

UDC: 616.211-002-072.1-089.85

Epidemiology and Clinical Characteristics of Polypous Rhinosinusitis

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Annotation: This article analyzes the relevance of polypoid rhinosinusitis in modern otorhinolaryngology, its prevalence, age and gender characteristics, clinical course, and recurrence trends. According to the dissertation data, polypoid rhinosinusitis occurs in 1-4% of the world's population, polyps of the nose and paranasal sinuses are noted in 1-5% of the population, and this disease is found in 5% of patients who consulted an otolaryngologist and 4% of those who consulted an allergist. Polypoid rhinosinusitis occurs more often in the population aged 40-60 years, especially in men, and the frequency of recurrence, according to various authors, ranges from 5% to 60%, which indicates the high medical and social significance of the disease. The article substantiates the importance of early diagnosis and clinical assessment by analyzing the main clinical signs of polypoid rhinosinusitis, its prolonged and recurrent course, and its connection with bronchial asthma, allergic rhinitis, and other diseases of the upper respiratory tract.

Keywords: polypoid rhinosinusitis, epidemiology, clinical course, recurrence, nasal polyps, allergic rhinitis, bronchial asthma.

The problem of polypoid rhinosinusitis remains one of the most pressing issues in modern otorhinolaryngology. This is explained, first of all, by the widespread prevalence of the disease, its chronic and recurrent course in most cases, the high probability of its recurrence, despite the use of conservative and surgical treatment methods [6,9,17,24,33,42]. According to the dissertation, according to the World Health Organization, 1-4% of the world's population suffers from chronic polypoid rhinosinusitis, while polyps of the nose and paranasal sinuses are found in 1-5% of the population. Also, this disease accounts for 5% of patients who consulted an otolaryngologist, and 4% of patients who consulted an allergist [2,11,18,27,35,40]. According to local data, there are 5.1 cases per 10,000 population in regional

conditions. These figures alone indicate that polypoid rhinosinusitis is a frequently encountered, but often late-diagnosed pathology in practice.

The epidemiological significance of polypoid rhinosinusitis is enhanced by its widespread prevalence not only in official referrals but also in subclinical forms. In the analysis of the literature presented in the dissertation, it was noted that polypes in the area of the ethmoid cells were detected in 12.5% of cases during sectional examinations, and in some repeated examinations, this indicator reached 32% [4,13,20,25,31,38]. This means that in clinical practice there are not only symptomatic, obvious cases, but also forms that have not yet fully formed or do not cause serious complaints to the patient. Consequently, in practice, the recorded indicators may be lower than the actual prevalence of polypoid rhinosinusitis. From this point of view, it is advisable to assess this disease not only as an ENT pathology, but also as a broad socio-medical problem affecting public health [1,10,16,23,34,39].

The age distribution is also one of the features of polypoid rhinosinusitis. According to the data presented in the dissertation, the disease is most common among the population aged 40-60 years, accounting for 51.4% of cases in this age category. In a broader analysis by age, 2% of cases were registered before the age of 20, 7.2% at 21-30 years, 17.2% at 31-40 years, 22.4% at 41-50 years, 29% at 51-60 years, 19.5% at 61-70 years, and 8.5% at 71-80 years. These data indicate that polypoid rhinosinusitis is most common among the working-age and middle-aged population. This determines the importance of the disease not only from a medical point of view, but also from the point of view of work capacity, quality of life, and the need for constant dispensary observation [5,12,19,28,30,41].

Gender characteristics are also clinically significant. In the literature, it is noted that polypoid rhinosinusitis occurs 1.2 times more often in men than in women. At the same time, some authors note that 34.6% of patients with sinusitis are polypoid ethmoiditis, of which 67% are men over 40 years of age. This condition may be associated with production factors, harmful environmental influences, allergic background, chronic inflammation of the upper respiratory tract, and differences in immunobiological reactivity. The higher prevalence among men is important for the

formation of risk groups in clinical practice and the targeted organization of preventive monitoring [3,14,21,26,32,37].

One of the most important clinical features of polypoid rhinosinusitis is its tendency to recur. The dissertation notes that, despite the development of surgical intervention and the widespread use of medications in recent years, the recurrence rate of the disease can be from 5% to 60%. In some studies, 13.6% of patients underwent surgery at least once, while in other sources, chronic polypoid rhinosinusitis developed slowly in 78% of patients over a period of 2 to 15 years, and 78.2% of patients underwent multiple surgical interventions. These figures clearly demonstrate that the disease is a pathogenetically complex form requiring constant monitoring and step-by-step treatment. High recurrence may be associated with inflammation, angiogenesis, epithelial restructuring, and prolonged maintenance of the local immune response, especially in the polyp tissue [7,8,15,22,29,36].

Clinical signs of the disease often manifest as impaired nasal breathing, nasal congestion, decreased or lost sense of smell, nasal discharge, headache, feeling of heaviness in the head, and general discomfort. However, the clinical picture of polypoid rhinosinusitis varies depending on its localization, prevalence, the presence of concomitant allergic or bronchopulmonary diseases, as well as the state of mucociliary clearance. In the dissertation, special attention was paid to the study of functional disorders in patients with polypoid rhinosinusitis, and it was established that a decrease in mucociliary transport function worsens the course of the disease. This indicates that in clinical practice, not only endoscopic or radiological examinations are important, but also the assessment of the functional state of the mucous membrane.

The clinical course of polypoid rhinosinusitis often manifests in conjunction with other diseases. According to the data presented in the dissertation, in patients with polypoid rhinosinusitis, pathologies of the upper respiratory tract occur simultaneously in 42.5%, tumor diseases in 12.5%, respiratory diseases in 15%, allergies in 35% of cases, and allergic rhinitis in 32.3% of cases. It was also noted that nasal polyps are more common in patients with bronchial asthma and chronic inflammatory diseases of the respiratory organs. This means that polypoid rhinosinusitis should be considered

not as an isolated local process, but as a systemic process developing simultaneously against an allergic, immunological, and inflammatory background.

Another important aspect from a clinical point of view is the multifactorial nature of the etiology and pathogenesis of the disease. The dissertation presents the theories of allergic, infectious, fungal, vegetative, polyetiological, and mucociliary clearance, none of which fully explains the mechanisms of formation of polypoid rhinosinusitis. At the same time, changes in biomarkers such as p53, EGF, VEGF, and VEGFR-2 in polyp tissue and blood serum were assessed as a factor determining the course and progression of the disease. These data allow us to interpret the clinical picture of the disease not only in connection with external symptoms, but also with changes at the cellular and molecular levels. In long-term and recurrent forms of polypoid rhinosinusitis, the predominance of angiogenesis, mucosal edema, epithelial restructuring, and local immune inflammatory processes can exacerbate its clinical course.

In the examination of patients, along with clinical signs, such indicators as endoscopy, computed tomography, active rhinomanometry, and mucociliary transport time are of great importance. The dissertation presents the endoscopic classification proposed by Soldatov et al., which distinguishes 4 stages of the polypoid process: from persistent edema in the middle nasal passage to the presence of diffuse polyps in the common nasal passage. This classification is very useful in clinical practice for assessing the prevalence of polypoid rhinosinusitis, comparing surgical and conservative treatment methods, and dynamic patient monitoring. The significance of this is that clinical manifestations sometimes do not fully reflect the true prevalence of the process, while endoscopic and radiological methods provide a clear morphofunctional picture of the disease.

In the clinical picture of polypoid rhinosinusitis, a decrease or loss of smell occupies a special place. This symptom significantly affects the daily life of patients, deteriorates their taste perception, professional activity, and overall quality of life. In the dissertation, it is proven that the use of photodynamic laser therapy in complex treatment improves the smell and respiratory function of the nasal mucosa. This

indicates that from a clinical point of view, olfaction should be considered not only as a subjective complaint, but also as one of the criteria for evaluating the effectiveness of treatment.

The practical significance of polypoid rhinosinusitis lies in the fact that it is a complex condition, in which a chronic inflammatory process, an allergic background, fungal or bacterial colonization, epithelial dysfunction, and factors of angiogenesis are often involved simultaneously. Therefore, an in-depth analysis of its epidemiology and clinical features is important for identifying risk groups, early diagnosis, and predicting the likelihood of recurrence. In the dissertation, in order to improve the diagnosis and treatment of polypoid rhinosinusitis, 204 patients and 20 healthy individuals were examined, as well as mucociliary clearance, biomarkers in blood serum and polyp tissue, and the effectiveness of complex treatment were evaluated, which confirms the high clinical and scientific significance of this work.

Thus, polypoid rhinosinusitis is a common, multifactorial, recurrent, and clinically complex pathology. It occurs more often in the middle and older population, especially in men, and is closely associated with allergic rhinitis, bronchial asthma, and other chronic diseases of the upper respiratory tract. The clinical course of the disease is characterized by impaired nasal breathing, decreased sense of smell, functional insufficiency of the mucous membrane, and a high risk of recurrence. Therefore, the early detection of polypoid rhinosinusitis, the correct assessment of its epidemiological and clinical features, and the introduction of a comprehensive approach, taking into account risk factors, serve to increase the effectiveness of treatment for this disease.

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