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## STEM CELL VICTORY OF THE MONTH FOR FEBRUARY

### Stemming The Tide Of AIDS

INVESTOR'S BUSINESS DAILY

Posted 2/12/2009

<http://www.investors.com/editorial/editorialcontent.asp?secid=1501&tstatus=article&tid=319334566860912>

**Medicine:** A patient who was treated with adult stem cells appears to now be free of the HIV virus and the need for a lifetime of drugs. And there was no need for the destruction of human embryos.

Up to now, AIDS was a disease that could be controlled only with drugs. There were no cures, and the best that could be hoped for was for a controlled remission. A report published Wednesday in the New England Journal of Medicine offers new hope in the treatment of that deadly disease.

The 42-year-old HIV patient described in the report was treated with antiviral drugs for 10 years since being diagnosed. In July 2006, he developed leukemia and was given chemotherapy. That controlled his leukemia, but led to kidney and liver failure. When doctors halted the antiviral drugs, his HIV levels spiked again.

When they resumed his antiviral drugs, the leukemia returned, so doctors decided to try a stem cell transplant using bone marrow. Adult stem cells from bone marrow have the ability to form blood cells, including the white blood cells that fight infection. These are the cells the HIV virus attacks, crippling patients' immune systems.

The difference between this and other adult stem cell transplants is that this time, doctors deliberately sought out a donor who had a naturally occurring gene mutation that confers natural immunity to the HIV virus.

The mutation cripples a receptor known as CCR5 that is found on the surface of cells attacked by HIV and helps the virus enter the cell. The mutation occurs in 1% to 3% of white people of European descent. It worked beyond expectations.

"The patient is fine," said Dr. Gero Hutter of Charite Universitätsmedizin Berlin. "Today, two years after his transplantation, he is still without any signs of HIV disease and without anti-retroviral medication."

While Hutter admits the stem cell transplant procedure is too risky to try in most AIDS patients, some are so sick it's worth the risk. This experiment has pointed researchers to a new way of controlling HIV such as gene therapy to modify cells so they lack the CCR5 receptor.

This discovery follows on the heels of another study published last month in the British medical journal Lancet detailing how adult stem cells transplanted into early-phase multiple

sclerosis patients stabilized, and in some cases reversed, the debilitating neurological disorder.

In clinical trials, a team of scientists led by Richard Burt of Northwestern University in Chicago essentially rebuilt the immune systems of 21 adults who had failed to respond to standard drug treatments. They all had MS for at least five years.

The treatments removed defective white blood cells that, rather than protecting the body, were attacking the fatty sheath, called myelin, that protects the nervous system. The immune systems were then replenished with haemopoietic stem cells extracted from the patients' bone marrow. These cells are capable of giving rise to any form of mature blood cell.

After an average follow-up period of three years, 17 of the 21 patients improved by at least one point on a standard disability scale. None got worse. The procedure "not only seems to prevent neurological progression, but also appears to reverse neurological disability," the study concluded.

These advances show once again that embryonic stem cell research is not necessarily the most promising avenue of research or the only one that should be pursued. This and other discoveries come without the moral baggage that ESCR carries with it and without the federal funds that supporters say are indispensable.

Research over more than two decades has failed to produce any medically valuable treatments or therapies. Applications of adult stem cells, by contrast, have been useful in hundreds of actual therapies and treatments of real people suffering from a variety of ailments. Yet adult stem cell successes are ignored. Hopefully that will change.

*To Investors Business Daily, home of American print media's best, most caring, and, by far, most honest medical writers:*

*The Repair Stem Cell Institute will continue to do everything it can to make your last sentence a reality.*