



## PARAMETERS OF THE MICROFLORA IN PATIENTS WITH BENIGN VASCULAR TUMORS OF THE NOSE CAVITY

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**Annotation:** The article presents analytical studies of the microflora of 35 patients aged 18 to 65 years with inflammatory diseases of the nasal cavity and paranasal sinuses with benign vascular tumors of the nasal cavity. In patients with inflammatory diseases of the nasal cavity and paranasal sinuses with benign vascular tumors of the nasal cavity, the composition of the microflora differs from the primary inflammatory diseases of the nasal cavity and paranasal sinuses: the degree of inoculation of anaerobes, fungi and associations of microorganisms increases with the growth and spread of the tumor.

**Key words:** benign vascular tumor, inflammatory diseases of the nasal cavity and paranasal sinuses, microflora, bacteriological analysis.

### Introduction

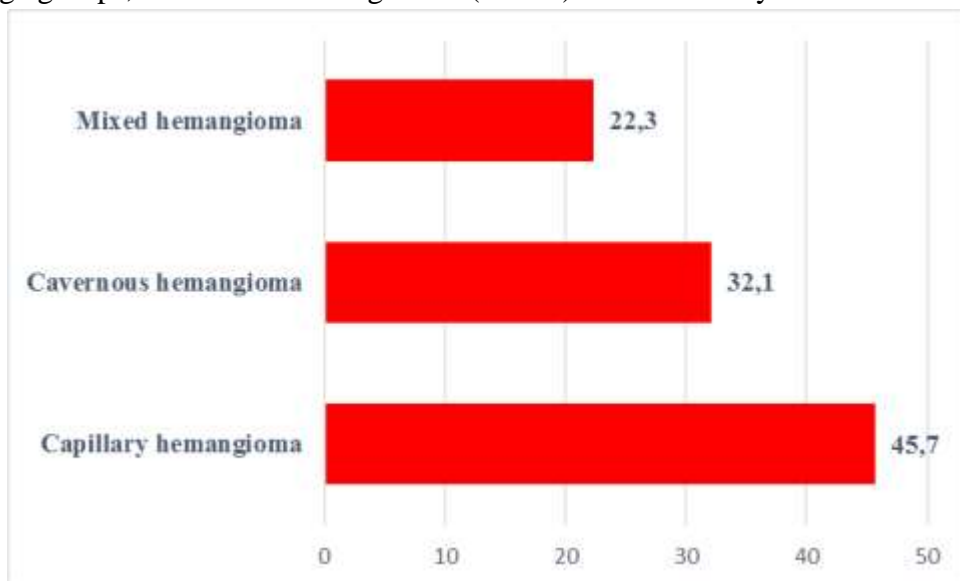
Recently, there has been a tendency towards an increase in inflammatory diseases of the nasal cavity (NC) and paranasal sinuses (PNS) due to a decrease in local and general immunity, deterioration of the environmental situation, and the development of antibiotic-resistant strains of microorganisms [3, 4, 6]. This is caused by both late diagnosis and microflora resistance to conservative treatment. The causes may be ARVI, spines, ridges and curvatures of the nasal septum, hypertrophy of the nasal turbinates, hyperplasia of the mucous membrane or polyps and, finally, various tumors. In the PNS, as a result of the closure of the natural anastomosis, stagnation of the secretion of the mucous glands occurs, a change in pH, metabolic disorders in the mucous membrane, a disorder of the function of the ciliated epithelium, as well as activation of opportunistic microflora [2].

As a rule, in the presence of the above factors, the disease becomes chronic [5, 8]. In patients with inflammatory diseases of the NC and PNS with benign vascular tumors of the nasal cavity, the nature of the microflora is different. In addition, the composition of the microflora undergoes changes as the tumor grows, due to the gradual obstruction of the natural anastomosis of the PNS [1, 6, 7]. All of the above confirms the undoubted interest in the study of microflora in the above category of patients.

**The purpose of the study** was to study the characteristics of the microflora of patients with inflammatory diseases of NS and PNS with benign vascular tumors of NS, depending on the type of infectious agent and tumor spread.

**Material and research methods.** The studies involved 35 patients with inflammatory diseases of NS and PNS with benign vascular tumors of NS aged from 18 to 65 years, of which 16 (45.7%) were male and 19 (54.3%) were female, who were examined in ENT department of the clinic of SamSMU in the period 2017-2022. All patients underwent bacteriological examination. Material for analysis was taken from the nasal cavity, during diagnostic puncture and probing of the anastomosis of the PNS, as well as intraoperatively.

**Results and discussion.** The distribution of tumors by stage was as follows: stage I was observed in 2 (5.7%), stage II in 11 (31.4%), stage III in 24 (68.5%) patients. Consequently, upon admission, the vast majority of patients had stage III tumor spread. Analysis of histological data showed that capillary papillomas (43.3%) and cavernous hemangiomas (36.6%) were more common in all age groups, and mixed hemangiomas (13.2%) were relatively less common (see figure).



**Figure. Distribution of types of benign vascular tumors**

The result of bacteriological examination was positive in 23 (60.5%) patients with inflammatory diseases of NS and PNS with benign vascular tumors of NS.

We studied the species composition of the microflora of patients with inflammatory diseases of NS and PNS with benign vascular tumors of NS, comparing it with the degree of tumor spread (see table).

Table

**Composition of microflora isolated in monoculture with different stages of tumor process spread**

Selected crops	1st degree	2-degree	3-degree
Haemophilus influenzae	1	-	-
Staph. Aureus	-	2	4
Staph. Epidermidis	-	1	3
Str. Pyogenus	-	1	3
E.coli	-	-	2
Proteus vulgaris	-	-	2
Klebsiella	-	-	1

Enterococcus	-	-	3
Pseudomonasaureginosa	-	-	1
Candida albicans	1	2	5
Actinomycetis	-	1	3
Bacterioides	-	3	11
Fusobacterium	1	3	8
Peptococcus	-	-	6

Thus, with degree I of distribution, the composition of the microflora was limited to *Haemophilus influenzae* (4.3%). In addition, it should be taken into account that this is the smallest group among the patients with benign vascular tumors of NS that we examined.

With II degree of tumor spread, aerobic flora also predominates - these are staphylococci: *Staph. aureus*, *Staph. epidermidis* and *Str. pyogenus* in 2 (8.7%) patients), anaerobic flora was sown in 4 (17.3%) patients, and *Staph* association was sown in 3 (13%) patients. *epidermidis* with fungi of the genus *Candida* (2 (1.9%) patients). We have identified a wide variety of microflora in patients with stage III tumor spread.

Thus, the following aerobic cultures were isolated: *Staph.aureus* (4 (17.3%) cases), *Staph.epidermidis*, *Str.pyogenus*, *E.coli*, *Klebsiella*, *Proteus vulgaris* (2 (8.7%) patients), *Enterococcus* (1 patient (4.3%)). Fungi of the genus *Candida* and *Actinomycetis* – 2 (17.3%) cases each. Anaerobes, represented by *Bacterioides*, *Fusobacterium*, *Peptococcus*, accounted for an average of 30.4% of cases. Associations of microorganisms were also common (21.7%) and were represented by various combinations of gram-positive and gram-negative microorganisms with anaerobes and fungi.

**Conclusions.** Thus, we can state the fact that in patients with inflammatory diseases of NS and PNS with benign vascular tumors of PN, anaerobic flora predominates, resistant to antibacterial drugs widely used in ENT practice, as well as fungi. The degree of inoculation of anaerobes, fungi and microorganism associations increases as the tumor grows and spreads. The listed features are associated with repeated courses of antibiotic therapy, as well as with increasing disruption of the patency of natural anastomosis and the stages of tumor spread.

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