A1c, LDL, and HDL levels were collected; ECGs and echocardiograms were also interrogated. RESULTS/ANTICIPATED RESULTS: Out of 58 patients, 22 (38 %) displayed a pathogenic variant in the LMNA gene. In total, 71% of patients (41/58) had an abnormal ECG and echocardiogram; 40% (23/58) of the patients displayed an arrhythmia on the ECGs (13 in the patients with LMNA variants and 10 in the non-LMNA group). The likelihood of having an arrhythmia was significantly higher in the patients with LMNA variants versus those without (odds ratio of 3.4, CI: 1.1–10.6). DISCUSSION/SIGNIFICANCE OF IMPACT: The overall prevalence of abnormal ECHO and/or ECG is high at 45/58 (78 %) in FPLD. Patients with LMNA variants have a 3.4 times increased risk of developing cardiac arrhythmias compared to those without. We recommend vigilant, monitoring for cardiac disease in FPLD and for arrhythmias in patients with FPLD and LMNA variants.

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Effect of balanced crystalloids on renal outcomes among critically ill adults does not differ from 0.9% saline across baseline risk of renal outcomes

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OBJECTIVES/SPECIFIC AIMS: Traditional clinical trials typically enroll a homogenous population to test the efficacy of an intervention. Pragmatic trials deliberately enroll a more diverse population to enhance generalizability, but doing so may increase heterogeneity of treatment effect among subpopulations. For example, the effect of a treatment on an outcome may vary based on patients' sex, comorbidities, or baseline risk of experiencing the outcome. We hypothesized that heterogeneity of treatment effect by baseline risk for the outcome could be demonstrated in a large pragmatic clinical trial. METHODS/STUDY POPULATION: We performed a prespecified secondary analysis of a recent pragmatic trial comparing balanced crystalloids Versus 0.9% saline among critically ill adults. The primary endpoint of the trial was major adverse kidney events within 30 days of ICU admission, censored at hospital discharge (MAKE30). MAKE30 is a composite outcome of all-cause mortality, new renal replacement therapy, or persistent renal dysfunction. Using a previously published model with high predictive accuracy for MAKE30 (area under the curve = 0.903), we calculated the baseline risk of MAKE30 for all trial participants. We then developed a logistic regression model for MAKE30 with independent covariates of fluid group assignment, baseline risk of MAKE30 as a nonlinear continuous variable, and the interaction between group assignment and MAKE30 baseline risk. RESULTS/ANTICIPATED RESULTS: Among 15,802 patients from 5 intensive care units enrolled in the original trial, 126 had missing variables for predicted risk of MAKE30. Mean predicted risk of MAKE30 among all patients was 15.4%; median was 4.4% (interquartile range 2.2%–17.1%). Predicted risk of MAKE30 did not significantly differ between groups ($p = 0.61$ by Mann-Whitney *U*-test). The incidence of MAKE30 in the trial was 14.9%, and the prediction model was well-calibrated overall (AUC = 0.891). In a logistic regression model examining the interaction between group assignment and predicted risk of MAKE30, group assignment significantly affected MAKE30 (odds ratio saline: balanced 1.13, 95% CI: 1.02–1.27, $p = 0.02$), but we observed no interaction between the effect of group assignment on MAKE30 and patients' predicted risk of MAKE30 at baseline ($p = 0.66$ for interaction term). DISCUSSION/SIGNIFICANCE OF IMPACT: In a large pragmatic trial demonstrating a significant difference in the primary outcome of MAKE30 between balanced crystalloids and saline, a previously published model accurately predicted MAKE30 using baseline factors. However, contrary to our hypothesis, the baseline risk of MAKE30 did not modify the effect of fluid group on the observed incidence of MAKE30. Our analysis could not account for unmeasured confounders and may be underpowered to detect a significant interaction. Our findings suggest that the impact of balanced crystalloids versus normal saline on renal outcomes in critically patients is consistent across all levels of risk.

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Effect of dietary approaches to stop hypertension (DASH) diet on hemodynamic markers in advanced heart failure patients

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OBJECTIVES/SPECIFIC AIMS: The central aim of the study is to examine the effect of a Dietary Approaches to Stop Hypertension (DASH) diet on hemodynamic, cardiometabolic, and inflammatory markers in advanced heart failure patients with implanted hemodynamic monitoring devices. METHODS/STUDY POPULATION: This pilot study will employ a clinical feeding trial using a 1-group pre-post test design with an anticipated sample size of n = 36 (n = 20 plus 44% expected attrition). Heart failure patients 18+ years of age with English language literacy, classified as NYHA functional stage III, regardless of ventricular ejection fraction, who have undergone CardioMEMS™ hemodynamic monitoring device (St. Jude Medical, Atlanta, GA, USA) implantation and have received optimized heart failure therapy for 3+ months will be recruited at Piedmont Athens Regional Hospital in Athens, GA. The study is divided in (a) a calibration (self-selected diet) and (b) a DASH feeding intervention phase (each 21 days in length). The DASH meals will strictly follow meal planning guidelines published by the National Heart, Lung, and Blood Institute of the National Institutes of Health, and be prepared under the supervision of a registered dietitian at the University Health Center in Athens, GA. The DASH diet is a heart-healthy eating pattern that is focused on adequate consumption of fruits, vegetables, whole grains, low-fat dairy, fish, poultry, beans, nuts, and vegetables oils while emphasizing limited intake of foods containing saturated fat, such as fatty red meats, full-fat dairy products, and tropical oils, such as coconut, palm kernel, and palm oils, as well as sugar-sweetened beverages and sweets. Participants will visit the University of Georgia Clinical and Translational Research Unit on 3 occasions at baseline, upon completion of the calibration phase, and following completion of the intervention phase for repeated collection of anthropometric (height, weight, waist and hip circumference, percent body fatness), cardiometabolic (blood pressure, blood glucose, HbA1C, lipid panel, basic metabolic panel, BNP, NT-proBNP, troponin I, MR-proADM, sST2), functional status (6-min walk test), inflammatory (IL-1a, IL-1b, IL-6, TNF-a), and self-reported measures (demographic and economic characteristics, health, chronic diseases, perceived stress, heart failure-related quality of life, social support, sleep quality, food insecurity, tobacco smoking status, healthcare utilization, medication adherence). Hemodynamic marker (pulmonary artery pressure, heart rate) and pharmacotherapy information (medication count, type, strength, and dosing) will be obtained from through retrospective assessment of EHR data. Descriptive statistics [percentage, mean (SD), median (IQR), mode, range] will be used to describe sample characteristics at each of the study visits, as well as characteristics of participants' self-selected diets during the calibration phase. To measure changes in hemodynamic, cardiometabolic, and inflammatory markers pre-post DASH diet intervention, we will use paired Student *t*-tests (normal distribution) or Wilcoxon rank-sum tests (non-normal distribution), as appropriate. Data collection will be carried out between February and November 2018. RESULTS/ANTICIPATED RESULTS: The study builds upon previous studies showing improvement of ventricular function, arterial stiffness, oxidative stress, and blood pressure after short-term consumption of a sodium-restricted DASH diet in heart failure patients with preserved ejection fraction, and will provide new information on the cumulative effect of short-term adherence with a DASH diet on indicators of heart failure complications, including hemodynamic, cardiometabolic, and inflammatory markers. In addition, it will give better insight on heart failure patients' habitual dietary intake in the context of other sociodemographic, economic, health, and social factors. DISCUSSION/SIGNIFICANCE OF IMPACT: Findings from the proposed study will provide key knowledge of dietary influences on ventricular function in order to define evidence-based diet therapy needed for the early prevention of HF complications in advanced heart failure patients.

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Examining characteristics of placebo effects on trauma-related insomnia in a suvorexant trial

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OBJECTIVES/SPECIFIC AIMS: The aims of this project are to: (1) examine placebo effects on subjective and objective outcome measures, (2) determine if an increase in the placebo is associated with changes in benefit, (3) evaluate if the trauma related insomnia placebo group in our study has different side effect reports compared with insomnia placebo participants in previous suvorexant trials, and (4) (Exploratory) examine associations between the placebo group's characteristics (e.g., trauma/PTSD severity, demographics) and placebo effects. METHODS/STUDY POPULATION: The parent study is a randomized double-blind placebo-controlled clinical trial (clinicaltrials.gov ID: NCT02704754) of suvorexant for treatment of adults (age 18–55) with insomnia that started or worsened after trauma exposure. Suvorexant is a first in class orexin antagonist and is approved by the FDA for the indication of insomnia. In this 6-week trial, all participants initially take 10 mg of suvorexant/placebo, and the dose will be increased to 20 mg if participants continue to experience clinically significant insomnia symptoms

https://doi.org/10.1017/cts.2018.166 Published online by Cambridge University Press