Increased Monounsaturated Fat Consumption is Associated with Improved Body Composition in Subjects with Obesity and Heart Failure with Preserved Ejection Fraction

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OBJECTIVES/SPECIFIC AIMS: We hypothesized that increasing percent calories from MUFA (%MUFA) would be associated an increased FFM/FM index. METHODS/STUDY POPULATION: Nine consecutive HFP EF patients with obesity participated in a 12-week pilot feasibility trial of UFA supplementation (NCT03310099). Subjects were educated at baseline by a diettian on UFA rich foods including high MUFA choices such as extra-virgin olive oil, canola oil and avocados. Participants were given a list of items, correspond- ing serving sizes and asked to eat at least one serving of these UFA rich foods per day for 12 weeks. Adherence was encouraged through weekly phone calls by the diettian. Standardized 5-pass 24-hour dietary recall was performed by a diettian at baseline and 12 weeks. The recalls were analyzed to establish intake of MUFA in percent calories (%kcals) with Nutrition Data Systems for Research software (NDSR). Body composition including FM%, fat free mass percent of body weight (FFM%) and ratio of FFM to FM (FFM/FM Index) was measured with bioelectrical impedance analysis (BIL systems) at baseline and 12 weeks. Statistical analysis was performed with SPSS (24.0), Spearman rank test was used for correlations. Values are expressed as numbers and percentages or as median and interquartile range (IQR).

RESULTS/ANTICIPATED RESULTS: Subjects were mostly female (56%) with a median age 56 (IQR 50-59). Baseline median body mass index (kg/m2) was 36.7 (36.2-48.0), median FM% was 44.5 (IQR 32.5-53.4), median FFM% was 55.5 (IQR 46.7-67.5) and median FFM/FM Index was 1.25 (IQR 0.88-2.1). The only significant change was an increase in %MUFA from baseline 12.4% (IQR 6.9-14.3) to 12 weeks 21.8% (17.6-36.9) (p = 0.008). Increased %MUFA was highly associated with increased FFM% (r = 0.783, p = 0.013) (Figure 1A), decreased FM% (r = -0.783, p = 0.013) (Figure 1B) and increased FFM/FM index (r = 0.800, p = 0.010) (Figure 1C). All correlations remained statistically significant after adjustment for changes in energy intake. DISCUSSION/SIGNIFICANCE OF IMPACT: Increasing dietary %MUFA is protective against negative changes in body composition in patients with obesity and HFP EF, independent of changes in caloric intake. Future work should focus on whether the correlation found in this pilot study translate in improved body composition and finally, exercise tolerance and clinical outcomes.

INTERMITTENT Theta Burst Stimulation to Relieve Depression and Executive Function impairment in older adults

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OBJECTIVES/SPECIFIC AIMS: The objective of the study is to examine the ability of iTBS to improve depression and executive impairment in depressed older adults. If effective, this treatment will have the potential to improve the quality of life in LLD. METHODS/STUDY POPULATION: From 12- 2016 to date older adults (60 – 85 y/o) in a major depressive episode, with evidence of executive dys- function (on the NIH Tool Box battery) were enrolled. iTBS protocol: This brief paradigm (3 min 9 seconds duration) was administered on weekdays for four weeks (20 sessions total). Stimulation intensity was set up to 120% of the observed motor threshold. Depression primary outcome: Change in the Montgomery Asberg Depression Rating Scale (MADRS) from baseline to the end of iTBS course. Executive function primary outcome: Change in executive measures from the electronic NIH Tool Box cognitive domain battery.8. Executive secondary outcome: Change in scores from baseline to the end of iTBS on the Frontal Systems Behavior Scale (FrSBe), this self reported instrument measures dys-executive behavior. Statistical Analysis: paired t-test examined changes in depression and executive variables from baseline to post iTBS. Pearson correlation examined.