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DASH-SRD Post Acute Decompensated Heart Failure Hospitalization (1 R21 AG047939-01)

Heart Failure (HF) is a major public health problem with more than 5 million Americans afflicted. This population of predominantly older adults has greater than 1 million admissions for acute decompensated heart failure (ADHF) yearly, annual inpatient expenditures in excess of $15 billion, and readmission rates within 30 days that are among the highest for all chronic conditions. Older HF patients are at risk for persistently poor health-related quality of life (QOL) and accompanying readmission after ADHF hospitalization, in part due to

challenges in managing the complexity of HF self-care. Non-adherence to diet remains a significant cause of excessive sodium retention, the leading decompensating factor in over half of patients with ADHF. The provision of therapeutically-designed meals to older adults with hypertension improves QOL, but this strategy has not been studied in ADHF. The sodium-restricted Dietary Approaches to Stop Hypertension (DASH/SRD) eating plan reduces cardiovascular dysfunction that can lead to ADHF and is consistent with current hypertension and HF guidelines. Accordingly, the underlying tenet of this proposal is that an intervention that

promotes adherence to the DASH/SRD by providing meals to older adults post hospitalization for ADHF will be safe and improve QOL***. Our previous studies*** have demonstrated that DASH/SRD in stable outpatients with hypertensive HF is safe and associated with potentially beneficial changes in cardiac and vascular function. ***We now propose*** to conduct a randomized, single-blind, attention-controlled trial designed to determine the safety and efficacy of DASH/SRD for 4 weeks post-hospital discharge. We will enroll 50 patients aged ≥ 65 with history of hypertension who are being discharged from a hospital admission for ADHF; subjects will be randomized in a 1:1 stratified fashion by gender and EF. ***The primary hypothesis to be tested*** is that one month of DASH/SRD will maintain improvements in health-related QOL achieved during hospitalization in patients with ADHF (primary endpoint, as assessed by the Kansas City Cardiomyopathy Questionnaire summary score), and will be safe as assessed by readmission for any cause and/or other adverse events (e.g. renal insufficiency, syncope). Hypothesized mechanisms of DASH/SRD benefits, supported by animal models and our group's pilot data, include improvements in ventricular function, ventricular-arterial coupling, and blood volume as well as reductions in systemic oxidative stress and inflammation. An additional exploratory hypothesis is that a shift in salt taste affinity will occur in patients receiving the DASH/SRD, and will be associated with longer term DASH/SRD adherence as measured at 12 weeks. If effective and safe, this intervention has the potential to radically alter the care provided to older adults with ADHF and result in improvements in cardiovascular function, QOL, and readmission rates along with significant savings in healthcare costs, which will be evaluated in larger appropriately powered trials.