

## The Changing Face of Alzheimer's Disease Research

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**F**or years Alzheimer's researchers have focused on testing experimental drugs on patients who already have a diagnosis of Alzheimer's and significant changes in cognition, memory and behavior. It has now become quite clear that researchers have been trying to treat the disease at too late a stage. They agree that they need to be focusing on the very earliest stage, what is called "prodromal AD," when patients suffer little or no cognitive or memory loss but scans show that their brains contain beta amyloid, the sticky plaques that are the hallmark of the disease that destroy healthy neurons.

"In the past people with prodromal Alzheimer's disease would not have been considered to have the disease," says Michael Rafii, MD, PhD, director of the UC San Diego Health System Memory Disorders Clinic. "Now, we recognize it as a condition where we may be able to intervene and possibly prevent it from progressing to full blown Alzheimer's disease."

Rafii compares the early intervention to heart disease. "Until cholesterol was discovered as the culprit that caused plaques in the arteries that ultimately blocked blood flow and caused heart attacks, heart disease was being treated only after someone suffered a heart attack, which people often did not survive," he said, adding that once cholesterol was identified and drugs were developed to keep arteries free of cholesterol and dangerous plaques, heart disease rates and death from heart attacks plummeted. The same, he says, can be said for Alzheimer's disease. "We've been attacking the problem too late."

More studies are studying the disease at this early prodromal phase. The Scarlet Road Study, currently enrolling patients at UC San Diego Health System, is one such innovative study.

Scarlet Road, Rafii says, is a double-blind, placebo-controlled study that will test the effect of injections of an experimental drug, gantenerumab, or placebo on people who have prodromal Alzheimer's disease. Gantenerumab is a new experimental drug made from human antibodies, a type of protein produced by the human immune system in response to a foreign substance such as a virus or bacteria. Antibodies protect the body from disease by attacking these substances and destroying them. Gantenerumab has been developed to attack the beta-amyloid plaques in the brain. In animal tests, antibodies like gantenerumab have been shown to remove plaques from

the brain. In some cases, there has been improvement of the animals' ability to think, make decisions, concentrate or remember, called "cognitive function."

The UC San Diego study will run over a two and a half year period. One third of study participants will receive a low drug dose, one third will receive a moderate drug dose and the remaining group will receive the placebo. Most studies follow a 50/50 drug to placebo formula; in this study participants have a two in three chance of receiving the actual experimental drug. Neither the participants nor study staff will know who is receiving the study drug and who is receiving the placebo.

For further information on the Scarlet Road Study call 858-246-1300 or email [CAPmemory@ucsd.edu](mailto:CAPmemory@ucsd.edu)

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