New study reveals methylphenidate improves oculomotor function in multiple sclerosis

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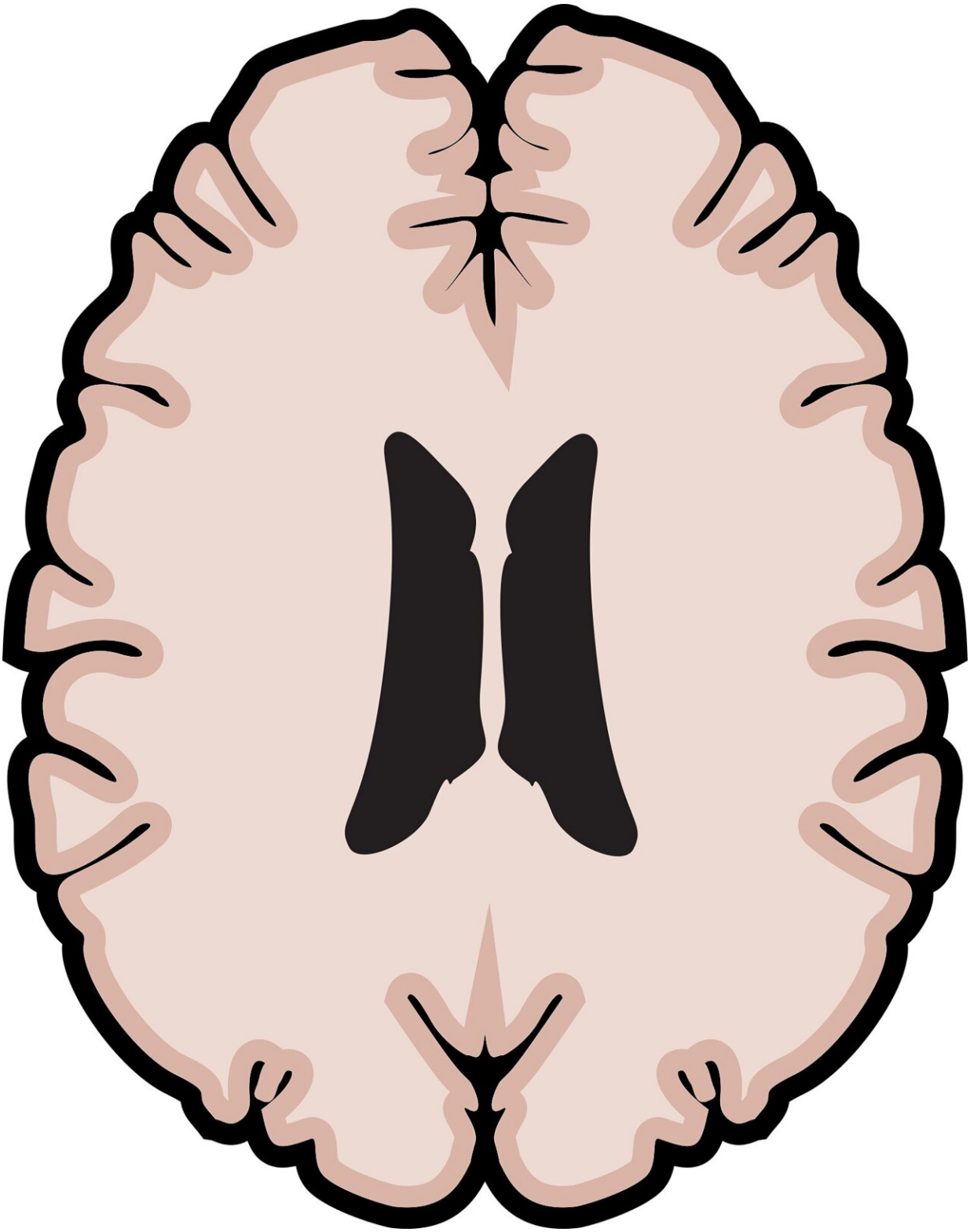

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A pilot study conducted by Kessler Foundation researchers has shown promising results in the use of methylphenidate to enhance oculomotor function in individuals with multiple sclerosis (MS). The article, "Effect of methylphenidate on oculomotor function in individuals with multiple sclerosis: a pilot randomized placebo-controlled trial," was published open access on May 23, 2024, by *Frontiers in Neurology*. The findings could have significant implications for the treatment of visual and cognitive impairments associated with MS.

The pilot randomized placebo-controlled trial involved 11 participants with MS who were randomly assigned to receive either methylphenidate or a placebo for four weeks plus crossover treatment for four more weeks after a seven-day washout period. Assessments of oculomotor speed, using the King-Devick test, and information processing speed, were conducted before and after each treatment phase.

"We observed a notable improvement in the oculomotor speed of participants during methylphenidate administration compared to the placebo," stated lead author Timothy J. Rich, Ph.D., OTR/L, research scientist in the Center for Stroke Rehabilitation Research at Kessler Foundation. "This improvement in eye movement speed correlated directly with enhanced performance on visuomotor tasks, which are crucial for everyday functions."

Silvana L Costa, Ph.D., research scientist in the Centers for Neuropsychology, Neuroscience, and Multiple Sclerosis Research at Kessler Foundation and a co-author of the study, added, "Our findings suggest that methylphenidate could be a beneficial treatment for MS patients, particularly for those experiencing oculomotor deficits that affect their visual processing speed and, subsequently, their quality of life."

The study also investigated the relationship between changes in

oculomotor function and visuomotor information processing speed, finding a significant correlation between improved oculomotor speed and better outcomes on the Symbol Digit Modalities Test, a visuomotor assessment. However, no significant correlation was found with the Paced Auditory Serial Addition Test, which assesses auditory-verbal information processing speed.

"These results are promising," noted Dr. Costa, "offering a potential pathway to mitigate some of the cognitive and visual symptoms that are prevalent in MS."

More information: Timothy J. Rich et al, Effect of methylphenidate on oculomotor function in individuals with multiple sclerosis: a pilot randomized placebo-controlled trial, *Frontiers in Neurology* (2024). DOI: 10.3389/fneur.2024.1393877

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