Gonchar M.O., Ishchenko T.B., Koval V.A.

Difficulties in diagnostics of congenital leukemias in neonates

Kharkiv National Medical University

Congenital leukemia is an extremely rare disease in neonates, which often takes place under the guise of other diseases that are more common in the neonatal period. Predominantly congenital leukemias have a rapid deterioration that leads to death from hemorrhage and infections despite of intensive therapeutic measures.

A male infant was born from the 5th pregnancy, second premature delivery in gestational age of 32 weeks. There were 3 spontaneous abortions at gestational age less than 12 weeks in anamnesis. Pregnancy proceeded on the background of the risk of miscarriage at 28 weeks of gestation, premature rupture of membranes and a chronic pyelonephritis in remission, X-ray examination of the chest at gestational age of 8-10 weeks. The child's father works at a car service station. The infant had a low birth weight of 2240 g, body length of 44 cm, chest circumference of 28 cm, head circumference of 30 cm. Apgar score was 3-4 points.

At the birth condition of the newborn was very severe due to respiratory disorders and neurological deficits on the background of the immaturity of organs and systems as a result of prematurity. Therefore, resuscitation measures were conducted, that included: sanation of upper airways, non-invasive respiratory support and correction of hypovolemia, water and electrolyte balance and blood gases. Since the first hours of life the infant a marked pathological neurological symptoms (flaccidity, absence of cry, hyporeflexia, hypersensitivity and muscle dystonia were present). By the 2nd day of life signs of hemorrhagic and hepatolienal syndrome appeared. In spite of conducted therapy, respiratory disorders increased.

In clinical blood tests anemia, leukopenia, thrombocytosis, distinct myeloid irritation at the expense of promyelocytosis and basophilia were observed. While dynamic management of the infant of thrombocytosis increased from 600×10^9 to 1300×10^9, a decreased level of reticulocytes up to 1 ‰ was observed; leukopenia persisted up to 2.5×10^9.

Differential diagnosis with congenital sepsis, hepatitis, the presence of TORCH-infections was conducted. However, taking into account the infant's observation in dynamics, continuing respiratory disorders, increase in neurological symptoms, the presence of hemorrhagic and hepatolienal syndromes and paraclinical data (thrombocytosis, hyporegeneratoric normochromic anemia, leukopenia, distinct irritation myeloid) hemoblastosis, such as congenital myeloid leukemia (M7 variant) was supposed. However, due to severity of the condition, total oncohematological amount of research, including myelogram, was not conducted.

Conducted treatment included respiratory support, antibiotic therapy, detoxification, hemostatic therapy, resuscitation. However, in the process of observation, the infant's condition progressively worsened. The infant died at the age of 9 days of life due to progressive multiple organ failure. According to the data of autopsy the diagnosis of congenital megakaryocytic leukemia was confirmed.

Conclusion. Congenital leukemia can imitate different diseases such as sepsis, pneumonia, congenital syphilis, congenital hepatitis and hepatolienal syndrome of unknown origin. In connection with this, these categories of patients who do not respond to basic treatment protocol require well-timed consultation of a hematologist with examination by oncohematological program with carrying out myelogram in doubtful cases.