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DIAGNOSTIC VALUE OF CLUSTER ANALYSIS IN PREDICTING OF AIRWAY REMODELING IN SCHOOL-AGE CHILDREN WITH BRONCHIAL ASTHMA

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In recent years, the scientific literature accumulated results of the study of the key features of asthma in childhood, including atopic markers of airway hyperresponsiveness to the direct and indirect bronchial spasmogenic factors and the character and activity of the local inflammatory process of the airways.

The aim of research is to select high-risk groups on forming the bronchi remodeling to improve the management of asthma in children.

117 school-age children with bronchial asthma (BA) were examined at the Pulmoallergologic Department of the Municipal Medical Establishment "Regional Pediatric Clinical Hospital" in the town of Chernivtsi. The average age of children was 11,5 ± 0,29 years, duration of the disease was on average 5,4 ± 0,33 years, the boys were 65.25%. We have conducted genetic, allergological, spirographic, biochemical and immunological examination of blood serum, the supernatant liquid of sputum and the condensate of expired air.

3 cluster groups of children with asthma have been releaved. The first (I) cluster that determines a moderate risk of bronchial remodeling have formed boys with early onset asthma, conventionally controlled of its flow, low index of bronchoconstriction (3.1%), moderate bronchodilatation (17.3%), high- proteolytic activity of lysis of azocasein in expired air (1.47 ml / h), high levels of interferon-γ (71,7 pg / ml) and interleukin-6 (4.27 pg / ml) in the supernatant liquid of sputum. In the second (II) cluster, which is associated with a high risk of remodeling, have entered girls with severe uncontrolled asthma and later its debut, absence of deletion polymorphism of genes *GSTM1*, *GSTT1*, high index of bronchoconstriction FEV_1 (47.7%), eosinophilia in sputum (20.0 %), high proteolytic activity of lysis of azoalbumin in exhaled breath condensate (1.64 ml / h) elevated concentration of vasoendothelial growth factor (VEGF) – 400,0 pg / ml and interleukin-13 (IL-13) – 90.0 pg / ml in the supernatant fluid of sputum. The third (III) cluster with low probability of irreversible changes of airways have formed children of different sex and debut of asthma, high level of nitrogen oxide metabolites (63.9 mmol / L) and substantial activity for proteolytic activity of lysis of azokol (0.24 ml / h) in exhaled breath condensate, deletion polymorphism of gene GSTT1, the tendency to high results of reversibility testing with salbutamol (26.5%), elevated concentration of matrix metallopeptidase 9 (MMP-9) – 6.9 pg /ml and tumor necrosis factor alpha (TNF-α) – 1,0 m / ml in the supernatant fluid of sputum.

In spite of the detected cluster groups of school-age children with asthma, for verification of the diagnosis it is recommended comprehensive examination to determine the risk of airway remodeling and further tactics of the basic anti-inflammatory treatment.

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ASPECTS OF DIAGNOSING CONGENITAL LARGE INTESTINE PATHOLOGY

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Diseases of the large intestine (LI) occupy a significant place in the structure of chronic diseases of the digestive system. Along with functional pathology and inflammatory diseases, conditions caused by developmental abnormalities and the position of the LI cause concern, among which the most frequent one is dolichosigmoid (45-50%) that indirectly creates the basis for the development of chronic inflammatory and functional diseases not only of the LI, but of the entire digestive system.

We examined 109 children with chronic constipation (CC) against the background of dolichosigmoid, who were taking in-patient treatment at pediatric surgery and gastroenterology departments, alongside 40 generally healthy children. Congenital elongation of the sigmoid colon