

Will Lecanemab Improve Outcomes in Alzheimer's Disease? A Review of Evidence from Clinical Trials and Emerging Therapeutic Perspectives.

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Alzheimer's disease (AD) remains the most common cause of dementia worldwide, characterised by progressive cognitive decline and neurodegeneration. Traditional therapies focus on symptom control without modifying disease progression. Lecanemab, a humanised monoclonal antibody targeting soluble protofibrils of amyloid-beta ($A\beta$), represents a promising disease-modifying therapy that may alter the course of early AD. Methods:

This narrative review synthesises published data on lecanemab's efficacy and safety, with a focus on key clinical trials including the phase III CLARITY-AD trial. Literature was searched via PubMed and ClinicalTrials.gov, with emphasis on outcomes related to cognitive function, amyloid burden, and adverse effects. Results: In the CLARITY-AD trial, lecanemab demonstrated a 27% reduction in cognitive decline on the CDR-SB scale compared to placebo over 18 months ($p < 0.001$). Amyloid PET imaging confirmed significant clearance of $A\beta$ plaques. However, ARIA-E (edema) occurred in approximately 12.6% of patients and ARIA-H (hemorrhage) in 17.3%, primarily in APOE $\epsilon 4$ carriers. Subgroup analyses suggested greater benefit when administered in early symptomatic stages (MCI due to AD). Other trials, including AHEAD 3-45, are evaluating preclinical populations and long-term outcomes.

Biography

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