The Diagnosis and Treatment of Paranasal Sinus Cysts

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ABSTRACT

Chronic rhinosinusitis is one of the most common chronic diseases of the upper respiratory tract, occurring in people of different ages. Cysts of the upper jaw cavity are distinguished by the fact that they are common in chronic sinusitis. From the clinical point of view, it shrinks without symptoms and in 80% of cases it is a finding during X-ray examinations. Modern medical technologies make it possible to treat chronic sinusitis with minimal tissue damage. The purpose of the research is to improve and use modern approaches in the complex treatment of cysts of the nasal cavities. We conducted our research on 153 patients aged 18 to 75 years with cystic changes of the upper jaw, forehead and sinuses with a disease duration of 2 to 5 years. Diagnosis of patients was carried out by endoscopic examination of the nose, multispiral computer tomography of the nasal cavities, orthopantography, functional and immunological examinations of the nose, microbiocinosis detection examinations. 134 of the patients who participated in our study underwent surgery. The surgical operation was performed in two stages at the same time, in the first stage, the structure of the nasal cavity was corrected, and in the second stage, the surgical operation was carried out in the affected side of the nasal cavity. Our research revealed that the cysts of the nasal cavity are mainly found in the upper jaw cavity. In the surgical treatment of PNS cysts, it is necessary to pay special attention to the structures of the nasal cavity, especially the ostiomeatal complex, and to eliminate them at the same time when pathological changes are detected.

Keywords: Maxillary sinus, chronic sinusitis, endoscopy, cyst, trokar

Chronic sinusitis is one of the most common diseases in the field of otorhinolaryngology. According to researchers in Russia, 24% of those admitted to hospital with a diagnosis of chronic tonsillitis. Cysts of the upper jaw cavity (JJB) are distinguished by

the fact that they are common among chronic sinusitis. Cysts of the maxillary sinuses shrink clinically without symptoms, and in 80% of cases, they are found during X-ray examinations [4,5,7,11].

Chronic rhinosinusitis is one of the most common chronic diseases of the upper respiratory tract, occurring in people of different ages. This nosology is characterized by the presence of a continuous inflammatory process in the mucous membrane and bone tissue of the nasal cavity (BYB) lasting more than 3 months, with remissions and exacerbations [3,9 ,13,18]. Epidemiological studies of domestic and foreign scientists indicate an increase in the incidence of chronic sinusitis, which has doubled in the last 20 years. According to available data, about 14% of the world's population suffers from chronic rhinitis and sinusitis [1,2,14,16].

Cystic sinusitis is one of the most common clinical forms of chronic sinusitis. Cysts of the side cavities of the nose make up 3.9% of the structure of general ENT pathologies and 12.6% of all chronic lesions of BYOB.The first place in the occurrence of cystic lesions is the cyst of the upper jaw cavity (93.3%), followed by cysts of the sinus cavity (4.3%) and forehead (2.4%) occupies [1,10,15].

Cysts of the nasal cavities are usually associated with the chronic inflammatory process in the maxillary sinuses. They are formed as a result of exudation of hypersecretory glands due to inflammation of the mucous membrane. Recurrent inflammation plays a leading role in the development of true cysts, which cause persistent narrowing of the exit channels of the mucous membranes of the cavity. As a result of the constant inflammatory process, their exudation and hypersecretion occurs against the background of blockage of the exit ways of the glands. The mucous membrane of the sinus cavities is rich in similar glands, so there are many cysts on each wall of the cavity.

The results of the clinical laboratory and immunological examination of patients with cystic lesions of the nasal cavity, presented in the literature, testify to the general mechanism in the pathogenesis of the disease and the participation of immunopathological mechanisms manifested by the weakening of cellular immunity and bacterial sensitization at the level of the mucous membrane of the nasal cavity. From the total number of sensitized patients, staphylococcal sensitization was noted as the most common type of sensitization [4,6].According to many authors, the etiology of cysts is more related to allergies, so they are considered as a manifestation of allergic sinusitis. Aerodynamic, toxic and infectious effects with constant and long-term effects change the structure of the mucous membrane of the upper respiratory tract. Due to the accumulation of histamine, acetylcholine, serotonin, and bradykinin-type mediators, the permeability of the capillary wall is disturbed, and the transfer of fluid from the vessels to the tissues occurs. The cyst is formed by the accumulation of exudate in the special layer of the mucous membrane of the nasal cavity [2,6,8.14]. According to A. Kh. Lamkova (2011), the increase in the number and exposure of allergens, unfavorable environmental conditions (increasing the concentration of industrial gases, industrial dust, and other human activity pollutants in the air far exceeding the permissible limits) are of great importance in the etiology of false cysts of the IBD.

The purpose of the study is to improve and use modern approaches in the complex treatment of nasal cavity cysts.

Materials and methods We conducted our research on 153 patients aged 18 to 75 years with cystic changes of the upper jaw, forehead and sinuses with a disease duration of 2 to 5 years. All patients complained of headaches of different localization, discomfort and pain in the upper jaw, difficulty breathing through the nose, mucus and in some cases purulent discharge from the nose, sneezing, low appetite, and weakness. Diagnosis of patients was carried out by endoscopic examination of the nose, multispiral computer tomography of the nasal cavities, orthopantography, functional and immunological examinations of the nose, microbiocinosis detection examinations.

The results of the study showed that in the majority of patients, 145 patients (94.3%) had lesions of the upper jaw, and in most cases, 97 patients (66.9%), were diagnosed bilaterally. Frontal sinus lesions were detected in 5 patients (3.3%) and basal sinus lesions in 3 patients (2.5%) (Fig. 1).

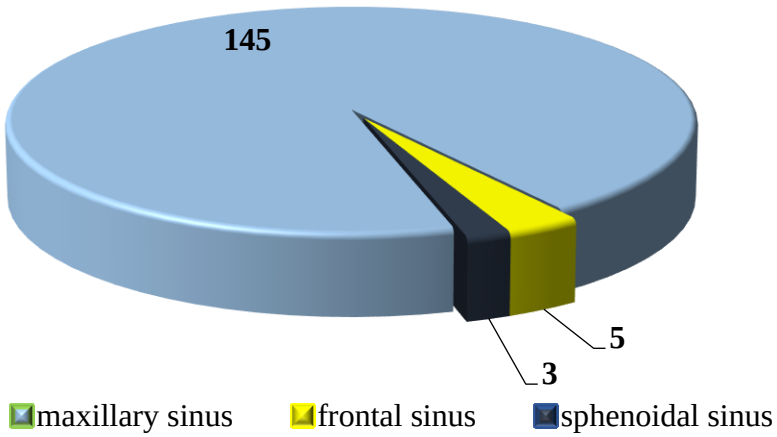

Figure 1. Distribution of cystic lesions of the nasal cavities

Multispiral computed tomography of the nasal cavities was performed using the Siemens Somatom Sensation Cardiac (Germany) equipment, and the examination was performed in axial, coronary, and sagittal projections. Tomography information has become an important navigational basis for diagnosis and surgical treatment.

The rhinoendoscopic view of the nasal cavity revealed that all examined patients had at least one network of pathological changes in the nasal cavity, especially in the ostiomeatal coiplex (Table 1).

1-table

	The grid of changes	Number of patients
1	Obstruction of the nasal cavity in the bony or nasal part	121
2	The edge or bridge of the nasal cavity located at the level of the middle nose	17
3	Hypertrophy of the middle rib	57
4	Two pieces of the middle rib	27
5	Bullous changes of the middle jaw	67
6	Torsion of the middle elbow	19
7	Medial or lateral curvature of the scapula	43

Functional examinations of the nasal cavity revealed the state of the protective function of the mucous membrane (saccharin test), and as a result, mucociliary clearance in patients was shown to be impaired in 93% of cases.

Immunological tests were evaluated by determining the amount of sIgA and IgE in nasal cavity lavage, nasal secretion, changes in immunoglobulin indicators have an important role in evaluating the state of local immunity or allergy in the nasal cavity.

Bacteriological examinations were performed by taking swabs from the nasal cavity and culture on blood agar, Endo and Chistovich media. The results revealed that 89% of patients had increased microflora (aerobes, anaerobes and yeasts).

134 (90.3%) of the patients who participated in our study underwent surgery. Most of the surgical procedures were performed under endotracheal anesthesia, less often under local anesthesia. The operation was performed using 00, 300 and 700 optics of KARL STORC, DELLONE equipment. The surgical procedure was performed in two stages at the same time, in the first stage, the correction of the structure of the nasal cavity was performed (partial resection of the lower and middle sinuses, opening of the middle sinus bulla, cristotomy, septoplasty, resection of the nasal cavity, coagulation of the shells, partial resection of the hook tumor). In the second stage, surgery was performed on the affected side of the nose. Taking into account the wall of the cysts in the upper jaw cavity, we performed cyst removal through the lower, middle and front wall. In the majority of our patients, the cysts are in the back and lower part of the pelvis because it is located in the walls, we carried out the method developed by us, through the lower nasal cavity, with the help of the PORT-application.

After lifting the lower nasal concha by breaking it (subluxation), an L-shaped cut was made on the lateral wall of the lower nasal cavity up to the bone, the cut was 0.5-10 mm from the front edge of the lower concha and 0.5 cm long. and the length was 1.0 cm. It continued back parallel to the edge of the lower shell. After separating the soft tissues with a rasp, we opened a 0.5 by 1.0 cm hole in the upper jaw cavity with a drill. A PORT-conductor is inserted into the created hole, through which optics 00, 300 li and 2.7 mm are inserted into the cavity. diameter endoscope and a shaver blade were introduced and the cyst was removed. The operative process lasted 15-20 minutes.

Removal of cysts in the cases of cysts located on the anterior wall of the nasal cavity was performed by partial resection of the hook-like tumor of the nasal cavity and expansion of the natural opening through the middle nasal cavity, and in cases where the cysts were located on the upper wall of the nasal cavity, the anterior wall (fossa canina) was performed by piercing (microgymorotomy) Kozlov's trocar. .

In five patients, cyst removal from the forehead cavity was performed through the middle nasal cavity, by expanding the natural channel of the sinus cavity using a shaver device. The method developed by us, mainly because the cysts are located on the back and lower walls of the nasal cavity, through the lower nasal cavity, We did it using the PORT-manual.After lifting the lower nasal concha by breaking it (subluxation), an L-shaped cut was made on the lateral wall of the lower nasal cavity up to the bone, the cut was 0.5-10 mm from the front edge of the lower concha and 0.5 cm long. and the length was 1.0 cm. It continued back parallel to the edge of the lower shell. After separating the soft tissues with a rasp, we opened a 0.5 by 1.0 cm hole in the upper jaw cavity with a drill. A PORT-conductor is inserted into the created hole, through which optics 00, 300 li and 2.7 mm are inserted into the cavity. diameter endoscope and a shaver blade were introduced and the cyst was removed. The operative process lasted 15-20 minutes.

Removal of cysts in the cases of cysts located on the anterior wall of the nasal cavity was performed by partial resection of the hook-like tumor of the nasal cavity and expansion of the natural opening through the middle nasal cavity and in cases of cysts located on the upper wall of the nasal cavity, the front wall (fossa canina) was performed by piercing the Kozlov trocar site (microgymorotomy). .

In five patients, cyst removal from the forehead cavity was performed through the middle nasal cavity, by expanding the natural channel of the nasal cavity in the area of the shaver device. Because the cysts are mainly located on the back and lower walls of the nasal cavity, the method developed by us, through the lower nasal cavity, We did it using the PORT-manual.After lifting the lower nasal concha by breaking it (subluxation), an L-shaped cut was made on the lateral wall of the lower nasal cavity up to the bone, the cut was 0.5-10 mm from the front edge of the lower concha and 0.5 cm long. and its length was 1.0 cm. It continued back parallel to the edge of the lower shell. After separating the soft tissues with a rasp, we opened a 0.5 by 1.0 cm hole in the upper jaw cavity with a drill. A PORT-conductor is inserted into the created hole, through which optics 00, 300 li and 2.7 mm are inserted into the cavity.

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Removal of cysts in the cases of cysts located on the anterior wall of the nasal cavity was performed by partial resection of the hook-like tumor of the nasal cavity and expansion of the natural opening through the middle nasal cavity and in cases of cysts located on the upper wall of the nasal cavity, the anterior wall (fossa canina) was performed by piercing (microgymorotomy) Kozlov's trocar.

In five patients, cysts were removed from the frontal cavity through the middle nasal cavity, by expanding the natural channel of the nasal cavity using a shaver device. because it is located in the walls, we carried out the method developed by us, through the lower nasal cavity, with the help of the PORT-application.

After lifting the lower nasal concha by breaking it (subluxation), an L-shaped cut was made on the lateral wall of the lower nasal cavity up to the bone, the cut was 0.5-10 mm from the front edge of the lower concha and 0.5 cm long. and the length was 1.0 cm. It continued back parallel to the edge of the lower shell. After separating the soft tissues with a rasp, we opened a 0.5 by 1.0 cm hole in the upper jaw cavity with a drill. A PORT-conductor is inserted into the created hole, through which optics 00, 300 li and 2.7 mm are inserted into the cavity. diameter endoscope and a shaver blade were introduced and the cyst was removed. The operative process lasted 15-20 minutes.

Removal of cysts in the cases of cysts located on the anterior wall of the nasal cavity was performed by partial resection of the hook-like tumor of the nasal cavity and expansion of the natural opening through the middle nasal cavity and in cases of cysts located on the upper wall of the nasal cavity, the front wall (fossa canina) was performed by piercing the Kozlov trocar site (microgymorotomy). .

In five patients, cysts were removed from the frontal cavity through the middle nasal cavity, by expanding the natural channel of the nasal cavity in the area of the shaver device.

In cases where the cyst is located in the nasal cavity, we separated the mucoperiosteum of the nasal cavity and the anterior wall of the nasal cavity after resection of the nasal cavity in 2 patients, widened the natural hole in the anterior wall of the sinus using a shaver, and removed the cyst using forceps.In one patient, it was performed directly by widening the natural opening of the pons with the help of a shaver device. All procedures were performed under endoscopic guidance.

All patients passed the operation well, there were no complications in the postoperative period. Patients were recommended antibiotic therapy, nasal decongestants, Polidex and Neladeks-NS sprays for the first 15 days, and local GCS for the next 6 months. Inpatients were answered on 3-5 days, outpatients after 3-6 hours.

Our patients underwent re-examination after 1, 3 and 6 months. The results were assessed by patient complaints, endorhinoscopy and X-ray examinations, nasal functional examinations. Headache was detected in 5 patients, facial pain, decreased skin sensitivity and discomfort were detected in patients who underwent microgymorotomy. During endorinoscopy, scar narrowing and pathological separation of the hole created in the lateral wall of the middle nasopharynx were found in 7 patients. Scar narrowing of the lower nasal cavity was observed in 2 patients.

X-ray examinations after 6 months and 1 year showed that 5 (3.25%) patients had a recurrence of cysts in the YJB as a result of the treatment measures.

The functional state of the mucous membrane of the nasal cavity, that is, the amount of sIgA and IgE in the nasal secretion, gave normal values in 148 (96.75%) patients.

Conclusion Our research revealed that the cysts of the nasal sinuses are mainly found in the maxillary sinuses, rarely in the forehead and in very rare cases in the sinuses. There is no cheek and pain syndrome in the postoperative period after removing cysts from the lower nasal cavity. The proposed port-handling allows the surgeon to operate with both hands at the same time, and the method we used showed good clinical performance. Removal of cysts of the upper jaw cavity should be done taking into account their location. In the surgical treatment

of BYB cysts, special attention should be paid to the structures of the nasal cavity, especially the ostiomeatal complex, and when pathological changes are detected, they should be eliminated at the same time.

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