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Potential impact of amyloid imaging on diagnosis and intended management in patients with progressive cognitive decline.

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Abstract

Florbetapir F18 has been approved by the Food and Drug Administration for in vivo assessment of amyloid pathology in patients undergoing evaluation for Alzheimer disease (AD). The aim of this study was to determine the impact of amyloid imaging on the diagnoses and management of patients undergoing evaluation for cognitive decline. Patients were recruited to participate at 19 clinical sites. The site physician provided a provisional diagnosis, an estimate of their diagnostic confidence, and their plan for diagnostic evaluation and management both before and after receiving the results from amyloid imaging with florbetapir F18. Analyses compared the frequency of AD and non-AD diagnoses, plans for ancillary testing, and intended patient management before and after florbetapir imaging. A total of 229 patients participated in the trial (113 amyloid positive, 116 amyloid negative). After receiving the results of the florbetapir scan, diagnosis changed in 125/229, or 54.6% [95% confidence intervals (CI), 48.1%-60.9%], of cases, and diagnostic confidence increased by an average of 21.6% (95% CI, 18.3%-24.8%). A total of 199/229 or 86.9% (95% CI, 81.9%-90.7%) of cases had at least 1 change in their management plan. Intended cholinesterase inhibitor or memantine treatment increased by 17.7% (95% CI, 11.8%-25.8%) of all cases with positive scans and decreased by 23.3% (95% CI, 16.5%-31.8%) of all those with negative scans. Among subjects who had not yet undergone a completed work up, planned brain structural imaging (computed tomographic/magnetic resonance imaging) decreased by 24.4% (95% CI, 17.5%-32.8%) and planned neuropsychological testing decreased by 32.8% (95% CI, 25.0%-41.6%). In summary, amyloid imaging results altered physician's

diagnostic thinking, intended testing, and management of patients undergoing evaluation for cognitive decline.

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