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Abstract

Posters

AGING AND DEMENTIA: ALZHEIMER

A - 06

MRI and Neuropsychological Change During Conversion from Normal/MCI to Alzheimer's Disease

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Objective: Analyze neurocognitive and structural brain changes associated with conversion from normal cognition/MCI to Alzheimer's disease (AD). Method: Thirty-two participants from the National Alzheimer's Coordinating Center included 22 women; mean (SD): age = 77.06 (8.1); education = 14.59 (3.5). All had either normal cognition or MCI at first visit when MRI was obtained and were diagnosed with AD at follow-up MRI; mean time between MRI's = 4.1 years. Imaging of Dementia & Aging lab performed calculations for MRI structural change using Linux-based software. Participants took neuropsychological tests within three months of each MRI visit.Results: MRI structural degeneration occurred in: left (d = .46) and right (d = .47) entorhinal cortical thickness; left (d = .82) and right (d = .95) hippocampal volume; left (d = .74) and right (d = .43) middle temporal gray matter volume; left parahippocampal cortical thickness (d = .55); total white matter volume (d = .55); total brain volume (d = .78); and total CSF volume (d = 1.14). Significant neuropsychological decline included Animal fluency (d = 1.02), Vegetable fluency (d = .69), Digit Symbol (d = .53), Trails B (d = .42), and Digit Span Backward (d = .56). There was not a significant change in Logical Memory. Conclusions: Participants who converted from normal cognition/MCI to AD showed MRI degeneration in medial temporal structures as well as generalized atrophy and white matter loss. These structural changes accompanied a significant decline in semantic verbal fluency, working memory, and processing speed. There was not a significant change in verbal memory.

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