

SOUTHWESTERN NEWS

Media Contact: Amy Shields

214-648-3404

amy.shields@utsouthwestern.edu

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CHOLESTEROL-LOWERING DRUGS SHOWN TO DECREASE PREDICTOR OF ALZHEIMER'S DISEASE

DALLAS – April 21, 2003 – Cholesterol-lowering medications known as statins also play an important role in reducing levels of a strong predictor of Alzheimer's disease, according to a new study from UT Southwestern Medical Center at Dallas researchers.

In today's issue of the *Archives of Neurology*, UT Southwestern researchers report that participants who took statins lowered their brain cholesterol levels by 21.4 percent. Brain cholesterol is involved in the formation of amyloid plaques, one of the hallmarks of Alzheimer's disease. Amyloid plaques are waxy buildups that harm brain cells.

"This class of drugs may be potentially beneficial in the treatment of Alzheimer's disease," said Dr. Gloria Vega, professor of clinical nutrition and the study's lead author. "If we limit cholesterol synthesis in the brain, we may be able to decrease the production of amyloid plaques. The findings from this research provide information about the safety and efficacy of a reasonable dose of a statin on the reduction of brain cholesterol."

There is currently no cure for Alzheimer's disease, which affects four million Americans. But this study, UT Southwestern researchers said, suggests that reducing cholesterol in the brain also can reduce plaque formation, thereby potentially reducing the severity of Alzheimer's disease.

"We've shown that you can take people with Alzheimer's disease, with normal cholesterol levels, and reduce the amount of cholesterol that their brain produces without any adverse side effects," said Dr. Myron Weiner, vice chairman of clinical services in psychiatry and a co-author of the study. The study included 44 Alzheimer's patients, none with cardiovascular disease. The study participants were randomly assigned to receive either 40 milligrams per day of lovastatin, simvastatin or pravastatin, or one gram per day of extended-

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release niacin (another cholesterol-lowering medication) for a six-week period.

Unlike dietary cholesterol, which is transported to the liver and excreted through the bile, the brain gets rid of cholesterol by first converting it into 24S-hydroxycholesterol, which is elevated in individuals with Alzheimer's disease. The researchers measured, through blood samples, the amount of 24S-hydroxycholesterol to determine how much cholesterol was expelled from the brain.

All three statins reduced levels of 24S-hydroxycholesterol by at least 20 percent, while 24S-hydroxycholesterol levels dropped by 10 percent with extended-release niacin.

"It would be interesting to determine whether a combination of a statin and extended-release niacin has an additive effect on levels of 24S-hydroxycholesterol," said Vega.

Weiner is the lead study investigator at UT Southwestern for the Alzheimer's Disease Cooperative Study, a National Institute on Aging multicenter study, which is evaluating whether statins play a role in slowing the progression of Alzheimer's. Results from that study are expected in the next two years.

"Now that we've shown that statins safely and effectively reduce levels of brain cholesterol, we are studying what statins do cognitively for people with Alzheimer's," he said.

Other researchers involved in the study included Dr. Anne Lipton, assistant professor of neurology and psychiatry; Carol Moore, research assistant in psychiatry; Doris Svetlik, a nurse administrator in psychiatry; and researchers with the Department of Clinical Pharmacology at the University of Bonn Medical Center in Germany.

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