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Hemorrhagic Syndrome and State of the Hemostasis System in Acute Leucose

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The importance of the site of hemostasis pathology in acute leukemia is due not only to high occurrence, variety and probably a significant risk of hemorrhagic diseases and syndromes, but also because they are an integral part of pathogenesis. All this shows the importance of violations of the pathology of hemostasis, so the ability to understand these problems is due to the doctors of each specialty. A different level of changes in blood clotting capacity in acute leukemia from a slight to a bright increase in it, and in some patients - the appearance of a syndrome of disseminated intravascular coagulation. The clinical significance of changes in the hemostasis system in the development of hemorrhagic syndrome in persons with acute leukemia was determined. Directed the violations of hemocoagulation.

KEYWORDS: hemostasis, acute leukemia, hemorrhages, thrombotic complications.

The spread of acute leukemia is ubiquitous, in various countries the average annual the rate of this disease is in the range from 1.8 to 4.3 per million inhabitants. At of the adult population, 80% of cases occur in the myeloid variant of acute leukemia, in children, up to 90% - for acute lymphoblastic leukemia [4].

At the end of the 20th century, a protocol was adopted in Russia for the treatment of this disease. ALL-BFM-90, which significantly changed the outcome of acute leukemias, which are still recently considered absolutely fatal diseases, but also pre-established by him treatment leads to serious consequences - infectious-septic, organotoxic complications [3,5,6]. At the moment, remission reaches 93%.

We must not forget such a dangerous complication of acute leukemia – hemorrhagic syndrome (HS), which adversely affects the outcome of treatment of patients and does not allow complete the treatment.

Information from literary sources speaks of incomplete and out of time the beginning recognition of violations of the hemostasis system and their correction in people with acute leukemia during chemotherapy [1,5]. The occurrence of hemorrhagic syndrome in acute leukemia is a difficult issue, since it has a direct relationship with the tumor itself process, treatment and complications. Given the above, it is necessary to study the impact of violations of the hemostasis system on the development of hemorrhagic syndrome in patients with acute leukemia.

Hemorrhagic syndrome is the most important manifestation of acute leukemia. He's called thrombocytopenia (displacement of the bone marrow), increased wall permeability vessels (severe anemia - malnutrition of the endothelium and the vascular wall of the vasa vasorum; thrombocytopenia - vascular malnutrition from the side of the endothelium), deficiency of clotting factors (impaired synthesis of plasma clotting factors blood due to infiltration of the liver with blasts).

Coagulation disorders in tumor diseases of the blood system due to neoplasia itself [6]; mechanisms are often discussed in the literature. According to According to some researchers, HS is most often caused by the development of amegakaryocytic thrombocytopenia due to inhibition of normal hematopoiesis [7]. Other authors The cause of HS is considered to be the ability of blast cells to secrete tissue factor and activated coagulation factors, as well as cancer procoagulants, which are direct activators of coagulation factors II and X. Also leukemic cells, located in the peripheral blood, produce many fibrinolytic and antifibrinolytic agents, which lead to increased blood clotting, a decrease in

fibrinolytic activity and the appearance of fibrinolysis products [3, 8]. The release of cytokines and other metabolites that cause the defect plays a significant role. vascular endothelium and enhancing adhesion and aggregation of platelets [1,3]. Thrombotic complications in people with acute leukemia are primarily related to the fact that with hyperleukocytosis in the acute period of the disease occurs aggregation of leukocytes in microvascular bed, which leads to DIC, which exacerbates leukostasis and multiple organ failure develops [3].

The initial stage of acute leukemia with severe hemorrhagic phenomena - observed in 10% of patients, manifested by various profuse bleeding (nasal, gastrointestinal, cerebral, etc.)

In the advanced (second) stage of acute leukemia, hemorrhagic syndrome skin hemorrhages of a petechial-spotted nature are characteristic [8].

With parenteral administration of drugs, significant in size appear hemorrhages at injection sites. In the last stage, at the site of these hemorrhages in ulcerative and necrotic changes appear in the wall of the gastrointestinal tract. brightly manifested hemorrhagic syndrome was recorded in promyelocytic leukemia.

The incidence of this form of leukemia in adults is 3.7% of cases, in children promyelocytic leukemia is very rare. This form clearly demonstrates hemorrhagic syndrome, which is often one of the first symptoms promyelocytic leukemia. Patients with promyelocytic leukemia develop hemorrhages at the sites of injuries, epistaxis, uterine bleeding, hemorrhages in vital organs. They themselves play an important role in the development of hemorrhages. leukemia cells that contain large amounts of thromboplastin on their surface and in cytoplasmic granules. Destruction of leukemic cells the development of the syndrome of disseminated intravascular coagulation is potentiated blood due to the release of coagulation factor III and lysosomal proteases outside cells.

Hemorrhagic syndrome is often absent in acute lymphoblastic leukemia. In 15-20% of cases, hemorrhagic syndrome is the main factor leading to the death of patients due to massive bleeding and hemorrhage, so the most a common cause of death in patients with acute leukemia is apoplexy, pulmonary bleeding. This is due to several circumstances. The first thing that leads to data consequences - in acute leukemia in various organs and tissues, including in the vascular wall, foci of extramedullary hematopoiesis appear. This suggests that in hematopoietic tissue appears on the wall of the blood vessel, due to which the wall of the vessel becomes fragile, which is the basis for hemorrhages. Second, patients have thrombocytopenia, this phenomenon, subject to damage to the vascular wall, is the basis for prolonged bleeding [7].

The hemostasis system in patients with acute leukemia suffers even before the start of treatment and her condition worsens during therapy according to the program, the disorders have multidirectional character.

In the first stage of the disease and after treatment, they are caused by activation intravascular coagulation with moderate and high thrombinemia.

Types of bleeding in acute leukemia - microcirculatory and mixed.

At the onset of the disease, hemorrhagic syndrome is caused by thrombocytopenia, and during chemotherapy and the use of blood clotting factors and the formation syndrome of disseminated intravascular coagulation [2].

Severe hematopoietic aplasia caused by the leukemic process is the cause development of bacterial infections in the primary active phase of the disease [9]. Because the infections and thrombohemorrhagic complications, including those dependent on the leukemic process, can increase mortality, questions remain relevant further study of the pathogenesis of acute leukemia and the development of methods for early diagnosing complications.

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