive frameworks among populations. We use a combination of well-validated ERPs (i.e. P300, N400, ERN) with behavioral and symptom data in order to predict variation in symptoms over the course of 6 months. The project aims to take a novel approach at identifying high-risk profiles based on neurophysiological and behavioral data and using this as a basis for predicting symptom severity across time. DISCUSSION/SIGNIFICANCE OF IMPACT: Individuals endorsing psychotic-like experiences are at heightened risk for developing a psychotic disorder in the future, and have been linked with similar social, behavioral, and emotional risk factors similar to those of schizophrenia. Subjective data (e.g. self-report, interview) sheds light on important information regarding observable symptom manifestation; however, neural measures can detect relatively subtle deficits in information processing that precede and predict overt symptom onset, which necessitates other important methodological considerations. Specifically, extant literature has shown that quantifiable indices of cognitive deficits may represent a vulnerability to psychosis in high-risk populations, and can be measured using event-related potentials (ERPs). This study integrates a psychophysiological approach by mapping neural deficits from schizophrenia onto a high-risk sample. Many studies examine only single ERP components thus limiting the ability to draw broader conclusions regarding general cognitive frameworks among populations. We use a combination of well-validated ERPs (i.e. P300, N400, ERN) with behavioral and symptom data in order to predict variation in symptoms over the course of 6 months. The project aims to take a novel approach at identifying high-risk profiles based on neurophysiological and behavioral data and using this as a basis for predicting symptom severity across time. We will parse heterogeneity within a high-risk group in order to create innovative profiles and potentially predict variation in course of symptoms. In other words, a "fingerprint" physiologic aberration may be exhibited within high-risk individuals and can be used as biomarkers to identify those at risk even before onset of observable symptoms.

**3134**

## Organophosphate pesticide exposure during pregnancy, gestational weight gain and long-term postpartum weight retention

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OBJECTIVES/SPECIFIC AIMS: Little is known about potentially obesogenic endocrine-disruptors' effects on excessive gestational weight gain (GWG) and postpartum weight retention (PPWR), which increase risk of adverse pregnancy and postnatal outcomes. We explored associations between prenatal organophosphate (OP) pesticide exposure and increased weight both during and after pregnancy. METHODS/STUDY POPULATION: Three dimethyl (DM) and three diethyl (DE) OP metabolites were measured in spot urine samples collected at <18, 18-25, and >25 gestational weeks among 688 participants in the Generation R Study. Metabolite levels were expressed as molar concentration/gram creatinine and log10-transformed. GWG and PPWR were calculated as the difference between weight at each prenatal/postnatal visit or maximum gestational weight and pre-pregnancy weight. In covariate-adjusted regression models we assessed associations of metabolite concentrations at each prenatal visit and, where appropriate, averaged across pregnancy with early-to-mid pregnancy, mid-to-late pregnancy, late pregnancy-to-maximum, and total GWG; insufficient and excessive GWG according to Institute of Medicine guidelines; and long-term PPWR at 6 and 10 years postpartum. Based on OP pesticides' lipophilicity and association with hypomethylation, we investigated interactions with pre-pregnancy body mass index, periconceptional folic acid supplementation, and breastfeeding duration. RESULTS/ANTICIPATED RESULTS: A 10-fold increase in late pregnancy DE metabolite concentration was associated with 1.34 kg [95% confidence interval: 0.55, 2.12] higher late pregnancy-to-maximum GWG. A 10-fold increase in mean DE metabolite concentration across pregnancy was associated with 2.41 kg [0.62, 4.20] lower PPWR at 6 years. Stratified analysis suggested that the prenatal finding was driven by women with pre-pregnancy BMI ≥25 kg/m2, while the postnatal finding was driven by women with pre-pregnancy BMI <25 kg/m2 and with inadequate folic acid supplementation. We found no associations between OP pesticide metabolites and insufficient or excessive weight gain and no interaction with breastfeeding. DISCUSSION/SIGNIFICANCE OF IMPACT: In this longitudinal analysis, we observed a positive association of OP pesticide metabolites with GWG in late pregnancy among overweight/obese women, potentially reflecting inhibition of OP pesticide detoxification by oxidative stress. Postnatally, under/normal weight women with higher OP pesticide metabolites had lower PPWR, possibly due to better metabolic function and a more healthful diet. These results suggest that there may be a critical period during the late phase of pregnancy when OP pesticide exposure may increase GWG, and this association may be amplified in overweight/obese women. Areas for future research include examination of how the interaction between OP pesticides and polymorphisms of the paraoxonase (PON1) gene, which detoxifies OP pesticides, affect GWG/PPWR; exploration of the interplay among maternal pre-pregnancy BMI, oxidative stress, and PON1 levels; and characterization of the variability of OP pesticides exposure across pregnancy using more frequent repeated urine samples.

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