

Hong Kong College of Paediatricians

Position Statement

Cord Blood Banking for Future Transplantation

January 2001

Since the first umbilical cord blood transplant was performed in 1988, there are now over 1500 cord blood transplants performed in the world. The experience of this new treatment modality is accumulating and the follow up time is also getting longer. Since there is difficulty of finding HLA compatible sibling for cord blood collection, majority of the cord blood transplant is now from unrelated cord blood donors. There are now over 10 large umbilical cord blood banks in the world and over 30000 units have been stored for international search and use in transplant. Locally the Hong Kong Red Cross Blood Transfusion Service has established a public unrelated umbilical cord bank for local use, and several unrelated cord blood transplants have been successfully performed. The two hospitals performing bone marrow transplant, PWH and QMH, are also providing service of storing cord blood from siblings of patients requiring haemopoietic stem cell transplant (directed-donor cord blood banking). Since the public shows great interest in the potential use of cord blood, the College presents the view on this issue based on current available information and evidence:

1. The recent result shows that survival and outcome after unrelated allogeneic (from another person) umbilical cord blood transplant is comparable to that of unrelated bone marrow donor transplant, however the data are largely limited to children. Unrelated umbilical cord blood transplant should be considered as an alternative source of stem cells for children requiring transplant but without HLA identical siblings.
2. Directed-donor cord blood banking is indicated if a child is suffering from a disease that may require transplant as treatment, such as leukaemia, severe or fatal hereditary diseases eg. Haemoglobinopathies and metabolic diseases. The family may be referred to the bone marrow transplant units for the arrangement.
3. Autologous haemopoietic stem cell transplant is occasionally indicated in children for treatment of childhood cancers. The currently available stem cell sources for autologous use are bone marrow or peripheral blood stem cells that are virtually applicable to all patients. There is no evidence that autologous cord blood is superior to other types of autologous stem cells. The

private storage of cord blood as 'biological insurance' for the baby is not scientifically justified.

4. Since the recruitment process, cord blood collection, laboratory processing and storage require strict regulation, many large cord blood banks are thus run by the regional blood transfusion service that is familiar and competent with the above procedures. The cord blood donation should follow that of the blood donation policy, and non-profitable donation and banking is encouraged.
5. The value of future application of umbilical cord blood in gene therapy is still not proven and should be clearly explained to families.

Cord blood transplant is a rapidly developing field and the above recommendation is based on the result of most recent clinical research. With future development, the recommendation will be revised at regular intervals or at any time deems necessary. It should not prohibit research utilising cord blood for medical advance.

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