Ositashvili Kristina, Sieda Olha

MONITORING THE COURSE OF HEMORRHAGIC DISEASE IN A NEWBORN FROM A MOTHER WHO HAS CARRIED COVID-19

Department of Pediatrics №1 with Neonatology
Kharkiv National Medical University
Kharkiv, Ukraine
Scientific advisor: prof. Ishchenko Tatiana

Relevance. Development factors of hemorrhagic disease in newborns attract attention of many researchers and practitioners due to severity of the disease, especially in premature infants, and high mortality.

The main factors in the pediatric practice of this pathology are microbial diseases of various etiologies, blood loss, asphyxia, and hemorrhagic disease of newborns due to physiological deficiency of provitamin K1, the mother's hemorrhagic disorders and severe heredity.

Physiological decrease of coagulation factors (II, VII, IX, X, XI, XII), physiological anticoagulants (antithrombin III, protein C, etc.), main components of fibrinolysis, and kallikrein-kinin system are the main features of the early neonatal / postnatal period.

The factors which affect the hemostasis system status in newborns are early umbilical cord ligation before pumping blood from placental vessels into the baby's bloodstream and applying to breast after 6 hours of life, which leads to a significant reduction in vitamin K-dependent coagulation factors up to 3-4 days.

The main features of the hemorrhagic syndrome in premature infants are the normal number of platelets in the umbilical cord blood after birth; reduction of platelets on the third day and restoration of their level on the tenth day; more pronounced decrease of congenital levels of procoagulants and anticoagulants. All of the above increases risk of hemorrhagic and thrombotic complications, especially in DIC.

Materials and methods. Clinical observation.

Results. Child K., two days old. From the anamnesis it is known that the child's mother suffered COVID-19 in the eighteenth week of pregnancy. Examination revealed a massive hemorrhagic syndrome manifested by lesions of the mucous membranes - gastrointestinal bleeding, pulmonary hemorrhage, extensive soft tissue hematomas, and draining petechial rash on the skin of extremities and torso.

Somatic condition without specificities: heart rate is 178 beats per minute, respiratory rate is 43 beats per minute. The abdomen is soft and accessible for deep palpation, the liver protrudes 3.5 cm from underneath the costal arch, the spleen does 2.5 cm.

Laboratory indicators: RBC - 1,8 * 10 12/l, Hb - 69 g/l, WBC - 9,2 * 10,9/l, Lim 78%, Gran. 22%, PLT 21*10,9/l; Coagulogram: INR 2.3 IU. Diagnosis: Early neonatal hemorrhagic disease is to be associated with COVID-19 infection the mother has carried. The child received hemostatic therapy: thromboconcentrate 10 ml / kg, fresh frozen plasma 10 ml / kg, vitamin K preparations. The positive clinical and laboratory dynamics of hemorrhagic syndrome (Hb - 134 g / l, PLT 78 * 10 9 / l , INR 1.01 IU) was noted on the sixth day of life.

However, gastrointestinal bleeding (INR 2.7 IU) started on the twelfth day, but surgical pathology was excluded. Thromboconcentrate, fresh-frozen plasma and vitamin K preparations are additionally included to the therapy. Stabilization of clinical and laboratory parameters was noted, bleeding of mucous membranes stopped, skin and mucous membranes were clean (Hb - 181 g / l, PLT 128 * 10 9 / l, INR 1.03 IU.) on the fourteenth day of life. The child was discharged from the hospital with further dynamic monitoring by a pediatrician and a pediatric hematologist.

Conclusions. We consider it appropriate to regard newborns from mothers with COVID-19 as a risk group for persistent hemorrhagic syndrome and to conduct studies of platelet and plasma hemostasis from the first hours of life. Taking into account severity and duration of hemorrhagic syndrome, it is recommended that VII factor of coagulation should be included in hemostatic therapy in order to start the "cascade" of blood coagulation plasma mechanism and prevention of prolonged hypocoagulation.