



## **CHRONIC RHINOSINUSITIS WITH NASAL POLYPS: PATHOGENESIS, DIAGNOSIS AND MODERN TREATMENT METHODS**

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### **Abstract:**

Chronic rhinosinusitis with nasal polyps (CRSwNP) is a common disease of the upper respiratory tract that significantly worsens the quality of life of patients. According to the World Health Organization, rhinosinusitis affects up to 30% of the population in developed countries, with CRS occurring in 5-10% of these cases. Polypoid rhinosinusitis is observed in 20-30% of patients with chronic rhinosinusitis. CRSwNP is an important clinical entity diagnosed by the presence of both subjective and objective evidence of chronic sinonasal inflammation. Symptoms include anterior or posterior rhinorrhea, nasal congestion, hyposmia and/or facial pressure or pain that last for greater than 12 weeks duration. Nasal polyps are inflammatory lesions that project into the nasal airway, are typically bilateral, and originate from the ethmoid sinus. Males are more likely to be affected than females but no specific genetic or environmental factors have been strongly linked to the development of this disorder to date. CRSwNP is frequently associated with asthma and allergic rhinitis but the cellular and molecular mechanisms that contribute to the clinical symptoms are not fully understood. Defects in the sinonasal epithelial cell barrier, increased exposure to pathogenic and colonized bacteria, and dysregulation of the host immune system are all thought to play prominent roles in disease pathogenesis.

**Keywords:** Chronic rhinosinusitis with nasal polyps, Nasal polyp, Chronic rhinosinusitis

**OBJECTIVE.** To study the pathogenesis, diagnosis, and modern treatment methods of chronic rhinosinusitis with nasal polyps, as well as to assess their effectiveness.

**MATERIALS AND METHODS.** This review used data from scientific literature, including articles and clinical guidelines on chronic rhinosinusitis with nasal polyps. Clinical studies published in peer-reviewed journals were analyzed, with a focus on modern approaches to treatment and pathogenesis, as well as discussions of current issues. Literature searches were conducted in the Scopus and Web of Science databases over the past 10 years to ensure the relevance of the information.

**DISCUSSION OF RESULTS.** Chronic rhinosinusitis with nasal polyps (CRSwNP) is a complex disease whose pathogenesis involves multiple factors such as chronic inflammation, allergic reactions, and immune response disorders. According to recent studies, polyps develop as a result of prolonged inflammatory processes, which

is confirmed by the identification of various cytokines and inflammatory mediators in the nasal tissues. Modern diagnostic methods, such as endoscopy and computed tomography, allow for a more accurate assessment of the nasal mucosa and detection of polyps. These methods play a key role in choosing appropriate therapy. Regarding treatment, a combined approach, including conservative methods (glucocorticosteroids, antibiotics) and surgical interventions (endoscopic sinus surgery), has shown high effectiveness. However, there are challenges related to disease recurrence, highlighting the need for further research into long-term therapeutic strategies and new treatment methods.

**CONCLUSION.** The pathogenesis of CRSwNP is associated with chronic inflammation and immune disorders, requiring an individualized approach to patients. Modern diagnostic methods, such as endoscopy and CT, contribute to effective treatment. Combined therapeutic strategies show good results, but



recurrences remain a problem. Future research should focus on a deeper study of pathogenesis and the development of new treatment methods to improve the quality of life for patients.

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