

Umbilical cord blood

umbilical cord's blood a.k.a **placental blood** refers to the blood that remained after the birth of the child and the interruption of the umbilical cord in the placental circulation - that is, in the umbilical cord and placenta . This blood contains a large amount of hematopoietic stem cells , which are currently used for transplantation (HSCT - hematopoietic stem cell transplantation), similar to bone marrow .

The collection of umbilical cord blood does not disturb the course of childbirth, does not burden the mother or the child and does not hurt. This is the use of the rest of the blood, which together with the placenta would be disposed of as waste.

The collected cells are examined, cryopreserved and stored in liquid nitrogen. The graft prepared in this way is immediately available to the patient. Other advantages of umbilical cord blood cells include their immunological immaturity - umbilical cord blood grafts are better tolerated by patients even with a lower HLA match , they cause fewer complications - in particular, they show a lower incidence of **GVHD** (graft versus host disease). Another advantage is a lower risk of infection transmission. Disadvantages include a limited amount of cells, a lower response of the graft against leukemia (GVL - graft versus leukemia) and a longer time required for the graft to heal.

Umbilical cord blood can either be donated when it is used for unrelated allogeneic transplantation - for an anonymous recipient, or stored for family needs - autologous and allogeneic relative transplantation (use of an HLA-matched sibling).



Links

- stem cells
- umbilical cord

Related Articles

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References

- ROKYTA, Richard. *Somatologie*. 1. edition. Praha : Eurolex Bohemia, 2002. ISBN 978-80-7357-454-3.

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