

# THE RELATIONSHIP BETWEEN *STAPHYLOCOCCUS AUREUS* CARRIER STATUS AND THE FEATURES OF ALLERGIC RHINITIS: A REVIEW OF PATHOGENETIC MECHANISMS

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**Abstract.** Allergic rhinitis (AR) is one of the most common allergic diseases, significantly affecting the quality of life of patients and creating a significant socioeconomic burden. This review summarizes current understanding of the role of *Staphylococcus aureus* and its enterotoxins in the pathogenesis of AR. Epidemiological studies have demonstrated an increased frequency of *S. aureus* carriage (30-50 %) in patients with AR compared to the general population, with the frequency of *S. aureus* colonization correlating with the severity of AR. Staphylococcal enterotoxins (SE) play a dual role, acting as classic allergens and superantigens. Their unique superantigenic properties allow them to activate up to 20-30 % of the total T cell population, leading to a “cytokine storm” and maintaining chronic inflammation. SE affect the respiratory mucosa via multiple mechanisms: disruption of the epithelial barrier, Th2 polarization of the immune response, induction of local IgE synthesis, and activation of eosinophils. The presence of specific IgE to SE is an independent risk factor for the development of bronchial asthma, AR, and comorbid diseases. The relationship between AR and *S. aureus* carriage is bidirectional: allergic inflammation promotes bacterial colonization, and SE further exacerbates and maintains it. Understanding these mechanisms opens up prospects for the development of new diagnostic and therapeutic strategies, especially for patients with severe disease resistant to standard therapy.

**Key words:** allergic rhinitis, *Staphylococcus aureus*, staphylococcal enterotoxins, superantigens, sensitization.