

The content of total Ig E in serum virtually all surveyed our patients (95,1%) higher than the population normal of healthy children (120 IU/ml), but in patient of the first clinical group it was somewhat higher. Thus, the concentration of total immunoglobulin E in serum pupils with severe asthma was 813,5 IU/ml, and those of other clinical 685,3 IU/ml ($p>0,05$). Whey content of total IgE, which exceeded 545,3 IU/ml, was recorded in 56,6% of children first clinical group and only in 43,4% of the second ($p>0,05$) comparison group.

Comparative analysis of the IL-4 and IL-5 concentration in serum by clinical students in both groups revealed no differences likely, however, marked a half of growth in single patients for severe asthma. Thus, the average concentration of IL-4 in serum of first clinical group children was $10,6\pm 2,1$ pg/ml, and in those of the second group - $7,2\pm 2,5$ pg/ml ($p>0,05$). The average content of interleukin-5 in the clinical group was $35,8\pm 15,7$ pg/ml and $8,6\pm 4,3$ pg/ml ($p>0,05$), respectively, and testified four times a day in excess of the marker first clinical group. Despite the lack of significant differences of these cytokines concentration in the blood serum of children at the comparison groups, nearly one in three patients (36,4%) on the phenotype of severe asthma recorded significantly increased content of IL-4 (more than 10,0 pg/ml), while the patients the second group - only 15,5% of cases ($p < 0,05$). This specificity (SP) of the above concentrations of IL-4 in peripheral blood of pupils as the verification test of severe asthma phenotype was 84,6% (95% CI 75,9-91,1), but sensitivity (Se) - only 36,4% (95% CI 26,9-46,6), the odds ratio was 3,1 (95% CI 1,5-6,2). On the one hand, it highlights the presence of other inflammatory subphenotype in children with severe asthma phenotype, and the other site the high specificity of this test in the verification of asthma-phenotype.

Thus, concentration of total immunoglobulin E in serum exceeding 545,3 IU/ml in 2 times increased the chances of the presence of severe asthma in children. For the phenotype of severe asthma in 3,1 times increased the risk of high concentration of IL-4 and IL-5 in serum, but this paraclinical test rather suitable for verification of this phenotype (SP – 84,6% (95% CI 75,9-91,1)) than for its detection (Se– 36,4% (95% CI 26,9-46,6)).

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SELECTED ANAMNESTIC AND IMMUNOLOGICAL RISK MARKERS IN SCHOOLCHILDREN FOR ATOPIC BRONCHIAL ASTHMA

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Bronchial asthma (BA) in child patients remains an urgent medical and social problem whose prevalence, according to epidemiological studies conducted in child populations, ranges from 5% to 10%, and reaches up to 30% in some countries. It has become obvious that childhood asthma cannot be regarded as a single disease with established mechanisms and laws of development and progress, so studying clinical and paraclinical features of the course of its individual phenotypes is an unsolved but urgent task, since it concerns the identification of predictors and elaboration of differentiated treatment approaches.

To study anamnestic features and increase of total serum IgE, interleukins-4 and -5 concentrations as risk factors for atopic phenotype of bronchial asthma in school-aged children.

A cohort of 64 school-aged children with persisting bronchial asthma (PBA), receiving inpatient treatment for acute conditions in the Chernivtsi Regional Children's Clinical Hospital, was formed by simple random sampling, in order to achieve the set objective. Clinical group I consisted of 38 children with atopic phenotype of BA (APhBA), which was verified taking into account the history of atopic diseases, i.e. atopic genotype realized in the amount of not less than one positive response in prick-tests by non-bacterial allergens). Clinical group II included 26 patients with PBA without any signs of atopy. The groups were comparable in the main clinical characteristics.

Among the school-aged children with BA without manifestations of atopy, BA severity correlated significantly with the frequency of daytime symptoms ($r = 0.68$, $p < 0.01$), episodes of short-acting selective β_2 -agonists use ($r = 0.85$, $P < 0.01$), restricted exercise tolerance ($r = 0.56$, $p <$

0.05) and exacerbation frequency ($r = 0.51$, $p < 0.05$). We have analyzed the prognostic role of elevated total IgE in blood serum and IL-4 and -5 concentrations, whose biological effect was associated with regulation of immunoglobulin E synthesis and support of eosinophilic inflammation in the respiratory tract in the child patients, depending on their atopic status. It has been found that the serum total IgE concentration in the groups exceeded the healthy children population norm (120 IU/ml) and was 701.3 ± 56.0 IU/ml in the schoolchildren with the atopic phenotype of PBA while it was 491.7 ± 36.2 IU/ml ($Pt < 0.01$) in Group II. At the same time, IgE concentrations with more than 125.0 IU/ml were found in 82.6% of Group I cases and 68.7% of Group II cases ($P > 0.05$), with clinical and epidemiological risk indices of atopy: CI = 2.16 (95% CI 1.11-4.22), OR = 1.53 (95% CI 1.3-1.79), AP = 0.19. Besides, a strong probable correlation between the concentration of IL-5 and IgE ($r = 0.9$; $p < 0.05$) in the blood serum of children with the atopic asthma phenotype has been found.

However, the average concentration of IL-4 in blood serum was 8.6 ± 1.8 pg/ml in the children with APhBA, and 12.9 ± 3.6 pg/ml ($Pt > 0.05$) in the patients of Group II; the average concentration of IL-5 in Groups I and II was 21.3 ± 17.2 pg/ml and 29.6 ± 9.5 pg/ml ($Pt < 0.05$) respectively. However, despite the lack of significant differences in the average serum concentrations of these cytokines in children with different inflammatory phenotypes of BA, elevated levels of IL-5 (more than 1.2 pg/ml) were recorded in almost all (94.7%) cases of Group I and only in 87.5% cases of Group II ($P > 0.05$), which increased the risk of atopy as follows: SS = 2.55 (95% DI 0.9-7.34), ORS = 1.74 (95% DI 1.6-1.91), AR = 0.22.

Schoolchildren with atopic persisting bronchial asthma have the most significant skin sensitization to household allergens (house dust, pillow down and feathers, etc.), and the least sensitization to food allergens. Family history with allergic pathology increases the risk of atopic asthma phenotype by 1.85 times and correlates with inadequate control of the course of the disease in the form of nocturnal symptoms and the need for rapid therapy.

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THE EFFECT OF LONG-TERM USAGE OF INHALED CORTICOSTEROIDS ON PHYSICAL DEVELOPMENT OF CHILDREN WITH BRONCHIAL ASTHMA

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The low adherence of children with bronchial asthma (BA) to long-term control treatment is partly associated with the patients' fear of obesity and growth retardation due to the use of inhaled corticosteroids (ICS).

The aim of the study was to evaluate the physical development of children who have had background long-standing controller therapy of asthma by low/medium or high-dose ICS.

At the pulmonological department of the Regional Children's Clinical Hospital in Chernivtsi city, 50 school-aged patients with persistent BA have been examined. The anthropometric examination has been performed for all patients. The assessment of physical development with the calculation of the body mass index (BMI) of patients has been done by a centile method, taking into account the age of the patients. In the Ist clinical group, 21 patients under the long-term usage of low/medium doses of ICS were enrolled, and the second (II) group consisted of 29 patients who used long-lasting high-dose ICS to control asthma. These survey results have been analyzed by parametric (Pt , Students' criteria) and nonparametric (P , Fisher's angular transformation) methods of biological statistics, and by the methods of clinical epidemiology, considering the odds ratio (OR) and attributive (AR) risks of implementation of the event with the estimation of their 95% confidence level (95%CI).

Analysis of the data has shown that a patients' height was, on average, 50±4,4 percentile, which was corresponding to the average age-related normative values. At the same time, height below (10-25 percentiles) average regarding the age was recorded in 12% of all examined patients, but a low (5-10 percentile) or very low (<5 percentiles) height were noted in only 4 patients (6% and 2% respectively among all patients). Meanwhile, it has been found that the average BMI in the