No Boost In Heart Function With Stem Cells

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Autologous stem cells shrank cardiac scar tissue and increased viable heart tissue, but did little to improve functional outcomes, the 1-year results of the randomized CADUCEUS Trial suggested.

The 17 patients treated with stem cells saw an absolute decrease of 11 percent in LV scar tissue compared with a 2.2 percent decrease in eight controls not treated with stem cells (P<0.004), according to Eduardo Marbán, MD, PhD, director of the Cedars-Sinai Heart Institute in Los Angeles, and colleagues.

In addition, cardiac MRI showed a significant mean increase in viable LV mass of 22.6 g compared with 1.8 g in controls.

"Importantly, the observed reductions in scar mass correlated with the increments in viable myocardium, consistent with a therapeutic response in which scar is replaced by viable myocardium," researchers wrote in the study published early online in the Sept. 17 edition of Journal of the American College of Cardiology.

These findings confirm the 6-month results of CADUCEUS, which showed the treatment to be safe and effective in decreasing scar size and in increasing viable tissue.

However, the stem cell treatment did not lead to any significant changes from baseline to 1 year in end-diastolic and end-systolic volumes, cardiac output, or stroke volume -- which also was evident at 6 months.

Neither were there any significant changes in NYHA functional class, peak oxygen consumption, quality of life scores, or distance walked in 6 minutes in the treated group compared with controls.

But regional cardiac MRI measurements of mid-wall systolic strain, systolic thickening, and end-systolic thickness were suggestive of improved function, Marbán and colleagues said.

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