Title

Amyloid Imaging with Florbetapir-PET Correlates with Cognitive Performance in Non-Demented Oldest-Old

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We examined the association between amyloid imaging with florbetapir F18 positron emission tomography (PET) and cognitive performance in non-demented oldest-old.

Thirteen non-demented oldest-old subjects received a florbetapir-PET scan within 3 months of neuropsychological testing, which included the Modified Mini-Mental State Exam (3MS), California Verbal Learning Test (CVLT) 10-minute delay, Boston Naming Test, and Trails A and B. Scans were analyzed with a semiautomated quantitative analysis of the cortical to cerebellar signal ratio (SUVr) on the average of 6 cortical brain regions (frontal, temporal, parietal, anterior and posterior cingulate, and precuneus).

Participants were 9 women and 4 men with an average age of 94.2 years (range:90–99). Eight participants were diagnosed as cognitively normal and 5 had cognitive impairment but did not meet dementia criteria. CVLT scores correlated significantly with the average SUVr (Pearson corr $= -0.64$, $p = 0.03$) and 3MS scores trended towards a significant correlation with the average SUVr (Pearson corr $= -0.54$, $p = 0.07$).

This preliminary study suggests that greater amyloid burden is associated with poorer cognition, especially memory, in non-demented oldest-old participants. Amyloid imaging may identify oldest-old individuals at increased risk of developing Alzheimer's disease.

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