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Clinical and Laboratory Features of Bronchial Asthma in Patients with Type 2 Diabetes Mellitus

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Relevance: Bronchial asthma (BA) and type 2 diabetes mellitus (T2DM) are common chronic diseases that significantly affect the quality of life of patients. Comorbidity of BA and T2DM is an important clinical problem, since the mutual influence of these pathologies can aggravate the course of each disease. Hyperglycemia and insulin resistance in T2DM can contribute to the deterioration of bronchial patency and decreased control over BA. Disturbances in carbohydrate metabolism can increase the inflammatory process in the airways, which requires more careful monitoring of patients. The relationship between BA and T2DM requires an in-depth study of pathophysiological mechanisms to optimize treatment strategies. This work is devoted to the study of the features of the course of BA in patients with T2DM with an emphasis on clinical and laboratory parameters.

Materials and methods of research: The study included 89 patients who were treated at the private clinic "Aram" in Tashkent in the period from 2024 to 2025. They were divided into three groups: 1) bronchial asthma + T2DM (n = 19); 2) isolated bronchial asthma (n = 44); 3) isolated T2DM (n = 26). A clinical examination, spirometry, salbutamol test, chest X-ray, laboratory tests (fasting blood glucose, glycated hemoglobin) were performed. Nonparametric methods of statistical analysis were used.

Research results: Patients with a combination of bronchial asthma and type 2 diabetes mellitus were found to have a more severe course of bronchial asthma compared to patients with isolated bronchial asthma. In the bronchial asthma + type 2 diabetes mellitus group, the course of the disease was worse: they had more pronounced bronchial obstruction, confirmed by a decrease in FEV1. A significant increase in fasting blood glucose levels was found in patients with combined pathology ($p = 0.05$). Comparison by the stages of basic therapy showed that patients with bronchial asthma + type 2 diabetes mellitus more often needed the 4th stage of therapy. Metabolic disorders associated with hyperglycemia could contribute to the deterioration of bronchial patency. The data obtained confirm the need for enhanced monitoring and an individual approach to the treatment of patients with bronchial asthma and type 2 diabetes mellitus.

Conclusions: The combination of bronchial asthma and type 2 diabetes mellitus aggravates the course of bronchial asthma, reduces disease control and worsens respiratory function indices. Patients with bronchial asthma and type 2 diabetes mellitus require more intensive monitoring and

correction of the therapeutic strategy.

List of references:

1. Global Initiative for Asthma. Global Strategy for Asthma Management and Prevention. 2020.
2. Chuchalin AG, Khaltaev N., Antonov N. Chronic respiratory diseases and risk factors in Russia. Int J COPD. 2014.
3. Wells SM, Holian A. Asymmetric dimethylarginine induces oxidative stress in lung cells. Am J Respir Cell Mol Biol. 2007.
4. Kytikova O.Yu., Antonyuk M.V. Metabolic aspects of the relationship between obesity and bronchial asthma. Obesity and Metabolism. 2018.
5. Ivanov V., Rubeko E. Asthma in combination with type 2 diabetes mellitus. Doctor. 2016.