THE ROLE OF THYMIC STROMAL LYMPHOPOIETIN IN DEVELOPMENT OF SEVERE ASTHMA

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Abstract

It is known that 3–5 % and up to 10 % of patients with asthma have a severe course of the disease, which often continues to be uncontrolled, despite the maximum use of inhaled corticosteroids and additional controller drugs. Severe asthma creates a large physical, mental, emotional, social and economic burden on patients and is often associated with multimorbidity. It creates significant and diverse difficulties in the management of patients and is characterized mainly by type 2 inflammation. Also, they often have not only eosinophilic (allergic or non-allergic) but non-eosinophilic asthma as well. The biological mechanisms of the development of asthma are controlled mainly by the epithelium of the respiratory tract, epithelial cytokines and eosinophils, although the role of other cytokines and cells is also important. An important biomarker of type 2 inflammation, along with other interleukins, is thymic stromal lymphopoietin (TSLP). TSLP directly and indirectly affects inflammatory cells in eosinophilic/allergic and non-eosinophilic/nonallergic asthma. Airway structural cells are also targets of TSLP, suggesting that TSLP may play an important role in asthma-related pathological airway remodeling. Anti-TSLP therapy with tezepelumab represents a promising new approach in management of patients with severe asthma because, unlike other biological therapies, it is approved for use in severe asthma regardless of the phenotypic features of the disease.

Key words: asthma, severe form, inflammatory biomarkers, inflammatory cells, epithelial cytokines, thymic stromal lymphopoietin, biological therapy, tezepelumab.

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