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COMPARATIVE ANALYSIS OF THE ATOPIC COMPONENT OF EARLY AND LATE ONSET BRONCHIAL ASTHMA IN SCHOOL AGE CHILDREN

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Introduction. Well known association between bronchial asthma (BA) and atopy was revealed long ago, but the exact mechanisms of this association are not fully defined.

Aim: to compare the results of cluster analysis while researching atopic component in order to improve the diagnosis of different clinical phenotypes of BA in children.

Material and methods. Patients with persistent moderate and severe BA were included in alternative clinical groups: in particular, 25 children with early onset of the disease (up to 3 years old) and 25 patients with late debut of BA (after 6 years old). According to the main characteristics (sex, age and place of residence) the groups of comparison were comparable. Hierarchical probabilistic approach and cluster analysis (CA) with the K-means method were used for statistical analysis.

Results and discussion. By the results of CA the phenotype of early onset asthma was distributed into two subgroups almost equal by number, reliable differences between them were more evident signs of atopic reactivity (significantly more frequent manifestations of allergic skin injury at an early age, more essential blood eosinophilia and sensitization to domestic allergens according to available skin allergic tests). By the result of CA of the late onset of BA in childhood two groups were formed: the first included children with significantly more often atopic BA, and the second included children who had higher weight at birth and more frequent mixed variant of the disease. The analysis of the diagnostic value of clinical and paraclinical parameters and results of CA enabled to characterize the early onset BA phenotype as the overwhelming early implementation of atopic reactivity of the child's organism.

Conclusions. The results of CA cohorts of pediatric patients with alternative BA phenotypes according to the debut of the disease were indicative of significant clinical similarities of clinical subclusters by the markers of atopic reactivity and rather quantitative than qualitative differences of atopy.