physical activity, better breath-holding tests Stange (33.3 sec against 30.6 sec) and lower systolic blood pressure (97.3 mm Hg against 102.0 mm Hg). Both tests could be executed anywhere and in a short period of time. They could be use for assessment of tolerance for physical loading but they measure different process: RI – heart tolerance, breath-holding tests – cardiorespiratory readiness with oxygen supplying.

Bilous T.M.

PHENOTYPE-ORIENTED TREATMENT OF BRONCHIAL ASTHMA IN CHILDREN DEPENDING ON THE TERM OF ONSET OF THE DISEASE

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To determine and analyze the efficacy of rapidly relieving therapy during exacerbations and basic anti-inflammatory treatment in the period of bronchial asthma (BA) remission in school children with alternative phenotypes of the disease by the time of its onset.

Keeping to the principles of bioethics a comprehensive retrospective examination of 50 school children suffering from BA was performed. The patients were divided into two clinical groups depending on the term of the onset of the disease. The first (I) clinical group included 25 children with the early onset phenotype of BA (EOP – under 3 years of age), and the second (II) group (comparison) included 25 patients with BA of a late onset (LOP – older than 5-6-years of age).

Inconsiderably pronounced syndrome of bronchial obstruction during admission regarding exacerbation of BA was found to occur in patients with BA phenotype of a late onset (12,1 against 11,7 points, P>0,05). Attributive risk (AR) of more severe course of BA attack in children with LOP concerning the patients with manifested symptoms of the disease to six years was 11,0%, relative risk (RR) - 1,25 (95% CI: 0,64-2,42) and odds ratio (OR) - 1,56 (95% CI: 0,42-5,82). Therefore, with EOP daily symptoms of BA occurred 4 times as frequent and night symptoms – twice as frequent in comparison with the patients from II clinical groups. Thus, AR of more than one episode of daily symptoms during a week among the school children of I clinical group concerning the patients with symptoms manifested after six years of age was 28,0%, RR -1,44 (95% CI: 0,40-5,17) and OR - 6,47 (95% CI: 1,23-34,01). In case of EOP a higher risk of frequent night symptoms of BA occurred: AR – 12,0%; RR – 1,16 (95% CI: 0,44-3,04) and OR – 2,32 (95% CI: 0,51-10,54). According to a worse control over BA symptoms among the representatives of I group the risk of situational use of rapidly acting β2-agonists increased: AR –20,0%; RR – 1,63 (95% CI: 0,94-2,81) and OR – 2,30 (95% CI: 0,73-7,27). Therefore, the patients with early onset phenotype of BA have the risk of a worse control over asthma symptoms, in particular, the chances of more frequent daily episodes were 6,5 times as much, night symptoms and situational use of bronchodilators – 2,3 times a s much. Although by the frequency of restriction of physical activity there was no difference found in the groups of comparison.

To assess the efficacy of the phenotype-oriented basic treatment of BA the anamnesis of the disease of patients from the clinical groups of comparison was carried out, which demonstrated that in spite of indicated basic therapy during three late months, children developed exacerbations requiring hospitalization into a specialized department. A part of patients suffering from BA with exacerbations was 1,8 times less among the patients with EOP and was 32,0±9,3% cases, and among school children with LOP – 56,0±9,9% cases (Pφ>0,05). AR of the control loss over BA and occurring exacerbations in the representatives of II group concerning patients with EOP was 24,0%, RR – 1,54 (95% CI: 0,82-2,90) with OR – 2,70 (95% CI: 0,85-8,57). Thus, the patients with manifestation of BA symptoms after the age of six years were characterized by 2,7 times higher risk of hospitalization concerning exacerbations of the disease.

While indicating releiving therapy regarding exacerbation of bronchial asthma on admission the patients with EOP should be recommended to take more aggressive symptomatic therapy since the first day of hospitalization; and children with the first onset of the disease after the age of six higher

doses of rapidly relieving drugs should be recommended in the first three days of treatment, and the volume of therapy should be reviewed more often.

Bilyk G.A.

THE EFFECT OF OXIDATIVELY MODIFIED PROTEINS IN REMODELING OF THE RESPIRATORY TRACT IN SCHOOL-AGE CHILDREN WITH BRONCHIAL ASTHMA

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Goal of research is to study in the dynamics the informative value of the oxidatively modified proteins level in a pulmonary expirate of the school-age children with bronchial asthma, depending on the degree of bronchial remodeling.

49 schoolchildren suffering from persistent bronchial asthma (BA) were examined at the Pulmoallergologic Department of the Municipal Medical Establishment "Regional Pediatric Clinical Hospital" in the town of Chernivtsi. On the basis of the content of such respiratory tract remodeling marker in the sputum supernatant as vasoendothelial growth factor (VEGF) two clinical groups of observation were formed. The first (I) group consisted of 24 patients with VEGF level in sputum exceeding 80.0 ng/ml and reaching 193.71±12.94 ng/l on average. The second (II) group included 25 children with average VEGF level in sputum was less than 80.0 ng/ml (49.55±1.24 ng/ml).

In children from the I clinical group level of the extracellular eosinophilic cationic proteins in sputum averaged 2.78±0.24 pg/ml, while in the comparison group it was 1.77±0.21 pg/ml ($P<0.05$). Results of the dynamic evaluation of total protein level, aldehyde and ketone derivatives of dinitrophenylhydrazones levels in exhaled condensate of BA patients indicating the predominance of protein oxidative modification processes in patients with high level of bronchial remodeling markers in sputum. In the dynamics of anti-inflammatory treatment there were discordant changes in these indices of exhaled condensate, which reflected the higher effectiveness of the standard anti-inflammatory therapy in children I group, possibly due to the eosinophilic nature of airway inflammation. However, in the dynamics of 3-year observation, activity of the oxidative processes in patients from the I group decreased, while in patients from the II group with normal indices in the condensate of exhaled air at the beginning of observation, activity of the oxidative modification increased in the dynamics with the highest level after 1.5-2 years from the beginning of monitoring observation. At the same time, during the period of dynamic observation of the bronchial lability index gradually reduced from year to year only in children from the I group: at the initial examination – 22.14%, and at the final one – 13.28% and the representatives of the II clinical group had an average Bronchus Lability Index (BLI, %) of 18.55% and 23.89% respectively. Thus, it can be assumed that in children with high level of bronchial remodeling marker in sputum, despite the decrease in the activity of inflammatory process, apparently there was a realization of the risk of structural changes in the airways, as evidenced by the signs of protein release and formation of the bronchial wall rigidity.

Examination of the condensate of pulmonary expirate at the beginning of observation give reason to suggest that in children with high level of bronchial neoagnogenesis biomarker (VEGF) in sputum the standard control treatment causes a decrease in the severity of the protein oxidative modification, but at the same time protein release increases and bronchial lability decreases. In the process of dynamic observation in children with asthma from the reference by the parameters of bronchial remodeling group the activity of protein oxidation as well as bronchial lability increases in spite of the standard treatment.