

Bone marrow cell therapy may be beneficial for patients with ischemic heart disease

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The injection of bone marrow cells into the heart of patients with chronic myocardial ischemia (reduced blood flow to some areas of the heart) was associated with modest improvements in blood flow and function of the left ventricle, according to a study in the May 20 issue of *JAMA*.

Bone marrow cell therapy is currently being investigated as a new therapeutic option for patients with ischemic heart disease. Two small-sized studies assessed the effect of this therapy in patients with chronic myocardial ischemia, but with varying results, according to background information in the article.

Jan van Ramshorst, M.D., of Leiden University Medical Center, the Netherlands, and colleagues assessed the effect of intramyocardial (within the heart wall) bone marrow cell injection on myocardial perfusion (the flow of blood to the [heart muscle](#)) and left ventricular (LV) function in patients with chronic ischemia who were not eligible for conventional treatment. The trial included 50 patients (average age, 64 years; 43 men), who were randomized to receive about 8 injections of either bone marrow cells or placebo solution.

At 3-month follow-up, when the two groups were compared, the improvement in summed stress score (a measure of myocardial perfusion) was significantly greater in the bone marrow-cell treated patients as compared with placebo-treated patients. [Magnetic resonance imaging](#) indicated that the absolute increase in left ventricular ejection

fraction (LVEF; a measure of how well the left ventricle of the heart pumps with each contraction) was significantly larger in bone marrow cell-treated patients. A quality-of-life score increased at 3 and 6 months in bone marrow cell-treated patients, compared with a smaller increase in the placebo group. There was also greater improvement in exercise capacity in the bone marrow cell group.

"In summary, the results of this randomized, double-blind, placebo-controlled trial demonstrate that intramyocardial bone marrow cell injection in patients with chronic ischemia is associated with significant improvements in anginal symptoms, myocardial perfusion, and LV function," the authors write.

More information: *JAMA*. 2009;301[19]:1997-2004.

Source: JAMA and Archives Journals ([news](#) : [web](#))

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