TRANSFORMING GROWTH FACTOR-β_1 IN PATIENTS WITH BRONCHIAL ASTHMA: PATHOGENETIC, CLINICAL AND THERAPEUTIC ASPECTS (LITERATURE REWIEW AND OWN RESULTS)

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Abstract. The *goal* of our research was to analyze the role of transforming growth factor-β_1 (TGF-β_1) in airway remodeling, inflammation, clinical course, treatment efficacy in patients with bronchial asthma (BA) according to the literature data, as well as determination of this biomarkers level in the blood of BA patients. *Material and research methods*. The publications is containing the results of studies on the role of TGF-β_1 in the course of BA have been analyzed. The level of TGF-β_1 in the blood was determined within enzyme-linked immunosorbent assay using kits "IBL International GMBH, Germany" in 553 BA patients and in 95 healthy individuals. *Results*. The article presents data about TGF-β_1 influence on the processes of airway remodeling in BA patients, its role in microcirculation disorders, mucus production, eosinophilic inflammation and severity of clinical symptoms of the disease. The level of TGF-β_1 expression was associated with disease control, severity and duration of the disease, despite conflicting data that require further study. In addition, there were presented recent research data about TGF-β_1 as a marker of airway remodeling and as a therapeutic target in the treatment of BA patients. Glucocorticoids, tiotropium bromide, methylxanthines, selective inhibitors of TGF-β_1, resveratrol, simvastatin and montelukast and their mechanisms of influence were presented in detail. Significantly higher level of TGF-β_1 in the blood of patients with BA was found (38.5 ± 0.7) pg/ml compared with healthy individuals (33.9 ± 1.0) pg /ml, p = 0.007. *Conclusion*. A significantly higher level of TGF-β_1 was revealed in the blood of BA patients. In our opinion, a differentiated analysis of the content of this marker depending on the phenotype of the disease is important, which would explain the conflicting results of different studies, deepen understanding of its pathophysiological and clinical role in order to develop methods for slowing airway remodeling.

Key words: bronchial asthma, transforming growth factor-β1 (TGF-β1), airway remodeling.

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