Stem cell transplants may delay disability longer than some MS medications

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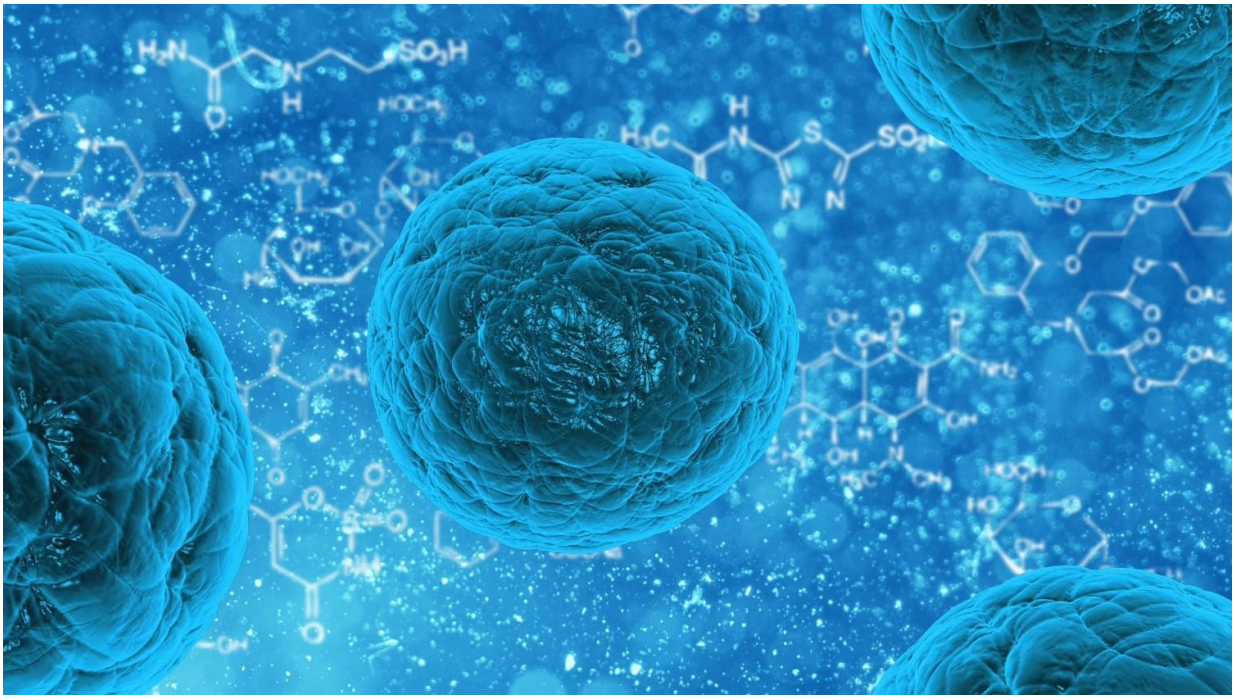

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In people with active secondary progressive multiple sclerosis (MS), hematopoietic stem cell transplants may delay disability longer than some other MS medications, according to a study published in the December 21, 2022, online issue of *Neurology*. The study involved autologous hematopoietic stem cell transplants, which use healthy blood stem cells from a person's own body to replace diseased cells.

While most people with MS are first diagnosed with relapsing-remitting MS, marked by symptom flareups followed by periods of remission, many people with relapsing-remitting MS eventually transition to secondary progressive MS, which does not have wide swings in symptoms but instead a slow, steady worsening of the disease.

"Hematopoietic stem cell transplants have been previously found to delay disability in people with relapsing-remitting MS, but less is known about whether such transplants could help delay disability during the more advanced stage of the disease," said study author Matilde Inglese, MD, Ph.D., of the University of Genoa in Italy and a member of the American Academy of Neurology. "Our results are encouraging, because while current treatments for secondary progressive MS have modest or small benefits, our study found stem cell transplants may not only delay disability longer than many other MS medications, they may also provide a slight improvement in symptoms."

The retrospective study included 79 people with active secondary progressive MS who received stem cell transplants and 1,975 people from the Italian MS registry who were treated with MS drugs. All received treatment after being diagnosed with active secondary progressive MS. The two groups were matched for age, sex and level of disability. Drugs included beta-interferons, azathioprine, glatiramer acetate, mitoxantrone, fingolimod, natalizumab, methotrexate, teriflunomide, cyclophosphamide, dimethyl fumarate and alemtuzumab.

Participants' level of disability was measured on the Expanded Disability Status Scale, a common method to quantify disability with scores ranging from 0, no symptoms, to 10 points, death due to MS. Participants were assessed at various time points over 10 years.

At the beginning of the study, participants had a median score of 6.5 for both those who received transplants and those receiving the medications.

Scores of 6.0 are defined as needing to use a cane or brace intermittently or on one side to walk about 100 meters with or without resting. Scores of 6.5 are defined as needing to use a cane or brace constantly on both sides to walk about 20 meters without resting.

Five years into the study, researchers found 62% of the people who had stem cell transplants experienced no worsening of their MS disability compared to 46% of those who took medications.

Also, at five years, researchers found people who received stem cell transplants were more likely to see sustained improvements over time, with 19% experiencing less disability than at the start of the study, compared to just 4% of people taking medications.

Over 10 years, the disability score for people who had stem cell transplants decreased by an average of 0.01 points per year, signifying less disability, while the average score for people taking medications increased by 0.16 points per year, an increase in disability.

"Our study shows that hematopoietic stem cell transplants were associated with a slowing of disability progression and a higher likelihood of disability improvement compared to other therapies," said Inglese. "While these results are encouraging, they are not applicable to patients with secondary progressive MS who do not have signs of inflammatory disease activity; more research is needed in larger groups of people to confirm our findings."

A limitation of the study is that it was retrospective and observational, and does not prove cause and effect. It only suggests an association. The study also did not include people taking the MS drugs siponimod, cladribine, ocrelizumab, ofatumumab, or rituximab.

More information: Giacomo Boffa et al, Hematopoietic Stem Cell

Transplantation in People With Active Secondary Progressive Multiple Sclerosis, *Neurology* (2022). DOI: 10.1212/WNL.0000000000206750 , dx.doi.org/10.1212/WNL.0000000000206750