Acquired aplastic anemia

Acquired aplastic anemia (AAA) is a disease defined as a failure of hematopoietic stem cells in their proliferation or differentiation, which leads to hypocellularity of the bone marrow and peripheral cytopenia, with the involvement of one or more developmental lines. Failure can occur at any stage of hematopoesis, including pluripotent stem cell involvement. They are further characterized by the risk of developing these clonal diseases: paroxysmal nocturnal hemoglobinuria (PNH), myelodysplastic syndrome (MDS) and acute myeloid leukemia (AML). We divide AAA into acute, transient and chronic.

Etipathogenesis

In etiopathogenesis, it is necessary to distinguish between two types of medullary depression. **Secondary bone marrow suppression** occurs if hypoproduction of hematopoiesis occurs as a result of myelotoxic effects. This is how cytostatics or ionizing radiation can work. The primary type of medullary depression is one in which the etiopathogenesis is not clear. The following are assumed: immune-related diseases, viral diseases - mainly hepatitis, as well as benzene and its metabolites, chloramphenicol, penicillamine and others.

Subtypes

Acute erythroblastopenia (Gasser's)

It is a short-term transient aplasia of erythropoesis that occurs after viral infections. In laboratory findings, it is manifested by the disappearance of reticulocytes and mild anemia.

Acute pure aplasia of the red line (Owren's)

It occurs in children with congenital hemolytic anemias and is manifested by the arrest of erythropoiesis, mainly after a viral infection. In the clinical picture, it is a combination of hemolysis with the blockage of erythropoesis, which is manifested by severe anemia and the disappearance of reticulocytes from the peripheral blood.

Transient aregenerative anemia (of Wranne and Lovric)

It affects young children, is transient (lasting several months) and manifests as severe anemia. It adjusts spontaneously.

Pure red cell aplasia (PRCA)

It is a chronic pure aplasia of the red line that affects adults. We recognize two forms: with thymoma and without thymoma. It occurs rarely and is manifested by severe normocytic to macrocytic anemia, without leukopenia and thrombocytopenia.

Treatment

For patients who do not have a suitable bone marrow donor− HLA identical sibling, an alternative is combined treatment with antithymocyte globulin (ATG) and cyclosporine A (CsA).

Links

Related Articles

- Anemia

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- PENKA, Miroslav – SLAVÍČKOVÁ, Eva. *Hematologie a transfuzní lékařství. I, Hematologie.* 1. edition. Grada, 2011. ISBN 978-80-247-3459-0.
- DOBROTOVÁ, Miroslava. *Hematológia a transfuziológia : učebnica.* 1. edition. Grada ; Bratislava : Grada Slovakia, 2006. ISBN 80-8090-000-0.