

METHODS OF CYTOLOGICAL EXAMINATION OF THE NASAL MUCOSA IN CHRONIC POLYPOUS RHINOSINUSITIS

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Abstract. This study examined 70 people (50 patients in the study group and 20 individuals in the control group). Bacteriological studies were performed on smears taken from the nasal mucosa. Chronic polypoid rhinosinusitis (CPRS) is characterized by chronic productive inflammation of the mucous membrane of the nasal cavity and paranasal sinuses, which is accompanied by the formation and growth of polyps, with their recurrence after surgical treatment [1].

Keywords: polypoid rhinosinusitis, basement membrane, glands, cysts.

Introduction

When examining bacterial sinusitis discharge from the nasal mucosa of patients with bacterial sinusitis using a luminescent microscope in "biofilm-positive" smears, the presence of microorganisms immersed in the polymer matrix formed by them and surrounded by a biofilm layer was noted. CPRS is a simultaneous proliferation of parenchymal elements and stroma, typically originating from the middle turbinate, anterior and posterior ethmoid cells, and can also arise from the mucous membrane of maxillary sinuses.

Materials and research methods

We examined 50 patients with chronic bacterial rhinosinusitis (Table 1).

Table 1.

Distribution of CBRS forms in the study group

Form of rhinosinusitis	Number of patients
Maxillary ethmoiditis	21 (42%)
Maxillary frontoethmoiditis	12 (24%)
Maxillary frontosphenoethmoiditis	10 (20%)
Frontoethmoiditis	7 (14%)
TOTAL	50 (100%)

As shown in Table 10, the most common form of rhinosinusitis in the study group was sinusitis, affecting 22 (44%) patients.

The majority of patients in the main group were between 15 and 30 years old (50%). Bacteriological examination of smears from the mucous membrane of the middle nasal passage (Table 2) and discharge obtained during paranasal sinus puncture (Table 3) provided the following information.

Table 2.

Results of bacteriological examination of smears from the mucous membrane of the middle nasal passages in patients with chronic bronchiectasis.

Microorganism	Number of patients	Percentage (%)
Staphylococcus aureus	11	22
Staphylococcus haemolyticus	10	20
Staphylococcus epidermidis	9	18
Streptococcus pneumoniae	7	14
Klebsiella pneumoniae	5	10
Haemophilus influenzae	4	8
Staphylococcus haemolyticus + Klebsiella pneumoniae	2	4
Staphylococcus haemolyticus + Enterococcus faecalis	1	2
Klebsiella oxytoca	1	2
Total	50	100

Table 3.

Results of bacteriological studies of discharge from the affected paranasal sinuses in patients with chronic bronchiectasis.

Microorganism	Number of patients	Percentage (%)
Staphylococcus epidermidis	22	44
Klebsiella pneumoniae	10	20
Staphylococcus haemolyticus	4	8
Citrobacter sp	4	8
Streptococcus equii	3	6
Enterobacter aerogenes	3	6
Staphylococcus saprophyticus	4	8
Total	50	100

The study of the species composition of the nasal mucosal microflora showed randomness in the spectrum of pathogens in 8 patients with chronic bacterial rhinosinusitis.

Examination of smears taken from the nasal mucosa of patients with bacterial rhinosinusitis using a fluorescent microscope revealed two groups of patients: "biofilm-positive" (56%) and "biofilm-negative" (44%). In the control group, no biofilms were found in local smears.

There were no significant differences between the groups in the sections of the questionnaire (Table 3).

Table 4.

Clinical characteristics of patients with CBRS

Characteristics of sinusitis	"Biofilm-positive"	"Biofilm-negative"
Total number of patients with sinusitis	28	22
Antibacterial therapy for pre-hospital stage		
- administered	15	12
- not administered	13	10
Complaints after admission:		
Nasal congestion	19	16
Headache	25	20
Nasal discharge	20	21
Endoscopic findings:		
Mucosal hyperemia	25	19
Mucosal edema	20	17
Free purulent discharge	16	15
Result of sinus puncture (amount of purulent discharge)		
Large	27	-
Moderate	1	17
Small	-	5

It should be noted that in all "biofilm-positive" patients (100%), a significantly larger amount of purulent discharge was observed in the rinsing fluid during diagnostic and therapeutic puncture of the paranasal sinuses.

The object of the study was human material, specifically nasal cavity polyps and the mucous membrane of the lower nasal turbinates. The material was obtained from male and female

patients aged 35 to 70 years, totaling 70 individuals (50 patients in the study group and 20 patients in the control group). The study group consisted of patients with a clinically confirmed diagnosis of chronic polypous rhinosinusitis without concurrent inflammatory (purulent maxillary rhinosinusitis) and allergic (allergic rhinitis, bronchial asthma, aspirin triad) pathologies. The control group comprised patients without polyps and without inflammatory or allergic pathology of the mucous membrane, who underwent rhinoseptoplasty. Sections of nasal mucosa removed during surgery were used for a comparative description of morphological changes.

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