DECREASED LEARNING AND RECALL OF PRIMACY WORDS AS PREDICTORS OF DECLINE IN HEALTHY INDIVIDUALS

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Introduction: An important goal of ongoing Alzheimer’s disease (AD) research is to identify markers that allow one to predict risk for the development of this type of dementia in cognitively intact elderly. Known cognitive changes associated with AD, possibly reflecting hippocampal pathology, include a worse recall of primacy items and better immediate recall of items learned at the end of a list compared to the middle (recency effect).

Aims: The aim of our study was to examine whether learning and recall of primacy and recency words predicted future decline in intact elderly subjects.

Methods: Individuals with MMSE of 28 or over at baseline were included in the study. Of these, 211 had at least two successive cognitive evaluations; mean age at baseline was 69.5 (SD=8.0). We regressed MMSE decline on baseline Auditory-Verbal Learning Test (AVLT) memory measures, focusing especially on learning and recall of primacy and recency words, and controlling for baseline age, time since baseline and other variables.

Results: Worse learning/delayed recall of primacy words on AVLT trials consistently predicted greater subsequent cognitive decline. Additionally, this effect was stronger among older subjects than among younger ones. APOE e4, a well established genetic risk factor for late-onset AD, was not a significant predictor of MMSE decline in this sample.

Conclusions: Decreased learning and poorer recall of primacy words in the AVLT is a predictor of decline in healthy elderly individuals, and future studies should examine if decreased learning and recall can predict conversion to AD.