

PATHOPHYSIOLOGICAL LINKS BETWEEN THE GASTROINTESTINAL AND RESPIRATORY SYSTEMS IN CHRONIC DISORDERS: DIAGNOSTIC AND THERAPEUTIC CHALLENGES

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Abstract. The aim. Bronchial asthma is a chronic inflammatory disease of the airways that is often complicated by comorbid gastrointestinal pathologies. The most clinically significant conditions include gastroesophageal reflux disease, cholelithiasis, and pancreatic disorders. The presence of these conditions worsens symptom control, reduces the effectiveness of standard therapy, and increases the frequency of exacerbations.

Objective. To analyze current literature data on the pathogenic mechanisms of interaction between bronchial asthma and gastrointestinal tract diseases, and to determine their clinical significance in terms of disease progression, response to therapy, and prognosis.

Materials and methods. A review of scientific publications presented in international and national databases was conducted, focusing on clinical studies, experimental research, and systematic reviews published over the last two decades. The results concerning the impact of gastrointestinal comorbidity on lung function, immune profile, systemic inflammation markers, and the clinical course of bronchial asthma were analyzed.

Results. It has been established that gastrointestinal pathology affects the course of bronchial asthma through several mechanisms: microaspiration of gastric or bile contents, vagus-mediated bronchospasms, a shift in the inflammatory phenotype from type 2 T-helper to type 1 T-helper or type 17, increased levels of pro-inflammatory cytokines (interleukin-6, tumor necrosis factor-alpha, interleukin-17A), and reduced numbers of regulatory T cells. Clinically, this is accompanied by a decrease in forced expiratory volume in the first second (FEV₁), reduced lung diffusing capacity, increased neutrophil-to-lymphocyte ratio, elevated levels of C-reactive protein and KL-6 glycoprotein, and the development of treatment-resistant asthma phenotypes.

Conclusions. Management of patients with bronchial asthma requires active detection and timely correction of comorbid gastrointestinal diseases. A multidisciplinary approach that considers the patient's individual immunological characteristics can improve therapeutic outcomes, reduce the frequency of exacerbations, and enhance patients' quality of life.

Key words: bronchial asthma; gastroesophageal reflux disease; gallstone disease; comorbidity; gastrointestinal tract; inflammation; cytokines; asthma phenotype; immune response; multidisciplinary approach.