Study finds hydroxychloroquine delays disability for least treatable form of multiple sclerosis

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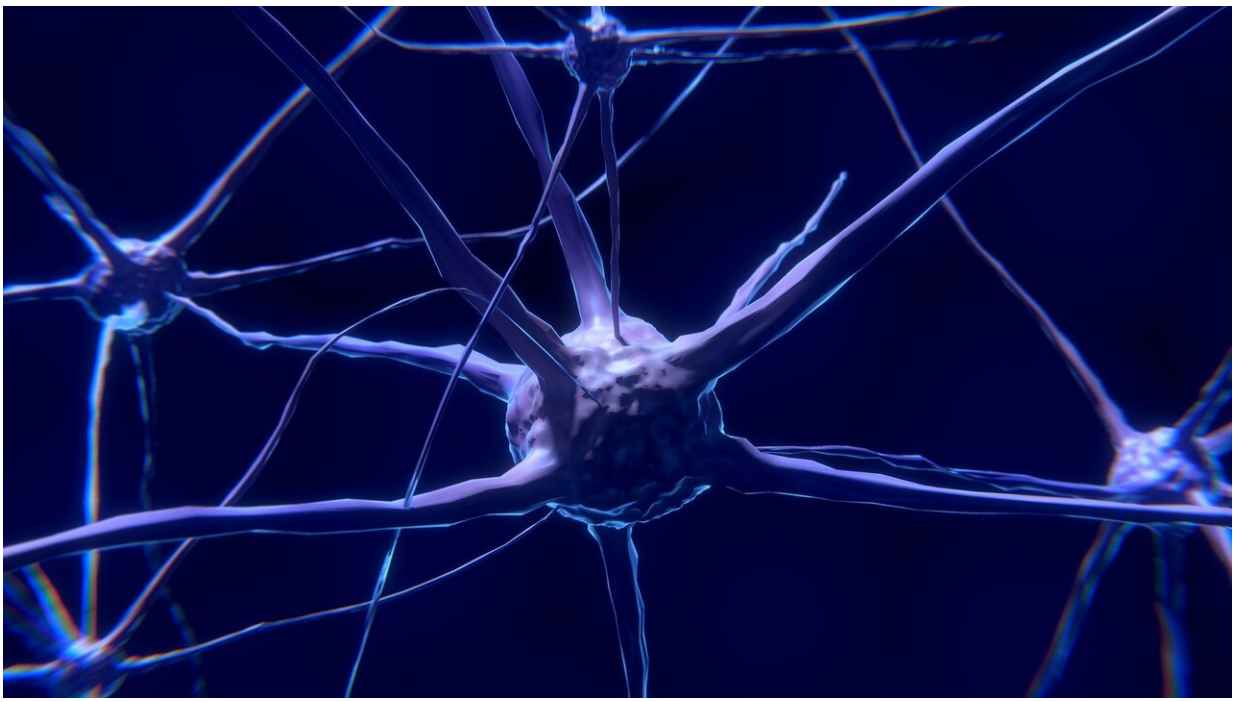

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A University of Calgary study has found promising results for the generic drug hydroxychloroquine when used to treat the evolution of disability of primary progressive multiple sclerosis (MS), the least treatable form of the autoimmune disease. MS affects about 90,000

Canadians with about 15 percent of those diagnosed with primary progressive MS, one of the highest rates in the world.

Cumming School of Medicine research teams led by Dr. Marcus Koch, MD, Ph.D., and Dr. Wee Yong, Ph.D., found hydroxychloroquine helped to slow the worsening of disability during the 18-month study involving participants at the MS clinic in Calgary. The research was published in *Annals of Neurology*.

"With primary progressive MS, there is no good treatment to stop or reverse the progression of disease. The disability progressively worsens through time," says Koch, a clinician-investigator in the Department of Clinical Neurosciences and member of the Hotchkiss Brian Institute (HBI). "Dr. Yong's research team, with whom we closely collaborate, has been screening a large number of generic drugs over several years and the results with hydroxychloroquine show some promise. Our trial is a preliminary success that needs further research. We hope sharing these results will help inspire that work, specifically larger scale clinical trials, into the future."

The experimental study, known as a single-arm phase II futility trial, followed 35 people between November 2016 and June 2021. Researchers expected to see at least 40 percent, or 14 participants, experience a significant worsening of their walking function, but at the end of the trial only eight participants had worsened. Hydroxychloroquine was generally well-tolerated.

Hydroxychloroquine is an anti-malaria medication more commonly used to manage the symptoms of rheumatoid arthritis and autoimmune conditions such as lupus. It was chosen because it is widely used in rheumatological diseases and generally well-tolerated.

"Based on research in our lab on models of MS, we predicted that

hydroxychloroquine would reduce disability in people living with MS. Calgary has a vibrant bench-to-bedside MS program and the work from Dr. Koch's trial offers further evidence which we were pleased to see," says Yong, a professor in the Department of Clinical Neurosciences and HBI member.

The cause of MS remains unknown. It's a disease in which the body's immune system attacks its own tissues and is generally long-lasting, often affecting the brain, spinal cord and the optic nerves in your eyes. It can cause problems with vision, balance and muscle control, although the effects are different for everyone who has the disease.

The MS Clinical Trials team's work is supported in part by philanthropic contributions from donors including The Westman Charitable Foundation and the Swartout family. This specific study was also funded through a grant from the MS Translational Clinical Trials Program of the Hotchkiss Brain Institute.

Dr. Koch and the research team have been studying the impact of hydroxychloroquine on primary progressive MS for several years and that work continues, including its potential to achieve even greater results as a therapy in combination with select other generic drugs.

More information: Marcus W. Koch et al, Hydroxychloroquine for Primary Progressive Multiple Sclerosis, *Annals of Neurology* (2021). DOI: 10.1002/ana.26239

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https://medicalxpress.com/news/2022-01-hydroxychloroquine-disability-treatable-multiple-sclerosis.html