

HEMATOLOGICAL FEATURES AT INFANTS WITH ACUTE RESPIRATORY INFECTIONS

Al Tameemi Ahmed Hussein, Popov S. V.

Sumy State University, Department of Pediatrics Post-graduate Education

Introduction. Acute respiratory infections are among the most common in childhood. In Ukraine, in 2013 there were more than 5 million cases of such pathology. Most at risk of developing respiratory illnesses (ARI) at infants due to the peculiarities of formation of the immune system. This leads to greater severity of ARI and expressed a significant intoxication syndrome on a background of pronounced inflammatory reactions.

The purpose of the study. The aim was to study the degree of intoxication syndrome and the inflammatory response by hematological parameters in infants with acute respiratory infections.

Materials and methods. There were studied 33 children aged 1 to 3 years with symptoms of acute respiratory infections. All of them were in the infectious disease department of children's city hospital. The main research method was to identify indicators of intoxication – leukocyte (LII) and hematological indices of intoxication (HII). The calculation was made from full blood count. This analysis was carried out during the first day of hospitalization. The obtained data were processed by methods of variation statistics.

Results and discussion. The most common qualitative changes in blood count was increase in the erythrocyte sedimentation rate. This increase was found at 30 % of patients. Less frequently observed phenomenon of leukocytosis. Increased levels of leukocytes over $10 \cdot 10^9/l$ were found in 24 % of children. Left shift leukocyte was found in a smaller number of patients. Such changes were detected in 15 % of children. In general, these deviations in the general analysis of blood could speak of a bacterial infection in 25–30 % of patients with acute respiratory infection. Near 12 % of children were found increase in eosinophils.

We calculated the integral index of intoxication - leukocyte and hematological. A significant increase in leukocyte index was observed in 9 % of children. At the same time, 21 % of patients with acute respiratory infection revealed a significant increase in the hematological index of intoxication. The value LII and HII were compared. The drift correction indices was found at the most of the children – in 69 % of cases. However, only 24 % of cases there were significant differences between the two integral indices. This is considered an unfavorable sign of intoxication.

Thus, the analysis of hematological parameters showed the most frequent changes in terms of increased numbers of white blood cells and increasing the ESR. Available eosinophilia may show the presence of some children manifestations of allergic conditions associated with food or drug allergies. Hematologic toxicity index showed its presence in 21 % of children at about the same figure indicates the asymmetry of two integral indices.

Conclusions. A quarter of children with acute respiratory infection marked hematologic signs of bacterial infection, and 12 % - signs of allergic conditions.

More sensitive index was hematological index of intoxication. According to the analysis of integral indices intoxication fifth of children with acute respiratory infection marked intoxication syndrome.