Figure. Representative images (axial, coronal and sagittal from left to right) showing white matter hyperintensities on FLAIR imaging (top panel) in a study participant and with the automated segmentation applied for white matter hyperintensity volume quantification (bottom panel).

P2-546

NEUROPROTECTIVE DIETARY PATTERNS ARE ASSOCIATED WITH BETTER COGNITIVE PERFORMANCE IN OLDER U.S. ADULTS: THE HEALTH AND RETIREMENT STUDY

Claire T. McEvoy[1], Heidi Guyer[2], Kenneth M. Langa[2], Kristine Yaffe[3,4], [1]University of California, San Francisco, San Francisco, CA, USA; [2]University of Michigan, Ann Arbor, MI, USA; [3]University of California San Francisco / San Francisco VA Medical Center, San Francisco, CA, USA; [4]San Francisco VA Medical Center, San Francisco, CA, USA. Contact e-mail: c.mcevoy@qub.ac.uk

Background: Adherence to the traditional Mediterranean (MedDiet) and MIND (Mediterranean-DASH Intervention for Neurodegeneration Delay) diets are shown to be neuroprotective, but study findings to date are limited and inconsistent. We examined the cross-sectional association between adherence to these dietary patterns and cognitive performance among 5,907 older community dwelling adults from the nationally representative Health and Retirement Study. **Methods:** Dietary patterns were determined using *a priori* criteria to generate scores for MedDiet (range = 0-55) and MIND (range 0-15) with higher scores indicating better dietary adherence. Cognitive performance was measured using a composite test score of global cognitive function (range 0-27) with poor performance defined as < 1SD below the population mean. Regression models were used to investigate associations between dietary patterns and cognitive performance. Models were adjusted for age, gender, race, low educational attainment (less than high school) and other health (obesity, hypertension, diabetes, depression) and lifestyle (smoking, physical inactivity and energy intake) covariates. **Results:** The mean age of study participants was 68 ± 10.8 years. Compared to those with low MedDiet score, participants with mid and high score were significantly less likely to have poor cognitive performance (OR 0.82; 95% CI 0.68, 0.99: P =0.03, and OR 0.60; 95% CI: 0.49, 0.75: P < 0.001, respectively) in fully adjusted models. Results for the MIND diet were similar. Compared with low MIND score, those with mid and high score had significantly lower odds of having poor cognitive performance (OR 0.82; 95% CI: 0.68, 0.99: P = 0.03, and OR 0.65; 95% CI: 0.53, 0.80: P < 0.001). Higher score in each dietary pattern was independently associated with significantly better cognitive function (P < 0.001) in a dose-response manner (P$_{TREND}$ < 0.001). **Conclusions:** In a large, nationally representative population of older adults, greater adherence to the MIND and Med-

Diet diet was associated with 35-40% lower risk of cognitive impairment. However, even modest adherence to these dietary patterns may be neuroprotective. Further studies are required to elucidate the role of diet on change in cognition during aging.

P2-547

TRAUMATIC BRAIN INJURY (TBI) SEVERITY AND AGE OF DEMENTIA DIAGNOSIS AMONG VETERANS

Deborah E. Barnes[1], Raquel C. Gardner[1], Amy Byers[1], Karen Seal[1], W John Boscardin[1], Kristine Yaffe[1], the Chronic Effects of Neurotrauma Consortium Study Group, [1]University of California San Francisco / San Francisco VA Medical Center, San Francisco, CA, USA. Contact e-mail: deborah.barnes@ucsf.edu

Background: Traumatic brain injury (TBI) is common in both civilians and Veterans. Prior studies have linked moderate and severe TBI with increased dementia risk and earlier onset, but the association with mild TBI (mTBI) remains unclear. Our objective was to examine the association between TBI severity and age of dementia diagnosis in Veterans. **Methods:** We performed a retrospective cohort study using data from the Veterans Health Administration (VHA) healthcare system. Study participants were a 2% random sample of all VHA patients seen from 10/1/2002 – 9/30/2014 plus all VHA patients diagnosed with TBI during this time period (N=1,410,292). TBI was identified through the Comprehensive Traumatic Brain Injury Evaluation (CTBIE) database and the VHA Medical SAS inpatient and outpatient databases with severity defined as mild or moderate/severe using Department of Defense or Defense and Veterans Brain Injury Center 2012 criteria; in addition, very mild TBI was defined as TBI with no loss of consciousness. Dementia diagnoses and comorbid conditions were determined using International Classification of Diseases 9th edition (ICD-9) codes. Cox proportional hazards analyses (age as timescale, censoring at death or last clinical visit) were performed to examine time to dementia diagnosis as a function of TBI severity adjusting for demographics and comorbidities. **Results:** Veterans with any TBI were significantly younger (mean age: 46 versus 61 years) and more likely to have psychiatric disorders (depression: 21% versus 7%; post-traumatic stress disorder: 22% versus 3%) than those without TBI (all p<0.001). Cumulative incidence curves suggested a dose response between TBI severity and age of dementia diagnosis (Figure). Adjusted hazard ratios (95% confidence intervals) for dementia were 2.44 (2.19, 2.72) for very mild TBI; 3.04 (2.94, 3.15) for mild TBI; and 3.73 (3.63, 3.83) for moderate/severe TBI. **Conclusions:** In this retrospective cohort study of more than 1.4 million