

THE CLINICAL FEATURES BRONCHIAL ASTHMA IN CHILDREN DEPENDING ON THE INFLAMMATORY BLOOD PATTERNS

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Introduction: Taking into account the heterogeneity and diversity of asthma in children, a study of inflammatory disease phenotypes and endotypes now is urgent in order to find new methods of the disease control.

Aim: To investigate the phenotypic features of asthma in children, depending on the inflammatory blood patterns.

Materials and methods: A comprehensive survey of 120 children suffering from bronchial asthma. Depending on the content of granulocytes in peripheral blood the four clinical groups were formed. The first (I) group consisted of 34 children suffering from asthma with hypogranulocytic pattern of inflammation (with number of eosinophils (EOS) in blood count <250 cells / mm^3 and <5000 neutrophils (NEU) / mm^3). The second (II) group included 60 children with asthma with eosinophilic pattern of peripheral blood (≥ 250 EOS / mm^3). The third (III) group comprised 14 children with neutrophilic pattern (≥ 5000 NEU / mm^3) and the fourth (IV) group included 12 children with hypogranulocytic patterns of inflammatory response (≥ 250 EOS / mm^3 and ≥ 5000 NEU / mm^3).

Results: It has been established that the presence of the hyper-granulocytic inflammatory phenotype increases the chances of registering severe illness in relation to patients with hypogranulocytic inflammatory pattern blood for 3.8 times, the need for β_2 -agonists quick action more than 4 doses / day – for 12.7 times, readmissions (more than 3 times / year) – for 5.4 times. The presence of neutrophilic inflammatory pattern blood in children with asthma increased the chances of developing severe obstruction of the bronchi of 3.3 [95% CI: 1,8-6,1] times. At the same time, the ratio of the chances of loss of control of the disease (AST test <19 points) in children with neutrophilic asthma phenotype, in relation to eosinophilic amounted to - 7.1 [95% CI: 2,7-19,0].

Conclusion: Unfavorable marker of bronchial asthma is a hyper-granulocytic inflammatory phenotype that is associated with high risk of losing control of the disease.

Keywords: inflammatory blood patterns, bronchial asthma, children.

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