Stem-Cell Treatment Beats Medicine in Severe Multiple Sclerosis

(Bloomberg) -- Stem-cell transplants were more effective than the standard medicine used to treat people with severe multiple sclerosis, a trial found.

The findings, published in the online issue of Neurology, showed that patients in a 21-person study who received stem cells harvested from their bone marrow experienced a greater reduction in disease activity compared to patients given mitoxantrone, a drug that suppresses the immune system.

“With these results, we can speculate that stem-cell treatment may profoundly affect the course of the disease,” said the study’s author, Giovanni Mancardi of the University of Genoa in Italy. “This process appears to reset the immune system.”

The approach offers hope for multiple sclerosis sufferers for whom conventional medications have proved ineffective. The disease, which affects more than 2.3 million people worldwide, causes the immune system to attack the insulating tissue around nerve fibers, stopping nerve cells from sending signals, sapping patients’ energy, blurring their vision and slowly depriving them of mobility.

Stem-cell treatment is one of the hottest areas of medical research, with investigations into relieving a variety of conditions, from cancer to ulcers to obesity. Doctors at University College London recently got a paralyzed man walking again by repairing his spinal cord with cells responsible for the sense of smell.

## Migrating Cells

Patients in the multiple sclerosis trial needed a cane or crutch to walk, and all received medications to suppress immune-system activity. While 12 were given mitoxantrone, the other nine had stem cells harvested from their bone marrow and reintroduced through a vein. Over time, the cells migrated to the bone marrow and produced new cells that become immune cells.

The participants were followed for as long as four years and those who received stem-cell transplants had 80 percent fewer new areas of brain damage, known as T2 lesions, than those who received mitoxantrone, the study said.

No cures currently exist for multiple sclerosis. Mitoxantrone, a generic cancer drug, is used to treat severe MS. Standard medicines for a form of the disease known as relapsing-remitting include Teva Pharmaceutical Industries Ltd.’s Copaxone and interferon drugs such as Biogen Idec Inc.’s Avonex.

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