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A Modern Approach to the Diagnosis and Treatment of Sfenoidal Sinus Cysts

Xayitov A. A., Nasretdinova M. T.
Samarkand state medical university

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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.

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 (PNS) 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].

Chronic sinusitis is one of the most common diseases in the field of otorhinolaryngology. Russia, according to researchers, accounted for 24% of those hospitalized with a diagnosis of chronic sinusitis.

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% in the structure of general ENT pathologies and 12.6% of all chronic lesions of PNS. The first place in the occurrence of cystic lesions is the cyst of the maxillar cavity (93.3%), followed by the cysts of the frontal sinus cavity (4.3%) and sfenoidal (2.4%) [1,10, 15]. Cysts of the sinus cavity (PB) are rare among chronic sinusitis. Cysts shrink clinically without symptoms and in most cases are found during radiological examinations

[4,5,7,11].

The origin of the cysts of the nasal cavities is usually associated with the chronic inflammatory process in the cavities (MS). They are formed as a result of the exudation of the hypersecretion of the glands due to inflammation of the mucous membrane. Repeated 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 constant inflammation, their exudation and hypersecretion occurs against the background of blockage of the glands.

The results of the clinical laboratory and immunological examination of patients with cystic lesions of PNS indicated in the literature indicate the involvement of the common mechanism in the pathogenesis of the disease and the involvement 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 recorded 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 continuous influence change the structure of the mucous membrane of the upper respiratory tract. Due to the accumulation of mediators such as histamine, acetylcholine, serotonin, and bradykinin, the permeability of the capillary wall is disturbed and the fluid passes from the vessels to the tissues. The cyst is formed by the accumulation of exudate in the private layer of the mucous membrane of the nasal cavity [2,6,8.14]. According to AX Lamkova (2011), an increase in the number and exposure of allergens, an unfavorable environmental situation (increasing the concentration of industrial gases, industrial dust and other human activity pollutants in the air exceeding the permitted limits) are of great importance in the etiology of false cysts.

The purpose of the study Improvement and use of modern approaches in the complex treatment of cysts of the sfenoidal cavities.

Materials and methods

We conducted our study on 185 patients aged 18 to 75 years with cystic changes of the maxillar, frontal and sfenoidal 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. The 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 24 out of 185 patients (13%) had a unilateral lesion of the sfenoidal sinus, and 11 of them had a cystic lesion of the maxillary sinus.

Multispiral computed tomography of the nasal cavity 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 navigation basis in diagnosis and surgical treatment.

The rhinoendoscopic view of the nasal cavity revealed that all examined patients had pathological

Fig. Cyst in the sinus

changes in the nasal cavity, especially in the ostiomeatal coiplex: curvature of the nasal cavity in the bony or bony part, middle arch ' inig hypertrophy or bullous change.

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).

24 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 0, 30 and 70 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 bulla of the middle sinus, 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.

Prior to the removal of cysts from the sfenoidal sinus cavity, 13 patients underwent resection of the nasal cavity and 12 patients underwent partial resection of the middle and upper turbinates. After that (transseptal and straight lines), we separated the mucoperiosteum of the front wall of the cyst, expanded the natural hole in the front wall of the cyst downward using a shaver, and slowly removed the cyst using Blacksley forceps and a shaver. All procedures were performed under endoscopic guidance. In order to prevent bleeding during the operation, with the help of a coagulant, the surrounding tissue of the natural hole of the cyst was cauterized on the surface and a sponge-tampon was inserted into the enlarged hole for 1 day.

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, pain in the nasal cavity, decreased sensitivity of the skin and feeling of discomfort in patients who underwent sinusotomy. During endorinoscopy, scar narrowing of the hole created in the anterior wall of the sinus cavity and pathological separation were not observed. X-ray examinations after 6 months and 1 year showed that there was no relapse of the cysts 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 23 patients (96%).

Summary. 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. In the surgical treatment of PNS 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 removed at the same time.

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