

# FEATURES OF BRONCHIAL ASTHMA WITH NEUTROPHILIC INFLAMMATION

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**Abstract.** Bronchial asthma (BA) is a heterogeneous chronic inflammatory respiratory disease. Usually it is possible to achieve and maintain disease control in most patients. But there remains a part of patients in whom achievement of asthma control is not possible. This group is heterogeneous and includes patients with an incorrect diagnosis of asthma, low adherence to therapy, poor skills in inhaler technique, smokers, patients with unrevealed and untreated comorbidities. It also includes cases when asthma control is not achieved even with the exclusion of all reasons listed above in the course of a comprehensive standard therapy. These patients have individual pathogenetic features that make it impossible to achieve disease control when using a standard BA treatment regimen — patients with biologically severe asthma. The definition of asthma inflammatory phenotype (eosinophilic, neutrophilic) and other markers allows to use the targeted

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personalized therapy, which increases the effectiveness of treatment and reduces the risk of undesirable effects of anti-asthma therapy. Eosinophilic asthma is more studied, a lot is known about the mechanisms of its pathophysiology, and the diagnosis is not difficult. This phenotype occurs in a significant proportion of patients with asthma. Targeted therapy of this phenotype has been effectively developing for a long time; new drugs aimed at different parts of eosinophilic inflammation are being developed. The neutrophilic phenotype is less studied, associated with low functional parameters, pulmonary hyperinflation and airway remodeling. Sputum neutrophilia was determined in severe and fatal BA, and may also be due to the use of inhaled corticosteroids. At present, there is no consensus on a clear quantitative determination of markers of neutrophilic asthma, on its diagnosis and methods of therapy. Therefore, the purpose of this review was to assess the relevance of methods for diagnosing neutrophilic BA, to determine the reasons for the ineffectiveness of standard treatment methods in this group of patients.

**Key words:** bronchial asthma, diagnostics, inflammatory phenotype, eosinophilic, neutrophilic inflammation.

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