In a 2011 study published in The Lancet and reported at the American Heart Association's annual meeting, doctors say they improved the heart function of heart failure patients by using stem cells taken from the patients' own heart tissue. While the clinical trial involved just 23 patients, it is being hailed as a potentially major breakthrough in the treatment of heart failure which claims about a half million American lives every year.

Keywords
Heart, Failure, Treatment, Cardiovascular, Disease, Stem Cells, Cardiac, Muscle, Cells, Experiment, Research, Trials, Study, Roberto Bolli, University of Louisville, Tissue, Transplant, Brigham and Women's Hospital, Harvard University, Health

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Stem Cells Provide Hope for Heart Failure Patients

BRIAN WILLIAMS, anchor:
There is health news tonight and it's about heart failure. About a half million Americans die from it every year. Today in results presented at an American Heart Association meeting, an early experiment with stem cells showed a lot of promise. We get more on this tonight from our chief science correspondent Robert Bazell.

MIKE JONES: Good morning.

ROBERT BAZELL, reporting:
Mike Jones is one of five million Americans suffering from heart failure, a deterioration of the heart muscle that usually gets progressively worse. But Jones is one of 16 patients to get a cutting edge experimental treatment with their own adult heart stem cells. If bigger trials show the procedure works as well as it has so far, researchers have very high hopes.

Dr. ROBERTO BOLLI (University of Louisville): I believe this will be one of the biggest advances in cardiovascular medicine in my lifetime, if not the biggest.

BAZELL: Here's how the procedure works. Doctors remove a tiny piece of tissue from the patient's heart, either during open heart surgery or if the patient does not need that, with a simple biopsy. The tissue goes to Brigham and Women's Hospital in Boston where doctors have learned to extract stem cells that after a month in a petri dish grow into large numbers of heart muscle cells that go back into the heart, multiply and replace the damaged muscle. Before the procedure, Jones, like most heart failure patients, was continuing to get worse.

JONES: It was getting more difficult to breathe. Any type of exertion.

Dr. BOLLI: Any pain in your chest?
JONES: Oh, no.
BAZELL: But within a few months of the treatment, his heart got much stronger again.
JONES: I can do about anything I want to do now.
BAZELL: The hearts of those getting the procedure pumped on average 26 percent more blood within four months of the treatment and 40 percent more after a year. No heart failure treatment has ever worked so well. A much larger trial is now getting under way with the hope that eventually the procedure could help the millions who suffer from one of the fastest growing and deadliest health problems in America.