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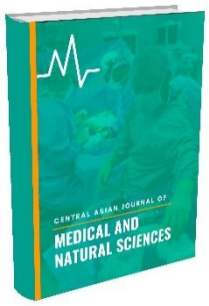

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Therapeutic Tactics in patients with Polypous Rhinosinuitis, depending on the Morphological Picture of the Nasal Cavity

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ABSTRACT: Chronic polyposis rhinosinusitis (CPMS) is a multifactorial polyetiological disease [1].The problem of nasal polyps and paranasal sinuses remains relevant, since the main aspects of this pathology (etiological, pathogenetic, immunological, therapeutic) have not been fully resolved all over the world. The disease is accompanied by a decrease in the patient's quality of life. According to the latest position papers on rhinosinusitis and nasal polyps of the European Academy of Allergology and Clinical Immunologe (EAACI Position Paper on Rhinosinusitis and Nasal Polyps - EPOS, 2007; 2012), the prevalence of CPMS in the population ranges from 1 to 4% , while men get sick more often [2]. The disease often occurs in people of working age at the age of 25-35. Nasal polyps are a manifestation of the so-called special form of chronic rhinosinusitis, caused by a bacterial or fungal infection, with the formation of chronic eosinophilic inflammation.

Key words: polyposis rhinosinusitis, rhinosurgery, multifactorial, conservative glucocorticosteroid.

Introduction.

The problem is predetermined by a fairly high level of prevalence of the disease and numerous medical and social aspects associated with the treatment and rehabilitation of patients. In the scientific aspect, the problem of nasal polyps remains relevant, since a number of issues of this pathology remain unresolved. According to the latest European EAACI documents, defects in the mucous lining of the intranasal structures of the nose in the form of polypous growths are a specific design of a hypertrophic process that develops against the background of an eosinophilic substance. It has been established, more precisely interpreted, that polypous rhinosinusitis is a multifactorial (polyetiologic and polypathogenetic) disease.

Main Part

Postoperative treatment of chronic polypous rhinosinusitis is one of the urgent problems of modern rhinology. Despite the widespread prevalence of polyposis rhinosinusitis and the introduction of endoscopic rhinosurgery, today there are no treatment methods that could guarantee the absence of relapse. The overwhelming majority of authors tend to use topical and systemic glucocorticosteroids for these purposes after surgery [2]. However, approximately 20% of patients with polyposis rhinosinusitis are not satisfied with the performed rhinosurgical intervention in combination with conservative glucocorticosteroid therapy and require reoperation [3]. At the same time, the success of repeated endoscopic sinus revisions is observed in 50–70% of cases [4, 5].

At the same time, it is known that polypous rhinosinusitis is a chronic disease of the mucous membrane of the nasal cavity and paranasal sinuses, the pathogenesis of which is based on the inflammatory process [6]. It has been shown that long-term therapy with low doses of clarithromycin contributes to the control of eosinophilic inflammation and prevents early recurrence of polypous rhinosinusitis [7]. A decrease in the frequency of relapses of this disease according to computed tomography data while taking clarithromycin was also noted in the work of G.Z. Piskunov [8].

In a study by T. Yamada, a decrease in the size of polyps was noted with the use of clarithromycin for 3 months [9].

However, targeted studies aimed at studying the morphology of the nasal mucosa before and after surgery and in the dynamics of anti-relapse therapy in the available literature are rare. In addition, the results of these studies are sometimes contradictory. This indicates the relevance of studies aimed at clarifying the indications and substantiating the appropriateness of the use of drugs for polypous rhinosinusitis before and after surgery, as well as with relapses of this pathology.

Purpose of the study. To assess the results of histological examination of the nasal mucosa in patients with polyposis rhinosinusitis to determine the tactics of postoperative treatment.

MATERIAL AND METHODS

From 2016 to 2020, a morphological study of materials from the nasal cavity of 110 patients with polyposis rhinosinusitis aged 18 to 70 years was carried out in the pathological department of the SamMI Clinic No. 1. All patients were treated at the BIONUR clinic for planned surgical treatment (polysinusotomy) and the materials were sent for verification and clinical diagnosis. The terms of the disease in patients exceeded 5 years; they had previously performed operations for polyposis rhinosinusitis. Before surgery, all patients underwent biopsy of the nasal mucosa from the polyposis tissue of the middle nasal passage (medial surface of the middle turbinate).

Histological examination was carried out according to the standard technique with the staining of the preparations with hematoxylin and eosin. In all cases, the study was carried out for fungal elements and Charcot-Leiden crystals. To determine the presence of yeast-like fungi of the genus Candida, a CHIK reaction was performed.

RESULTS

According to the results of histological analysis of the nasal mucosa, according to the protocol, the patients were divided into 3 groups. Group 1 included 40 (36.6%) patients in whom, according to histological analysis, the prevalence of eosinophilic inflammation, absence of neutrophilic infiltration with mild and moderate tissue edema.

No fibrotic changes were observed. A similar histological picture is characteristic of polypous rhinosinusitis, in the pathogenesis of which autoimmune processes prevail, as well as a pronounced reaction of the stroma of polyps. In the materials of this group of patients with SHIK - positive fungi were not found. (Fig. 1)

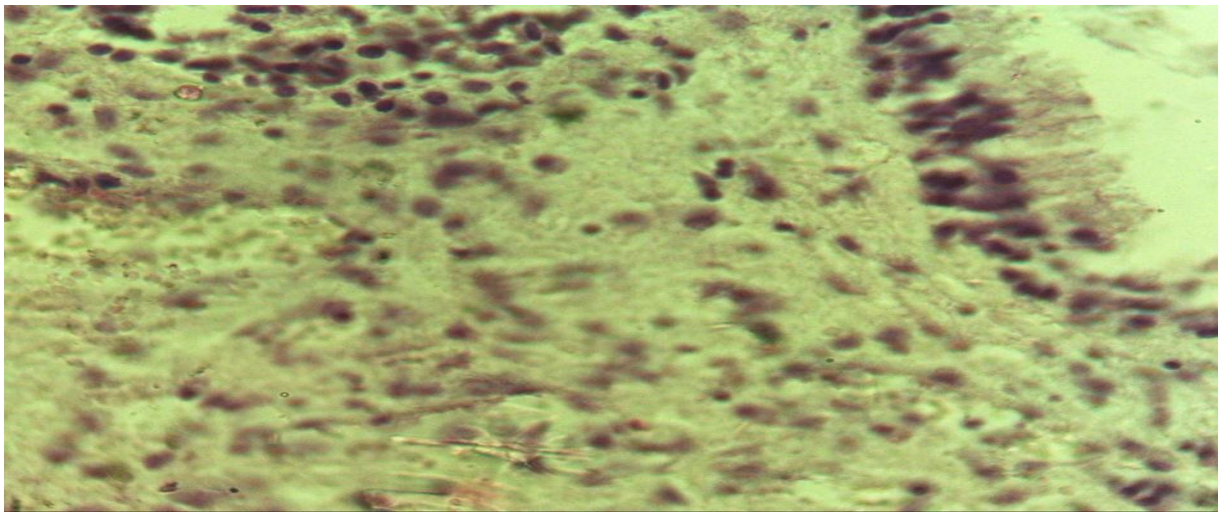

Fig 1. Moderate edema of the polyp stroma eosinophilic infiltration. Hematoxylin - eosin staining. Uv. 400.

Group 2 included 30 (27.7%) patients who also had severe eosinophilic inflammation, subepithelial edema, but focal moderate fibrotic changes were observed. At the same time, these patients showed local neutrophilic infiltration of the stroma, which could indicate the addition of bacterial inflammation and its role in the pathogenesis of the disease (Fig. 2).

Fungal elements were not identified in these patients.

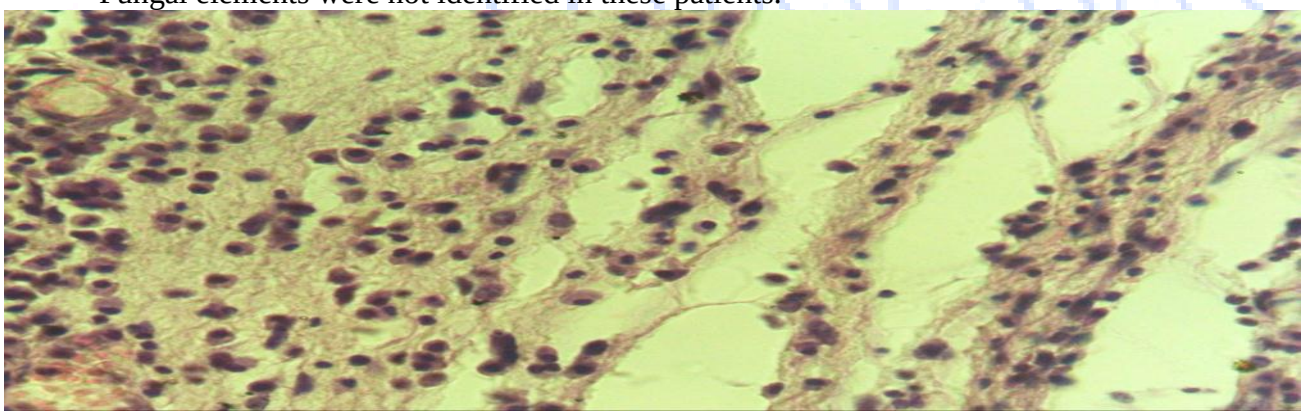

Fig. 2. Leukocyte infiltration of plasma cells and stromal edema. Staining with hematoxylin - eosin Uv. 400

Group 3 included 30 (27.7%) patients whose histological picture was significantly different from the previous ones. The stroma was dominated by ymphoplasmacytic or neutrophilic infiltration with single eosinophils, moderate subepithelial edema, and extensive fibrotic changes. Such a histological the picture is characteristic of neutrophilic inflammation, which plays an essential role in the formation of polyposis tissue in the nasal cavity.

(Fig. 3) It should be noted that in this group of patients, some of them were found to have yeast-like pseudomycelia giving a positive SHIK reaction

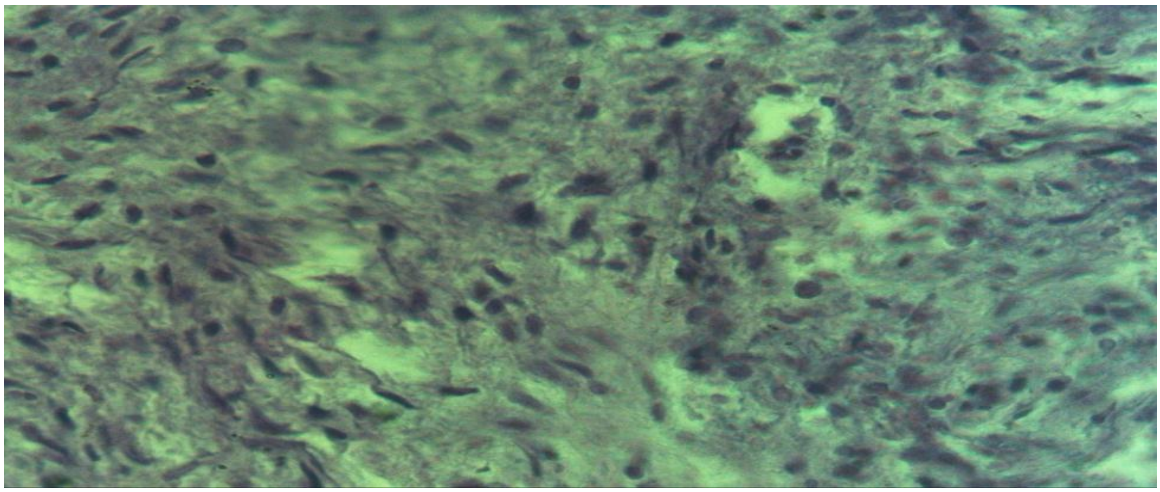

Fig 3. Fibrous changes in the stroma of the polyp. Coloring hematoxylin - eosin. Uv. 450.

In the 4th group, 10 (9.1%) fungi of the Candida type were determined by gas chromatography-mass spectrometry and SHIK reaction.

After the obtained morphological analysis in the 1st and 2nd groups of patients in the postoperative period, in order to prevent relapse, a topical nasal corticosteroid and ANIS for aromatherapy were prescribed in the Dimist treatment complex.

In the 3rd group, patients, depending on the sensitivity, were prescribed Cyclamen + phytopreparation Anis + Dimista in the complex of treatment In the 4th group, the patients were recommended the antifungal drug Diflucan and Anise for aromatherapy

Conclusion

Thus, in the morphological picture the mucous membrane of the nasal cavity of patients with polyposis rhinosinusitis of the 1st and 2nd groups was dominated by eosinophilic inflammation, which confirms the need to use in such cases topical and / or systemic glucocorticosteroids in the postoperative period. In 26.7% of patients with polypous rhinosinusitis in the mucous membrane of the nasal cavity was dominated by neutrophilic or lymphocytic inflammation, which indicates the importance of postoperative antibiotic therapy in this group of patients.

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