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DIAGNOSTIC VALUE OF NONSPECIFIC BRONCHIAL HYPERRESPONSIVENESS IN ADOLESCENTS WITH DIFFERENT SEVERITY SCORES OF BRONCHIAL ASTHMA ATTACKS

Authors: B. Tofan, O. Koloskova, O. Shakhova

University: Bukovinian State Medical University
Country of University: Ukraine

Introduction: Bronchial asthma is considered to be a multifactorial disease characterized by recurrent episodes of reversible bronchial obstruction, which are based on the increased airway hyperresponsiveness to various stimuli.

Aim: Rate indices of nonspecific bronchial hyperresponsiveness to direct and indirect stimuli in adolescents with varying severity of asthma attacks was evaluated.

Materials and methods: 42 teens suffering from bronchial asthma were examined in postattack period. At admission to hospital severity of bronchial obstruction was studied using point scale: increasing of manifestations of bronchial obstruction was displayed with increasing of total attack score. Study of bronchial hyperreactivity was performed using standardized inhaled histamine spirometric test (PC 20 H) taking into account the recommendations for the standardization of research. Indices of bronchial nonspecific hyperresponsiveness were investigated with regard to their lability in response to exercise and bronchodilatory effect of salbutamol on average during 4.6 months of prospective observation before the development asthma attack.

Results: There was estimated that in a severe attack rate of bronchial lability, showing the severity of bronchospasm on physical stress and bronchodilatory effect of salbutamol was $37,3 \pm 4,9\%$ (95% CI:13,2-29,3), as compared to a mild attack: $17,6 \pm 2,9\%$ (95% CI:6,7-16,7), ($P < 0,05$). To determine the probability of severe asthma attack the sensitivity of index of PC 20 H test less than 1.0 mg/ml was 71,4%, and the sensitivity of bronchial reactivity to this direct bronchospasmogenic stimulus – 60,0%. These results suggest, that on the background of the basic treatment in adolescents presence of bronchospasm to physical stress more than 15,0% is a highly specific test (90,9%), which increases the post-test probability of severe asthma attack by 35,6%, with the significant odds ratio of the event 11,6.

Conclusion: The sensitivity of the bronchi to histamine at concentrations less than 1.0 mg/ml can be used to screen and index of the bronchial lability more than 15% - to confirm the possibility of severe asthma attack in the nearest catamnesis.

Keywords: diagnostic value; bronchial asthma; hyperresponsiveness; children.

Contact authors at: bogdan.yuriyovich@gmail.com