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Adults With Leukemia Survive With Cord Blood Treatment, Research Finds

By Ellen Gibson - Jun 15, 2010

Adult leukemia patients who can't find compatible donors for blood or bone-marrow cells needed for treatment may live just as long if they receive umbilical-cord blood, researchers reported in a study that may change medical practice.

Patients who received cord-blood transplants had similar disease-free survival as those given cells or bone marrow from a nonfamily donor, according to research reported online today in the journal *Lancet Oncology*. Among patients whose disease was in remission at the time they received their transplants, 40 percent to 55 percent were alive and leukemia-free at the two-year mark, regardless of the source of the graft, the study found.

While [cord blood](#) from public banks is used in children with leukemia, studies until now have shown conflicting results in adults. These findings support the use of cord-blood transplants for adults when a donor match cannot be found and when a transplant is needed urgently, the report said.

"Clinicians should not waste time if it is thought that a patient is in imminent danger of progression and should move toward cord-blood transplantation," said [Paul Szabolcs](#), a professor of pediatrics at Duke University Medical Center, in comment accompanying the research. This report "should bolster efforts to increase the inventory of public cord-blood banks," he added.

For a leukemia patient in need of a transplant, the ideal donor is a sibling with a similar blood type. Otherwise, a non-relative with matched blood can be used, which is hard to find.

Runaway Blood Cells

Leukemia, a runaway growth of blood cells, starts in the bone marrow where blood cells are formed. Healthy bone marrow is transplanted into leukemia patients because it contains stem cells that help the body produce normal blood cells to replace the diseased ones. Umbilical-cord blood is another source of regenerative stem cells, one reason that many parents elect to bank their babies' cord blood at birth.

Companies involved in collecting and processing cord blood include [Cord Blood America Inc.](#) and [PerkinElmer Inc.](#)

When patients search for a nonfamily donor with compatible cells, doctors may need two to three months to check the compatibility of the donor's cells.

“If it's your first remission, you may have time to play with, but if you've already relapsed once, you don't have the time to sit around for three months when umbilical cord blood is readily available,” said Mary Eapen, lead author of the study and associate professor at the Medical College of Wisconsin. “Now we know that cord blood works just as well.”

Unrelated Donors

For the study, researchers in the U.S. and Europe compared the survival of 165 adult patients who received cord-blood to 1,360 patients who got blood cells or bone marrow from unrelated donors who were deemed compatible based on their blood types.

The cord-blood group showed a lower rate of acute [graft- versus-host disease](#), a dangerous complication that occurs when a patient's immune system attacks the newly transplanted material, according to the report. Yet patients who received cord blood took longer to recover and died more often from transplant-related complications than those who had other types of transplants, the paper said.

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