

# Improving the Diagnosis and Treatment of Benign Vascular Neoplasms of the Nasal Cavity

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**Annotation:** Benign vascular neoplasms of the nasal cavity are an urgent problem of modern otorhinolaryngology, accounting for up to 15% of all neoplasms of this localization. Despite their benign nature, these formations can significantly impair the quality of life of patients and require timely diagnosis and treatment. Advancements in imaging techniques, histopathological analysis, and minimally invasive surgical methods have provided new opportunities to improve the detection, management, and outcomes of these neoplasms. However, variations in clinical approaches, delayed diagnosis, and insufficient awareness among healthcare providers may contribute to suboptimal outcomes. This study aims to explore current diagnostic and treatment modalities, highlight challenges, and propose evidence-based strategies to enhance the management of benign vascular neoplasms in the nasal cavity.

**Keywords:** vascular neoplasms, nasal cavity, diagnosis, treatment, endovascular embolization, endoscopic surgery

## Introduction

Benign vascular neoplasms of the nasal cavity are an urgent problem of modern otorhinolaryngology, attracting special attention of specialists due to the increasing frequency of detection of this pathology and difficulties in choosing the optimal treatment tactics. According to modern research, the incidence of vascular neoplasms of the nasal cavity ranges from 5 to 15% of all neoplasms of this localization, while there has been a tendency to increase the incidence in the last decade. Despite the benign nature of the course, these formations can lead to a significant decrease in the quality of life of patients, causing difficulty in nasal breathing, recurrent nosebleeds and cosmetic defects. The diagnosis of vascular neoplasms is particularly difficult, due to the variety of their clinical manifestations and the need for differential diagnosis with other pathological processes of the nasal cavity.

The aim of the study is to increase the effectiveness of diagnosis and treatment of patients with benign vascular neoplasms of the nasal cavity by developing an optimal diagnostic algorithm and improving treatment methods.

## Materials and Methods

The study included 120 patients with benign vascular neoplasms of the nasal cavity. The effectiveness of various diagnostic methods, including endoscopic examination, CT angiography, and contrast-enhanced MRI, has been analyzed. The results of the use of modern treatment methods, including endovascular embolization and endoscopic removal of neoplasms, were evaluated.

Modern diagnostic methods, including endoscopic examination, computed tomography with contrast and magnetic resonance imaging, make it possible to determine the nature and prevalence of the process. However, the lack of a single diagnostic algorithm makes it difficult to choose the optimal tactics for examining patients and increases the time required to make an accurate diagnosis. Treatment of benign vascular neoplasms of the nasal cavity remains a difficult task requiring an individual approach to each patient. Existing treatment methods, including surgical removal, endovascular embolization, and various types of destruction, have their advantages and disadvantages.

At the same time, the recurrence rate after treatment remains quite high and can reach 30-40%, which determines the need to find new approaches to the treatment of this pathology. The socio-economic significance of the problem is determined not only by the prevalence of the disease, but also by the significant costs of diagnosis and treatment, as well as the high frequency of temporary disability of patients. Of particular relevance is the development of effective methods for the prevention of relapses and rehabilitation of patients after treatment. All of the above determines the need to improve existing approaches to the diagnosis and treatment of benign vascular neoplasms of the nasal cavity, develop an optimal diagnostic algorithm and improve the effectiveness of therapeutic measures. Solving these tasks will improve the results of treatment and the quality of life of patients with this pathology.

## Results and Discussions

The study included 93 individuals, divided into the following groups.

Main group i (p=53), Polydex drug and fennel oil were applied to all patients against the background of traditional therapy after surgical treatment. For reliable information, the main group is divided into 2 subgroups:

Subgroup A (n=25) patients taking the drug polydex against the background of AD;

Patients who took the drug polydex fennel oil against the background of subgroup B (n=28) AD.

comparison group (n=20) patients receiving conventional treatment.

A control group (n = 20), composed of practically healthy individuals, was selected to review endogenous intoxication data and indications of nasal functions in detail.

The distribution of patients by gender was as follows: 48 females (65.7%) and 25 males (34.3%) . The study included working-age patients between the ages of 18 and 60, but the majority of patients developed the disease in 47 cases (64.3%) aged 18-44 and in 26 cases (35.6%) aged 45-59.

With the signing of voluntary consent to the study in all patients, the determination of the functional state of Bbxth was carried out. Bbxth functional status indicators are shown in Table 1

**Table 1. Comparative description of BBXTH functional status in patients in the primary and control group (n=20)**

Mucosal functions	Main group n=53				Control group n=20	
	Subgroup A n=25		Subgroup B n=28		M	M
	M	m	M	m	M	M
MST, min.	23,20	0,25	22,01	0,31	13,2	0,15
Absorption, yu.u.s.	5,07	0,08	6,9	0,13	2,2	0,08
note: reliability of differences between R – groups						

A study of a healthy group in control found that in moderation the nasal cavity has an MST of  $13.2 \pm 1.5$  minutes, the absorption capacity of Bbshq is  $2.2 \pm 0.7$  yu.u.s.ni organized. According to the results of the saccharin test in the preoperative period, the system of mucosal functions in the main group is:  $19.2 \pm 1.5$  and  $20 \pm 1.7$  min, respectively. was. Table 1 shows that the MST and BBXTO' absorption function metrics were nearly identical. All patients underwent computed tomography using cone-beam computed tomography during the preoperative examination. Unilateral cystic sinusitis of the upper jaw was found in 47 cases, while bilateral cystic sinusitis was found in 15 patients. CT was performed in 22 patients (66.7 %) and MRI in 7 patients (21.2%). In this group, signs of the inflammatory process before treatment were reported on an X-ray in 22 patients (66.7%), and on the 21st day after treatment in 4 patients (12.1%).



1. In the MRI image-hemangioma of the nasal cavity from the left.

It was decided to endonasal removal of tumors, taking into account the MSKT data of the nasal cavity. The operation is performed as follows. The intervention is performed using a Lange loop under local anesthesia. With this tool, the polyp is captured and cut. If the derivative is located on the nose grid, a loop handle is used. Bleeding is less common in this operation. The procedure lasts an average of an hour. At the end of the operation, the mucous membrane is disinfected and tampons are placed (Vaseline tampons are placed in the patient's nostrils). Endoscopic surgery is performed under local anesthetic.

An endoscope with a camera is inserted into the patient's nasal cavity, with which it is possible to see and assess the size and location of the localization of derivatives. After the operative intervention, we carried out daily examinations and replaced the ligaments, and also recorded dynamic changes in the clinical picture of the postoperative inflammatory process on the 3rd, 7th, 10th and 14th on the basis of score descriptions. The intensity of clinical manifestations of the postoperative inflammatory process in patients of the control group who received the traditional treatment is presented. Assessing the hyperemia of the mucous membrane in the postoperative zone, we observed that the expression of this manifestation in the inflammatory process was characterized as an average of 2.0 points (1.0-2.0), and (on average) by the 7th and 10th day, significantly returned, and by the 14th day it was completely lost. Changes in the examination of mucociliary transport of the nasal mucosa in dynamics after surgery in patients in the control group (n=20) are presented in the table below.

### Conclusion

The proposed comprehensive approach to the diagnosis and treatment of benign vascular neoplasms of the nasal cavity can significantly improve the effectiveness of treatment and improve the prognosis of the disease. The developed algorithm can be recommended for wide application in clinical practice. Comprehensive education and training for healthcare providers, along with the development of standardized treatment protocols, can further enhance patient care. Future research should focus on refining diagnostic tools and exploring innovative treatment modalities to address the unique challenges posed by these rare but impactful lesions. Through these efforts, we can ensure better patient outcomes and an improved understanding of these complex conditions.

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