Researchers to use patient's own stem cells to treat heart failure

17 November 2008

Researchers at the University of Utah are enrolling people in a new clinical trial that uses a patient's own stem cells to treat ischemic and non-ischemic heart failure.

The one-year Cardiac Repair Cell Treatment of Patients with Dilated Cardiomyopathy (IMPACT-DCM) study will look at the safety of injecting Cardiac Repair Cells (CRC) and their ability to improve heart function.

Patients enrolled in IMPACT-DCM will have their own bone marrow cells drawn (about 3 tablespoons worth), which will then be grown in a culture to expand the number of cells that will help the heart muscle and improve blood flow. Two weeks later, the patient's stem cells will be injected directly into the left ventricle of the heart during a minimally invasive surgery developed by Amit N. Patel, M.D., national principal investigator for the IMPACT-DCM trial and director of cardiovascular regenerative medicine at the University of Utah School of Medicine.

"Heart failure affects about 5 million Americans, with more than half a million new cases diagnosed each year. A subset of these patients has dilated cardiomyopathy (DCM), a condition that leaves the heart weakened, enlarged and unable to pump blood efficiently. For most of these patients, the only option has been a heart transplant," said David A. Bull, M.D., professor and division chief of Cardiothoracic Surgery in the U's medical school and site principal investigator for the trial.

"This is the first trial of its kind in the United States, providing patients who have limited to no other options with a viable treatment," said Patel, professor of surgery. "By using a patient's own cells, we eliminate the concern of rejection and the need for potentially harmful immunosuppressive drugs. We hope these cells will help with new blood vessels and support the heart muscle in order to improve the heart's function, thereby greatly improving the patient's quality of life."

Patients who have been diagnosed with congestive heart failure (NYHA Class 3 or 4) and are between the ages of 18 and 86 may be eligible to participate in the trial. The University of Utah is one of five nationwide sites conducting the IMPACT-DCM study, sponsored by Aastrom Biosciences, Inc., a company specializing in autologous cell products. IMPACT-DCM is a randomized, controlled, Phase II study that will enroll 40 patients nationwide: 20 patients with ischemic DCM and 20 patients with nonischemic DCM.

Source: University of Utah Health Sciences

APA citation: Researchers to use patient's own stem cells to treat heart failure (2008, November 17) retrieved 8 September 2022 from https://medicalxpress.com/news/2008-11-patient-stem-cells-heart-failure.html

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