

Stem cells may show promise for people with rapidly progressing MS

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A long term study reports about the effectiveness of replacing bone marrow, purposely destroyed by chemotherapy, with autologous (self) stem cell rescue for people with aggressive forms of multiple sclerosis (MS). The study is published in the March 22, 2011, print issue of *Neurology*, the medical journal of the American Academy of Neurology.

For the treatment, [chemotherapy](#) drugs are used to kill all of the patient's [blood cells](#), including the immune cells that are believed to be attacking the body's own central nervous system. [Bone marrow stem cells](#) removed from the patient are purified and transplanted back into the body, which saves life by replacing the blood cells and also is proposed to 'reboot' the [immune system](#).

The study followed 35 people for an average of 11 years after transplant. The study involved people with rapidly progressive MS who had tried a number of other treatments for MS with little or no effect. All were severely disabled by the disease, with an average score of six on a scale of disease activity that ranges from zero being a normal neurological examination to 10 meaning death due to MS. A score of six means able to walk with a cane or crutch; a seven is mainly in a wheelchair. All had worsened by at least one point on the scale in the year prior to the transplant.

After the transplants, the probability of participants having no worsening of their disease for 15 years was 25 percent. The probability was higher percent—for those who had active brain lesions, which are a sign of

disease activity, at the time of the transplant.

For 16 people, symptoms improved by an average of one point on the scale after the transplant, and the improvements lasted for an average of two years. The participants also had a reduction in the number and size of lesions in their brains. Two people (six percent) died from complications related to the transplant at two months and 2-1/2 years post-transplant.

Study author Vasilios Kimiskidis, MD, of Aristotle University of Thessaloniki Medical School in Thessaloniki, Greece noted that more research is needed on this treatment, including studies that compare people receiving the treatment to a control group that does not receive the treatment.

"Keeping that in mind, our feeling is that stem cell transplants may benefit people with rapidly progressive MS," he said. "This is not a therapy for the general population of people with MS but should be reserved for aggressive cases that are still in the inflammatory phase of the disease."

Provided by American Academy of Neurology

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