

Statins may slow progression of multiple sclerosis, new study finds

April 14 2010

A UCSF-led study examining the impact of statins on the progression of multiple sclerosis found a lower incidence of new brain lesions in patients taking the cholesterol-lowering drug in the early stages of the disease as compared to a placebo.

Study participants received an 80 milligram daily dose of atorvastatin, marketed by Pfizer Inc. as Lipitor.

Although the study was small with only 81 participants and its primary endpoint, designed to evaluate MS progression in patients following their first attack, was not met, the researchers found over the 12-month course that 55.3 percent of participants did not develop new [brain lesions](#) when administered statins compared with 27.6 percent of the placebo group.

Study findings were presented today (April 14, 2010) by University of California, San Francisco researchers during the annual American Academy of Neurology scientific meeting in Toronto.

The trial was a phase II, multi-center, randomized, placebo-controlled follow up to a landmark study published by principal investigator Scott S. Zamvil, MD, PhD, associate professor of neurology at UCSF (Youssef, et al., Nature 2002), after his laboratory first observed that statins cause T cell immune modulation that could be beneficial in multiple sclerosis and other [autoimmune diseases](#).

Co-led by Zamvil and Emmanuelle Waubant, MD, PhD, associate

professor of neurology at the UCSF MS Center, the study tested whether the drug could be used to prevent conversion to definite multiple sclerosis in individuals who have had a first attack.

"Our data is preliminary, and we need a larger study to confirm the effects of the drug and its magnitude. It is important that we understand how [statins](#) impact the progression of multiple sclerosis in order to better inform physicians and patients of their effect since these drugs are so broadly used throughout the United States and the world, and to learn whether a relatively inexpensive oral therapy can slow the course of disease," said Waubant.

MS is considered an autoimmune disease where immune cells attack the central nervous system. Nerves are made up of axons (nerve fibers) surrounded by a myelin sheath. MS occurs when the immune system attacks myelin, leaving scars or lesions in the demyelinated areas of the [brain](#) and spinal cord. Damage to myelin disrupts the ability of nerves to transmit information to nerve cells, resulting in neurological disability.

The team employed MRI to look at the activity of the medication on the disease course. More than 150 patients were originally intended, but enrollment was stopped due to slow recruitment after 81 patients were randomized. Each subject was asked to come in every three months (five scans over 12 months) for serial brain MRI evaluation. The subject pool was 76.5 percent female, 92.6 percent white, and ranged in age from 24 - 48 years.

Central MRI reading and coordinating was provided by Daniel Pelletier, MD, study author, associate professor of neurology and a member of the [Multiple Sclerosis](#) Research Group at UCSF.

"The exciting finding in this study is that reducing new brain MRI lesions should be meaningful for patients since new lesions are reliable

correlates of future clinical attacks in MS," said Pelletier.

More information: 2002 Nature paper (Youssef, et al.):
www.nature.com/nature/journal/...ull/nature01158.html

Provided by University of California - San Francisco

Citation: Statins may slow progression of multiple sclerosis, new study finds (2010, April 14)
retrieved 6 May 2024 from
<https://medicalxpress.com/news/2010-04-statins-multiple-sclerosis.html>

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