Federal funding urged for cord-blood collection

WASHINGTON – Lack of federal funding could jeopardize therapeutic advances made in using umbilical cord blood for curing diseases, said Richard Doerflinger, deputy director of the U.S. bishops' Secretariat for Pro-Life Activities.

Doerflinger told Catholic News Service that the bishops supported the 2005 law which authorized funds for collecting and storing cord blood and for the establishment of a National Cord Blood Inventory which would enable doctors to match patients with compatible donors through a centralized computer data bank.

Although the 2005 law authorizes $15 million per year from 2007 through 2010, Congress has to approve the funding each year. For fiscal year 2008, which begins in October, the Bush administration budget proposes only $2 million in funding.

"We were active in supporting the underlying legislation and we are in favor of full funding," Doerflinger said March 7 after attending a briefing organized by Rep. Chris Smith, R-N.J., the main sponsor of the 2005 law.

Smith called on his congressional colleagues to approve the $15 million permitted by law.

Doctors and cord-blood bank officials at the briefing said that stem cells from cord blood that were transplanted into patients have been successful in curing people with brain, heart and blood diseases.

They also provide an alternative to the ethical problems involving embryonic stem cells. Human embryos are destroyed to extract the stem cells.

Cord blood is collected from the umbilical cord and the placenta discharged by the mother during childbirth. Stem cells are basic cells that are capable of reproducing as stem cells or as other types of specialized cells, offering promise that they can help cure numerous diseases.

Noting that placentas are discarded after childbirth, Smith said that fully funding the cord-blood program "enables us to turn medical waste into medical miracles."

Smith said that that cord-blood stem cells have resulted in treatments for 70 diseases, including leukemia, sickle cell anemia and some forms of mental retardation.

Full federal funding would provide seed money to allow the cord-blood banks to collect, store and catalog 150,000 units of blood, including units from different racial and ethnic groups so that more people can use the therapies, he said.

Experts at the briefing said that collecting units from different ethic and racial groups is important because compatible genetic material in the cord blood is more likely when donors and patients are from the same racial and ethnic group. Without a certain amount of genetic compatibility, the patient's body can reject the donor cells, they said.

Smith said that the 150,000 units is the minimum amount needed to serve the wide-ranging needs of patients and to permit the blood banks to become economically self-sufficient.

Experts said that current cost for collecting and storing a unit is $2,000, putting the cost of collecting and storing 150,000 units at $300 million.

They added that future funding would come from hospitals and insurance companies paying for the use of the blood units in treatments.

They added that stem cells from cord blood are easier to match with patients than stem cells from bone marrow and are starting to replace bone marrow in some treatments.

Doerflinger told CNS that for compatibility in bone marrow transplants six of six genetic factors have to be compatible while for cord-blood stem cells, four of four factors need to be compatible.

Dr. Joanne Kurtzberg, a pioneer in using cord blood in cures for children, said that there is something, yet to be discovered, in the cord blood cells that reduces the

likelihood that they will be rejected once transferred to a patient.

The evidence that something special exists in cord blood is that although half of the genetic material of a fetus comes from the father, the mother does not reject the fetus, said Kurtzberg.

She is program director for both the Pediatric Stem Cell Transplant Program and the Carolinas Cord Blood Bank for Pediatrics at Duke University Medical Center.

The cord-blood transplant procedure is similar to a blood transfusion with the units introduced intravenously in the arm of the patient, she said.

There is no need to introduce the cord blood directly to the part of the body needing the therapy because “the cells seem to know how to get to the organ where they are needed,” she said.

Kurtzberg, who began using cord blood on sick children in 1988, said there is medical evidence that cord blood has been responsible for successful therapies.

This includes the fact that regenerative cells with female genetic characteristics have appeared in the repaired organs of boys who have received female cord blood, she said.

Science still does not know whether the cures come from the blood cells themselves or from other cells carried in the blood, she said.

“We need five to 10 years still to work out what cells do what,” she said.