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LOCAL IMMUNE ALTERATIONS OF THE NASAL MUCOSA IN PATIENTS WITH CHRONIC SUBATROPHIC RHINITIS ASSOCIATED WITH TYPE 2 DIABETES MELLITUS

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Background. Chronic subatrophic rhinitis (CSR) is characterized by progressive trophic impairment of the nasal mucosa accompanied by decreased secretory activity, impaired mucociliary clearance, and persistent inflammatory changes. Type 2 diabetes mellitus (T2DM) aggravates these pathological processes through microangiopathy, chronic hyperglycemia, and metabolic disturbances, resulting in impaired tissue regeneration and dysfunction of local immune defense mechanisms (1–3).

Recent studies have demonstrated that chronic inflammatory diseases of the upper respiratory tract are associated with alterations in local immune biomarkers, including secretory immunoglobulin A (sIgA), C-reactive protein (CRP), and inflammatory cell indices. However, data regarding local immune disturbances in patients with CSR associated with T2DM remain limited, emphasizing the need for further investigation of immunological mechanisms involved in disease progression (2,4,5).

Assessment of local immune status may improve understanding of the pathophysiology of CSR in diabetic patients and provide objective markers for evaluating the severity of mucosal impairment.

Objective

To evaluate local immune alterations of the nasal mucosa in patients with chronic subatrophic rhinitis associated with type 2 diabetes mellitus.

Materials and Methods

The study included 130 participants divided into three groups. The main group consisted of 58 patients with chronic subatrophic rhinitis associated with type 2 diabetes mellitus, the comparison group included 42 patients with chronic subatrophic rhinitis without diabetes mellitus, and the control group consisted of 30 healthy individuals. All participants underwent comprehensive otorhinolaryngological examination.

Local immune status was assessed by determining secretory immunoglobulin A (sIgA), C-reactive protein (CRP), and neutrophil-to-lymphocyte ratio (NLR). Statistical analysis was performed using standard comparative methods, with $p < 0.05$ considered statistically significant.

Conclusions

Patients with chronic subatrophic rhinitis associated with type 2 diabetes mellitus demonstrated more pronounced alterations in local immune parameters, indicating impaired mucosal defense and persistent inflammatory activity.

Evaluation of sIgA, CRP, and NLR may serve as an informative approach for assessing local immune dysfunction and the severity of nasal mucosal involvement in patients with chronic subatrophic rhinitis and type 2 diabetes mellitus.

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