

Umbilical Cord Blood: Importance of Supporting Public Banks

DONNA WALL, MD, *CancerCare Manitoba, Winnipeg, Manitoba, Canada*

► See related article on page 661.

Umbilical cord blood, which is rich in hematopoietic progenitor and stem cells, has become a major alternative donor source for blood and marrow transplantation in patients with leukemia, bone marrow failure, and immune disorders. In many cases, it is the only timely option for therapy. Before having cord blood as an alternative donor source, I would often have to tell parents of a sick child that we would not be able to perform a transplant because of a lack of donor cells. Because of a higher likelihood of having rare immune types, this conversation occurred more often with ethnic minority or mixed-race patients. With the establishment of public cord blood banks, I can now approach my patients with the knowledge that we will most likely be able to find donor cells for transplantation. The international public cord blood banking effort that provides these cord blood units has developed stringent standards for donation of cord blood from healthy pregnancies and deliveries—screening potential donor families; collecting blood; processing, testing, and storage; and releasing units to eligible patients.¹

In this issue of *American Family Physician*, Dr. Martin and colleagues present a timely review of the important processes and procedures needed for collecting and banking cord blood.² The article also addresses the differences between public banking (donation) versus private banking in which cord blood is collected and stored for future use by the infant from whom the cord blood is collected (autologous unit). Currently, there are few (if any) instances in which cord blood collected from a given child is the preferred source of cells—so few that I have not used a single privately collected cord blood unit in 20 years of transplant practice. The autologous cord blood is the blood of the infant and thus carries the same genetic

disorders as the infant; therefore, it would not be useful for the treatment of inherited disorders such as sickle cell anemia or immunodeficiency.³ The success of a transplant for leukemia, the other major indication for transplantation, is dependent on the allogeneic effect—immune differences between donor and recipient—an effect that is not present with autologous cells.

Expectant families are vulnerable. Parents, grandparents, and extended family want to ensure that the child has all the benefits possible when he or she enters the world. Here is where the case for private banking becomes murky. The companies who run the private banks have invested heavily in marketing their services and have promoted cord blood as a life insurance policy or treatment for extended family members with a host of non-blood-related problems, such as diabetes mellitus and heart disease. Most of these claims are unfounded or conjecture. There are more practical options for investing the funds that would have been used for this service (\$1,000 to \$2,000).

Although there is little role for private banking, public cord blood banks are an invaluable resource. Family physicians can play a pivotal role in the success of public cord blood banking by being advocates for participating in cord blood collection and donation.

Address correspondence to Donna Wall, MD, at donna.wall@cancerca.mb.ca. Reprints are not available from the author.

Author disclosure: No relevant financial affiliations to disclose.

REFERENCES

1. Wall DA. Regulatory issues in cord blood banking and transplantation. *Best Pract Res Clin Haematol*. 2010; 23(2):171-177.
2. Martin PL, Kurtzberg J, Hesse B. Umbilical cord blood: a guide for primary care physicians. *Am Fam Physician*. 2011;84(6):661-666.
3. World Marrow Donor Association. WMDA policy statement on the utility of autologous or family cord blood unit storage. http://www.worldmarrow.org/fileadmin/WorkingGroups_Subcommittees/Cord_Blood_Working_Group/WMDA_Policy_Statement_Final_02062006.pdf. Accessed August 7, 2011. ■