

Pilot Study for the Voluntary Banking of Cord Blood for support of Unrelated Stem Cell Recipients: Annual Report Synopsis

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Synopsis:

More than 30,000 Americans undergo bone marrow transplants each year in the hope of curing leukemia, sickle cell anemia, thalassemia and other diseases. Another 15,000 potential transplant patients die each year because donors providing the necessary match could not be found in time. Blood collected from umbilical cords and placentas provides an alternative source of stem cells that could be used in place of bone marrow transplants. The collection of cord blood is safe and painless from the perspective of mothers and their newborns. In recognition of the pressing need for cord blood, the National Cord Blood Program was created to develop a registry of 150,000 cord blood units in the USA.

Progress in the current year:

In this study, cord blood was collected from placentas obtained following delivery at ABSMC and analyzed in order to develop and test cord blood collection procedures for a future public cord blood bank at these institutions. This study utilized standardized protocols and procedures currently in use at established cord blood banks, in addition to a collection technique employing a novel collection device.

Pilot study data demonstrate that the cord blood collection protocols utilized in this pilot study can support the collection of cord blood units with volume, cellular content, and quality that are adequate for public banking purposes. The enthusiastic participation of patients and nursing and medical staff indicated support for the idea of a public cord blood bank in this area. Preliminary results of the needleless collection device show it to be faster, safer and easier to use than current collection methods, and equal or better than current methods in producing large volume cord blood units.

Plans for the coming year:

The results of our current studies have resulted in an improved design of the needle less collection device. We received positive feedback from the FDA and a grant application was submitted to the NIH to pursue the final clinical testing of the device. We plan to pursue this in the coming year.