

Statins slow the progression of advanced multiple sclerosis in clinical trial

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Statins may provide doctors with an unlikely new weapon with which to slow the progression of multiple sclerosis (MS).

No treatments can currently abate the advanced stage of the disease, known as secondary progressive MS, which gradually causes patients to become more disabled.

In a two-year clinical trial involving 140 patients with secondary progressive MS, the drug simvastatin slowed brain shrinkage, which is thought to contribute to patients' impairments. Supporting this finding, patients on simvastatin achieved better scores on movement tests and questionnaires that assess disability than patients taking a placebo.

MS is a neurological condition that affects around 2.3 million people worldwide. Most patients are initially diagnosed with relapsing-remitting MS, which causes periodic attacks. Around 65 per cent of people with relapsing remitting MS develop secondary progressive MS within 15 years of being diagnosed. The secondary progressive phase is where MS has the most personal and societal costs.

The authors of the new study, which was led by Imperial College London, said the findings were very encouraging, but would need to be replicated in a larger trial. The work is published today in the *Lancet*.

"At the moment, we don't have anything that can stop patients from becoming more disabled once MS reaches the progressive phase," said

Dr Richard Nicholas, co-author of the study from the Department of Medicine at Imperial. "Discovering that statins can help slow that deterioration is quite a surprise. This is a promising finding, particularly as statins are already cheap and widely used.

"We need to do a bigger study with more patients, possibly starting in the earlier phase of the disease, to fully establish how effective it is," he added.

Dr Nicholas ran the trial with Dr Jeremy Chataway, then in the Department of Medicine at Imperial and now at University College London.

Statins are taken by millions of people to lower cholesterol and prevent heart disease, but it's unclear why they would have a beneficial effect on MS.

Some small studies have found a small benefit from statins in relapsing remitting MS, which is more treatable.

Secondary progressive MS has proven more challenging to alleviate. In 2013, cannabis became the latest drug to prove unsuccessful at slowing the progression of MS in a clinical trial.

This clinical trial is the culmination of long-standing research led by Professor John Greenwood at the UCL Institute of Ophthalmology showing the potential therapeutic benefits of using [statins](#) to treat autoimmune diseases such as [multiple sclerosis](#) and uveitis.

Professor Greenwood said, "After nearly two decades of research, it is immensely gratifying to see this work progress into the clinic to deliver benefits to [patients](#)."

More information: J. Chataway et al, 'Effect of high-dose simvastatin on brain atrophy and disability in secondary progressive multiple sclerosis (MS-STAT): a randomised, placebo-controlled, phase 2 trial', *The Lancet* 383 (2014), [DOI: 10.1016/S0140-6736\(13\)62242-4](https://doi.org/10.1016/S0140-6736(13)62242-4)

Provided by Imperial College London

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