



Stem Cell Transplantation May Improve Disability in Patients with Multiple Sclerosis




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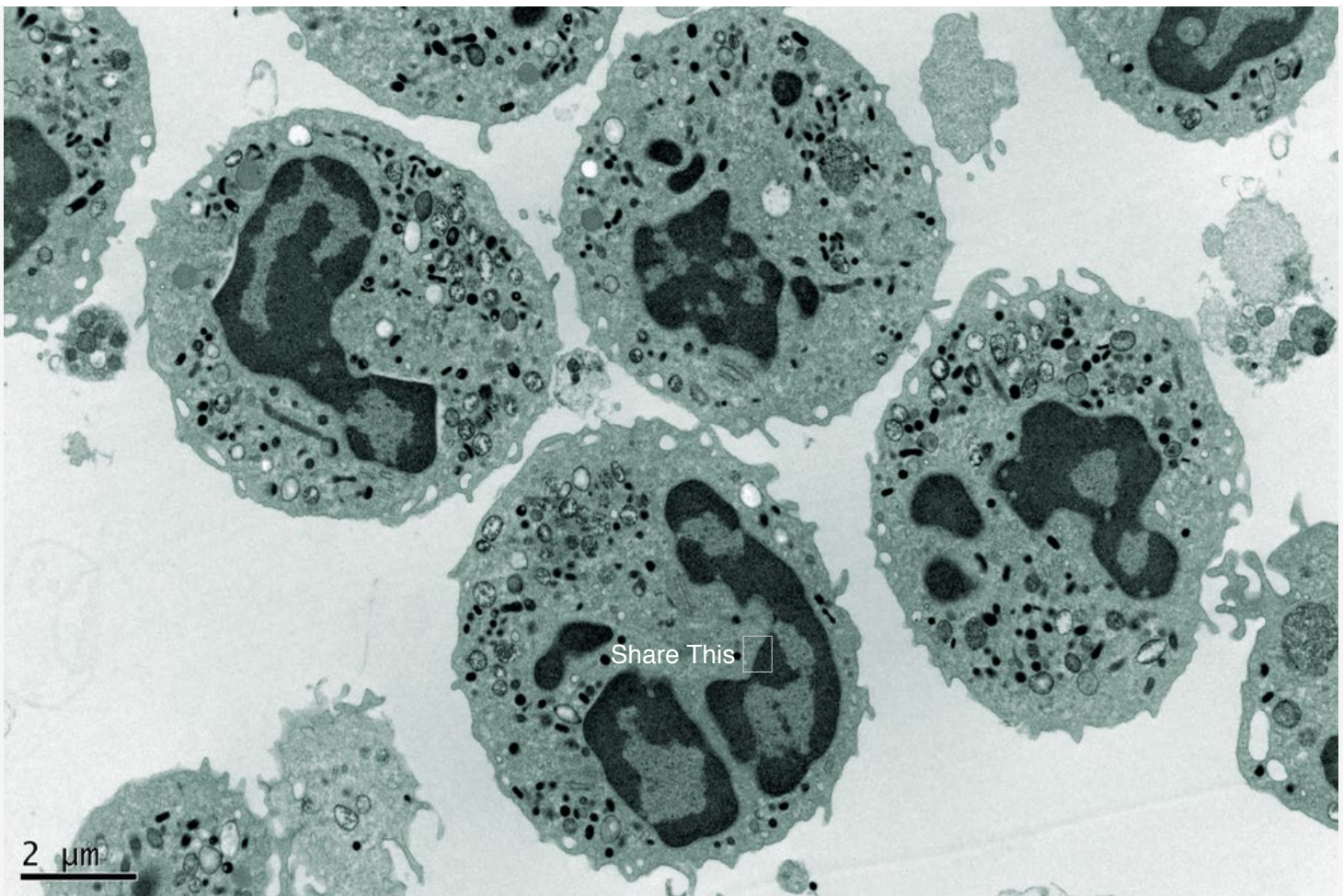


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A new research study indicates that in patients with **relapsing-remitting multiple sclerosis** (MS), treatment with nonmyeloablative hematopoietic stem cell transplantation leads to improvement in neurological impairment and quality of life.

The study, entitled “[Association of Nonmyeloablative Hematopoietic Stem Cell Transplantation With Neurological Disability in Patients With Relapsing-Remitting](#)

[Multiple Sclerosis](#),” was published this week in the *Journal of the American Medical Association*.

Despite many research efforts, at the moment there is no FDA approved treatment for Multiple sclerosis (MS) that has been found effective in reversing neurological impairment or improving patients’ quality of life. It is currently believed that MS is a disorder mediated by the immune system. Thus, Autologous hematopoietic stem cell transplantation (HSCT), a form of immune suppression that resets the immune system, may offer a potential beneficial as a treatment for patients with MS.

In this regard, Richard Burt, MD from the Division of Immunotherapy, Northwestern University Feinberg School of Medicine in Chicago and co-workers, examined the association of nonmyeloablative HSCT with neurological impairment and other clinical outcomes in a total of 123 patients with relapsing-remitting MS and also in 28 patients with secondary-progressive MS that were treated between 2003 and 2014.

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At the median follow-up of two and a half years, results revealed that in 145 patients, there was an improvement in neurological impairment (assessed with the Expanded Disability Status Scale) in 41 patients, 50% of patients examined at two years, and in 23 patients, 64% of patients examined at four years.

The researchers also found that HSCT was associated with physical and cognitive functioning improvement and with better patients’ quality of life. Furthermore, brain lesions volumes were reduced (assessed with MRI). At four years follow-up, the researchers found encouraging rates of relapse-free survival (RFS) of 80% and of progression-free survival (PFS) of 87%.

According to recent [news release](#), the authors said, “To our knowledge, this is the first report of significant and sustained improvement in the EDSS score following any treatment for MS.”

“In the post hoc analysis, the EDSS score did not improve in patients with secondary-progressive MS or in those with disease duration longer than 10 years,” the authors [said](#) in relation to patient selection.

Limitations of this study are related to the observational design without a control group, as the authors [identified](#): “Definitive conclusions will require a randomized trial; however, this analysis provides the rationale, appropriate patient selection, and therapeutic approach for a randomized study.”

Patricia Silva, PhD

Patricia holds her PhD in Medical Microbiology and Infectious Diseases from the Leiden University Medical Center in Leiden, The Netherlands. She has studied Applied Biology at Universidade do Minho and was a postdoctoral research fellow at Instituto de Medicina Molecular in Lisbon, Portugal. Her work has been focused on molecular genetic traits of infectious agents such as viruses and parasites.

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