Novel Approaches to Treating Alzheimer's Disease Include Early Intervention

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Researchers at the Comprehensive Alzheimer's Program at the University of California, San Diego School of Medicine have announced two new clinical trials for patients with either mild to moderate Alzheimer's disease (AD) and one trial for Mild Cognitive Impairment.

"Two of these studies represent an exciting new approach to treating Alzheimer's, focusing on improving memory in patients with early symptoms of impaired memory and possibly slowing down the disease progression long before symptoms appear," said Michael Rafii, MD, PhD, assistant professor of neurosciences and director of the Memory Disorders Clinic at UC San Diego.

All three are randomized, double-blind, placebo-controlled studies:

The first is a national clinical trial examining the effects of resveratrol – a compound found in red grapes or juice, red wine, chocolate, tomatoes and peanuts – on participants with mild to moderate dementia due to Alzheimer's disease. Pre-clinical and pilot clinical research studies suggest that resveratrol may prevent diabetes, act as a natural cancer fighter, ward off cardiovascular disease, and prevent memory loss, but there has been no large definitive study of its effects in humans.

"The risk of all of these diseases increases with aging," said Rafii. "Most resveratrol studies showing any health benefits have been conducted in animal models such as mice, and with doses that far exceed intake from sipping wine or nibbling on chocolate. With this clinical trial, we hope to find out if daily doses of pure resveratrol can delay or alter memory deterioration and daily functioning in people with mild to moderate dementia due to Alzheimer's."

The second trial is a phase-two study employing an immunotherapeutic drug developed by Roche called Gantenerumab to remove beta-amyloid, a protein that is deposited into plaques found in the brains of patients with Alzheimer's disease. Beta-amyloid is neurotoxic and believed to be the main cause of neuronal degeneration in AD. This trial is for patients with what is called prodromal Alzheimer's disease, or mild cognitive impairment that represents the earliest state of the disease.

The third study involves a drug called Crenezumab , which Rafii says has been shown to be one of the more potent amyloid-lowering compounds yet developed. This drug, from Genentech, is a monoclonal antibody, which means that it very specifically binds only to beta-amyloid.

"By using antibodies against beta-amyloid we hope to reduce its neurotoxic effects on the brain," Rafii said. "There is a lot of evidence that beta-amyloid molecules cause damaging effects in the brain perhaps as much as ten years before they deposit to form plaques and result in symptoms of memory loss. The aim of these two studies is to see if we can remove beta-amyloid before it causes damage and forms the plaques that result in Alzheimer's."

According to the National Institute of Aging, more than 5.3 million people in the United States are suffering from Alzheimer's, and every 70 seconds, another person develops the disease. Currently, there are no drugs to treat prodomal AD.

The UC San Diego research is sponsored by the Alzheimer's Disease Cooperative Study through a grant from the National Institute on Aging, as well as by Hoffman La Roche and Genentech. For more information on enrolling at the UC San Diego site, contact the Comprehensive Alzheimer's Program at 858-246-1300 or email CAPmemory@ucsd.edu

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