Vascular Risk and Cognitive Decline in Older Adults with and without Mild Cognitive Impairment (MCI)

Objective: Vascular risk factors are associated with increased risk for cognitive decline and clinical Alzheimer’s disease (AD). The purpose of this study was to examine whether worse vascular health status would be associated with a decline in cognitive performance in older adults with normal cognition (NC) or mild cognitive impairment (MCI) at baseline. Method: Participants were drawn from the National Alzheimer’s Coordinating Center Uniform Dataset, and included 5893 NC (72 ± 8 years, 69% female) and 2769 MCI (74 ± 8 years, 55% female). Vascular Health was defined using the Framingham Stroke Risk Profile score (based on age, systolic blood pressure, anti-hypertensive medication usage, diabetes, cigarette smoking, CVD history, atrial fibrillation). Cognitive performance was assessed using a comprehensive neuropsychological protocol (Mini-Mental State Examination, Digit Span, Trail Making Test Parts A & B, Digit Symbol, Boston Naming Test-30 Item, Animal Naming, Vegetable Naming, Logical Memory Immediate & Delayed Recall). Ordinary linear regressions and generalized linear mixed models related baseline FSRP to longitudinal cognitive outcomes separately for NC and MCI participants. Results: Mean follow-up time was 2.7 ± 2.3 years for NC participants and 2.0 ± 2.0 years for MCI participants. Increasing FSRP was related to worse longitudinal trajectory on all cognitive measures in NC participants (all \( p \)-values < .0001). Higher FSRP was only related to worse longitudinal delayed memory in MCI participants (\( p = 0.003 \)). Conclusion(s): Our results suggest that poorer vascular health is related to worse cognitive trajectory among NC elders and worse delayed memory trajectory in MCI. Future studies are needed to understand how effective management of vascular risk factors affects cognitive progression.