Researchers use stroke patient's own stem cells in trial for first time

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For the first time in the United States, a stroke patient has been intravenously injected with his own bone marrow stem cells as part of a research trial at The University of Texas Medical School at Houston.

Roland "Bud" Henrich, 61, was transferred to Memorial Hermann - Texas Medical Center on March 25 after suffering a stroke while working on his farm in Liberty. He arrived too late to receive tissue plasminogen activator (tPA), the only treatment for ischemic strokes. He became the first patient in the trial.

The Phase I safety trial, funded with a pilot grant from The National Institutes of Health and support from the Notsew Orm Sands Foundation, will enroll nine more patients who have suffered a stroke and can be treated with the stem cell procedure within 24 to 72 hours of initial symptoms.

Stroke occurs when blood flow to the brain is interrupted by a blockage or a rupture in an artery, depriving brain tissue of oxygen. It is the third-leading cause of death behind heart disease and cancer. According to the American Stroke Association, nearly 800,000 Americans suffer a stroke each year - one every 40 seconds. On average, someone dies of stroke every three to four minutes.

"It's still very early in this safety study, but this could be an exciting new therapeutic approach for people who have just suffered a stroke," said Sean Savitz, M.D., assistant professor of neurology at the medical school

and the study's lead investigator. "Animal studies have shown that when you administer stem cells after stroke, the cells enhance the healing. We know that stem cells have some kind of guidance system and migrate to the area of injury. They're not making new brain cells but they may be enhancing the repair processes and reducing inflammatory damage."

Savitz said animal studies have shown that the healing effects of stem cells can occur as early as a week but cautioned it is too early to attribute Henrich's improvement to the stem cell treatment. "I'm hoping he will get better and it will be because of the cells, but it's just hope at this point," Savitz said.

The stem cells were harvested from the bone marrow in the iliac crest of his leg, then separated and returned to Henrich several hours later. Because they are his own stem cells, rejection is not expected to be an issue.

When he arrived at the hospital, Henrich could not speak and had significant weakness on his right side. When he was released after nearly two weeks of hospitalization and rehabilitation, he was able to walk and climb stairs unassisted and said his first words.

His wife, Reba Henrich, said she believes the stem cells have helped. He has spoken a few times with a single word or a phrase since his return home. "Too crowded," he told her at a megastore as they shopped for Easter gifts for their grandchildren and "senior" meal he told a waitress at a local restaurant. He also has fed the cows by himself, she said. They are hopeful he will eventually be able to return to his job as a painter.

"This study is the critical first step in translating laboratory work with stem cells into benefit for patients. If effective, this treatment could be helpful to a huge segment of stroke patients to reduce their disability," said James C. Grotta, M.D., Roy M. and Phyllis Gough Huffington

Distinguished Professor of Neurology and chair of the Department of Neurology at the medical school. "We are fortunate here at UT Houston and the Texas Medical Center to have the resources needed to carry out this work, and to have attracted someone of Dr. Savitz's caliber to lead this study."

Source: University of Texas Health Science Center at Houston (news : web)