
Algorithm for the Management of Patients with Cystic Maxillary Sinusitis

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Abstract:

The problem of selecting an adequate treatment for chronic cystic maxillary sinusitis remains relevant. Currently, the development of ways to improve the effectiveness of treatment of maxillary sinus cysts is of particular importance. The aim of the study was to develop a consistent tactics of surgical treatment of patients with maxillary sinus cysts (MCS). The basis of the study was a survey of 173 patients with cystic lesions of the maxillary sinuses. All patients were treated surgically. The study was conducted in different groups. Patients of the first group were offered an improved version of the removal of the maxillary sinus through the lower nasal passage. The assessment of clinical effectiveness is based on indicators of the quality of life of patients. An improved method of surgical treatment through the lower nasal passage showed a higher clinical efficacy. The difference in quality of life between the groups was 12 and 9 points, which means that the patients of the first group had a higher quality of life after treatment with improved technology.

Keywords Chronic sinusitis, maxillary sinus cysts, the quality of life, sinustomy.

Introduction

Chronic cystic maxillary sinusitis (CMUS) occupies one of the leading places from the list of chronic pathology of the ear, throat and nose organs. Over the last 20 years, the incidence of this disease has doubled. Currently, there is no consensus on the symptomatology of cysts observed in the maxillary sinuses, and this issue is becoming increasingly relevant and requires detailed study. Cysts of the maxillary sinus are one of the most frequent pathologies of the middle third of the head. There is still no consensus on the modern approach to the diagnosis and treatment of cysts. In modern otorhinolaryngology the problem of choosing adequate treatment of chronic cystic maxillary sinusitis remains relevant. Today, the development of ways to improve the effectiveness of surgical treatment of maxillary sinus cysts is of particular importance.

The aim of the study is to develop an algorithm aimed at improving the tactics of treatment of maxillary sinus cysts.

Materials and methods of research

The research work was based on the examination of 173 patients with cystic lesions of the maxillary sinuses (TMJ), who applied to the clinic of OOO “Golden medical group”, in the period from 2018-2022. All patients were subjected to surgical treatment. When assessing patient’s quality of life, one of the main complaints was headache, 98% of patients reported this complaint, 70% of patients complained of nasal discharge. Weakness was identified in 61% of patients. 34.5% of patients reported a feeling of discomfort in the maxillary sinuses. Swelling of mucus along the posterior wall of the nasopharynx and oropharynx was detected in 78% of patients. All patients underwent otorhinolaryngological examination, which consisted of endoscopic examination of the nasal cavity and nasopharynx, pharyngoscopy, otoscopy and laryngoscopy, and MSCT of the perinasal sinuses.

All patients underwent computed tomography, which was performed on Siemens Somatom Sensation Cardiac (Germany). The study was performed in axial, coronal and sagittal projections. Computed tomography data were an important navigational material for the most accurate, sparing and safe surgical interventions. In the majority of cases (86%), unilateral involvement of the maxillary sinuses was detected.

The study was performed in different groups divided by the localization of the cyst in the TMJ. The first group consisted of patients with cysts located on the lower wall of the TMJ (n=121), they underwent an improved type of approach to the maxillary sinus through the lower nasal passage. The second group consisted of patients with cysts located on the posterior wall (n=15), access to the maxillary sinus through the anterior wall was performed, and the third group (n=37) consisted of patients with

cysts located on the anterior wall of the TMJ, they underwent endonasal maxillary sinus surgery through the middle nasal passage.

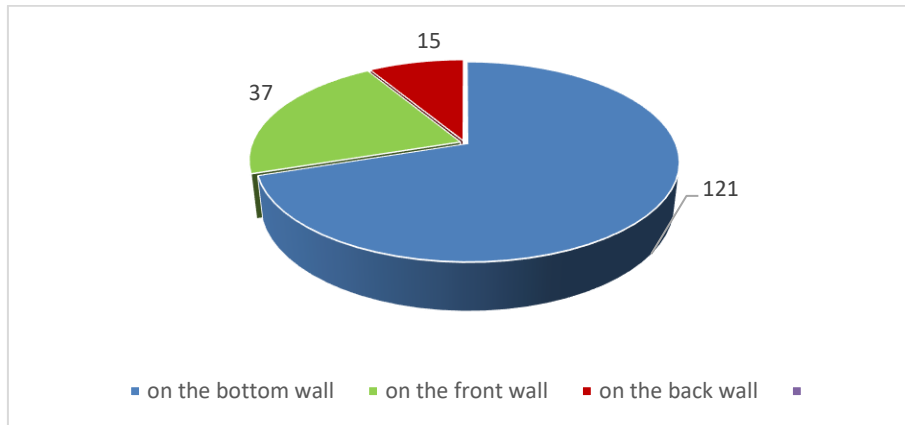


Figure . Localisation of a cyst in the maxillary sinus

To determine the quality of life we used the EQ-5D questionnaire (Euro QoL group) - a questionnaire consisting of five questions about subjective feelings of physical and mental health of a person in different periods after surgical treatment.

Results of clinical studies

Our treatment was performed using 2.7 and 4 mm endoscopic optics, with viewing angles of 00, 300, 450 and 700; video equipment and basic instrumentation. If necessary and with the patient's consent, we performed correction of the nasal structure (submucosal resection of the nasal septum, vasotomy, etc.).

Patients of group 2 (n=15) underwent surgery for cyst removal through the anterior wall of the maxillary sinus. After surgical treatment we performed daily examinations and dressings, as well as recorded changes in clinical symptoms of postoperative inflammatory process in dynamics on 3, 7, 10 and 14 days on the basis of scoring parameters. Patients in group 3 (n=37) of the comparison group underwent endonasal opening of the maxillary sinus through the middle nasal passage. The method is based on surgical dilation of the natural sinus or opening of the maxillary sinus walls.

Patients of group 1 (n=121) used an improved variant of access to the maxillary sinus through the lower nasal passage, which is fundamentally different from the similar ones. Endonasal maxillary sinus surgery through the lower nasal passage is performed in inpatient and outpatient settings under local and general anaesthesia.

Operative manipulation was performed under endotracheal general anaesthesia and additional local, or under local infiltration anaesthesia. After fracture and luxation, medialisation of the lower nasal shell, a _____ shaped soft tissue incision was made on the lateral wall of the lower nasal passage. The soft tissues were dissected away with

a rasp, exposing the bony wall. A burr was used to create a coaptation. The cyst was visualised with an endoscope and removed with forceps. The sinus was washed with warm physiological solution, after that the physiological sinus union was examined. After completion of manipulations in the sinuses, a syntomycin swab was placed in the lower nasal passage, which was removed after 1-2 days. The difference in quality of life in groups 2 and 3 compared with group 1 was 12 and 9 points, respectively, demonstrating the higher quality of life scores of group 1 patients.

The mean quality of life score 1 month after surgery in groups 2 and 3 was 64 ± 4 ($p < 0.05$) versus 83 ± 3 ($p < 0.05$) in group 1, and at the end of follow-up the mean score in group 2 and 3 was 87 ± 4 ($p < 0.05$) and in group 1 was 95 ± 2 ($p < 0.05$).

Conclusions:

Comparison of the results of our study on the use of anterior wall surgery and endoscopic endonasal surgery for TMJ indicates the advantage of the latter mainly in the early postoperative period. When using the endoscopic endonasal method through the inferior nasal passage, the quality of treatment of IBS significantly increases, and the nature and number of undesirable surgical findings change. Also, when using the improved method through the lower nasal passage, less technical equipment is required.

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