

Mayo Clinic News Network

Title: Trying to heal stroke damage with stem cells / Date: May 30, 2017

Intro: Stroke is the leading cause of permanent disability in the U.S., striking nearly 800,000 people each year. Hemorrhagic, or bleeding, stroke is particularly devastating, says Mayo Clinic neurosurgeon William D. Freeman, M.D. "About 40 percent of hemorrhagic stroke patients die within a month, and half of the survivors have some type of impairment," he adds.

Within a few months, Dr. Freeman, neurologist James Meschia, M.D. and stem cell biologist Abba Zubair, M.D., Ph.D. will begin a unique, FDA-approved study to see if stem cells can help hemorrhagic stroke patients heal. "We used to think nerve cells cannot regrow, but we believe differently now," says Dr. Zubair. "I think we are in an era of excitement, where stem cells can be used almost like a drug."

Here's Dennis Douda for the Mayo Clinic News Network.

Video	Audio
Total running time [2:05]	/// VIDEO
Dennis Douda speaking	When Mayo Clinic researchers launched stem cells into space earlier this year, they were also launching hopes of growing the healing cells faster to meet the many needs of patients. In some ways, the mission was personal.
TITLE: Abba Zubair, M.D., Ph.D. Laboratory Medicine and Pathology Mayo Clinic	"My mom died of a stroke – the same type of stroke we are targeting with this stem cell study, hemorrhagic stroke."
TITLE: William Freeman, M.D. Neurologic Surgery Mayo Clinic	"A hemorrhagic stroke is when there's bleeding or a burst blood vessel in the brain."
Dennis Douda speaking	Neurologist Dr. William Freeman's grandmother suffered a stroke when he was in college. He says it inspired him to try to find ways help others like her.
Dr. William Freeman speaking	"When you see a patient, or a mom or dad, return to their family, it's priceless. That's our reward, and I think that's what we seek."
Dennis Douda speaking	So Dr. Freeman and stem cell biologist Dr. Abba Zubair have teamed up in Mayo Clinic's Cell Therapy Laboratory in Jacksonville, Florida. The FDA has granted them approval for a pilot study to use adult stem cells grown in this lab to try to heal the injured brains of a dozen stroke survivors. Some will receive infusions intravenously. For others, stem cells will be delivered directly into the brain's ventricles

	– near the injury.
Dr. William Freeman speaking	"When someone has a hemorrhage, it creates a cascade of inflammation. Mesenchymal stem cells, as we call them, or MSC for short, are powerful anti-inflammatory agents."
Dennis Douda speaking	Stem cells are also powerful in another way, because of their ability to differentiate into virtually any type of tissue.
Dr. William Freeman speaking	"We call them regenerative because they help tissues heal faster in ways that we're starting to study. And it's very exciting."
Dr. Abba Zubair speaking	"Regeneration is basically restoration of function of nerve cells, so that, from a damaged state, to now full function and rejuvenated."
Dennis Douda speaking	The pilot study is expected to begin before the end of the year. For the Mayo Clinic News Network, I'm Dennis Douda.

Anchor tag: The Mayo Clinic team has already had success repairing injured brain tissue with stem cells in rodents, which helped pave the way for this next phase of testing in people. By the way, May is Stroke Awareness Month.