

Bone marrow cells may significantly reduce risk of second heart attack

December 8 2009

Cells from heart attack survivors' own bone marrow reduced the risk of death or another heart attack when they were infused into the affected artery after successful stent placement, according to research reported in the American Heart Association journal *Circulation: Heart Failure*.

Benefits found early in the Reinfusion of Enriched Progenitor Cells And Infarct Remodeling in Acute Myocardial Infarction (REPAIR-AMI) trial could last for at least two years, researchers said.

"More research is needed, but this gives us a hint of what might be possible with this new treatment — prevention of another [heart](#) attack and of rehospitalization for heart failure, both life-threatening complications," said Birgit Assmus, M.D., first author of the study and assistant professor of cardiology at J.W. Goethe University in Frankfurt, Germany.

Researchers conducted the study at 17 centers in Germany and Switzerland. They randomized 101 heart attack survivors to receive a solution including progenitor cells from their own bone marrow. The other 103 patients received a [placebo](#) solution.

Progenitor cells, like [stem cells](#), are early-stage cells. They are still able to differentiate into various types of certain adult cells - but not exactly like a cellular "blank slate" seen with stem cells. Rather, [progenitor cells](#) are more specific than stem cells and are further along in the process towards forming the type of adult cell they will become.

Researchers infused cells or placebo into the artery that triggered patients' heart attacks three to seven days after undergoing reperfusion therapy. "The goal of this study was to prevent heart failure by enhancing new vessel growth and perfusion of the surviving tissue," Assmus said.

Among the study's results:

- At two years, no patients from the [bone marrow](#) cell group had suffered a [heart attack](#) while seven patients from the placebo group had — a statistically significant difference.
- Compared with placebo patients, cell-infused patients were less likely to die (three vs. eight in placebo group), need new revascularizations (25 vs. 38), or be rehospitalized for [heart failure](#) (one vs. five).

"Large, randomized trials are urgently needed to assess the effects of progenitor-cell therapy in patients with heart attacks," Assmus said.

Source: American Heart Association ([news](#) : [web](#))

Citation: Bone marrow cells may significantly reduce risk of second heart attack (2009, December 8) retrieved 20 September 2024 from <https://medicalxpress.com/news/2009-12-bone-marrow-cells-significantly-heart.html>

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