



Modern Aspects of Treatment of Odontogenic Sinusitis

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ABSTRACT

The article discusses the most common causes of the development of perforation of the maxillary sinus and odontogenic perforated sinusitis in modern conditions. Perforation of the bottom of the cavity of the maxillary sinus is one of the most common complications that arise directly during tooth extraction surgery.

Keywords:

Maxillary sinus, perforation, oroantral communication, odontogenic perforated sinusitis

Introduction

Patients with odontogenic sinusitis make up 24–40% of the total number of patients with maxillary sinusitis and about 7–8% of all patients in maxillofacial hospitals. Over the past 10 years, there has been a 3-fold increase in the incidence of chronic odontogenic maxillary sinusitis. Chronic odontogenic sinusitis affects predominantly (according to our data in 72% of all cases) persons of working age 30–50 years [1–5].

Materials And Methods

According to the literature, the share of iatrogenic sinusitis in the structure of odontogenic sinusitis ranges from 55 to 90%, of which 45% are sinusitis associated with tooth extraction, 22% - with extrusion of endodontic obstructions materials into the cavity of the maxillary sinus [1, 4]. The differences in statistical data are partly due to errors in the diagnosis and treatment of oroantral messages, which, as a rule, precede the development of odontogenic perforative sinusitis. Timely, clinically reliable diagnosis and elimination of acute perforation of the intact maxillary sinus, as well as high-quality

endodontic dental treatment should be considered as the main components of the profile tactics of odontogenic perforative sinusitis [1–5].

Results And Discussion

Analyzing the materials of the case histories, it was established that acute oroantral messages occurred in 218 patients, chronic odontogenic perforated sinusitis in the acute stage in 33 patients, chronic odontogenic odontogenic sinusitis, maxillary sinus fistula in 617 patients. Among the patients there were 423 women and 345 men. Most patients were referred from dental clinics and offices in the Samarkand region - 485 patients (55.9%); 357 patients (41.1%) were admitted directly from the city of Samarkand; 26 patients (3%) sought help from other regions of Uzbekistan.

According to our data, there is a clear trend towards an increase in the number of perforations after tooth extraction in the upper jaw.

An important predisposing factor for the development of perforation is the relationship of the roots of the teeth with the bottom of the maxillary sinus. It is known that the roots of

the 1st molar are located closest to the bottom of the sinus, then the 2nd molar and much less often the roots of the 3rd molar. According to our observations, the following probability of occurrence of perforation of the maxillary sinus has been established in decreasing order: when removing the first molars, second molars, second premolars. Removal of central and lateral incisors in none of the observations led to the formation of a perforation hole in the maxillary cavity, however, removal of fangs provoked the development of this complication in 19 cases. Removal of third molars contributed to the formation of an oro-antral communication in 27 cases, and, as a rule, in the presence of retention or semi-retention of these teeth.

The majority of patients had a pneumatic type of structure of the maxillary sinus, and destructive changes in the periapical tissues of the corresponding teeth of the upper jaw were also revealed.



Figure 1. Pneumatic type of structure of the maxillary sinus

Approximately every third patient was radiologically diagnosed with the presence of a foreign body in the maxillary sinus: tooth root shadow – in 26.1% of cases (228 observations); shadow of filling material – in 7.5% of cases (65 observations); implant shadow – in 1.8% of cases (16 observations).

In the majority of cases - in 559 patients (64.4%) no foreign body was detected in the maxillary sinus.

Without a doubt, early diagnosis of perforation of the intact maxillary sinus is an extremely important element in the prevention of

odontogenic perforated sinusitis. It is known that 3 days after perforation of the sinus floor, inflammation of the mucous membrane occurs in 50% of cases, after 4 days - in 60%, after 6 days - in 82%, and after 14 days - in 90-100% of cases.

According to our data, perforation of the maxillary sinus was diagnosed in a timely manner only in 58% of cases; accordingly, "late" diagnosis of perforation of the maxillary sinus was observed in 42% of cases.

The iatrogenic nature of odontogenic perforated sinusitis in the vast majority of cases is determined precisely by the late diagnosis of perforation of the intact maxillary sinus.

Diagnostic errors were mainly due to the unprofessional actions of the doctor during the tooth extraction operation. Most often, perforation remains undiagnosed due to the fact that the doctor either does not conduct, or performs a poor-quality inspection of the socket of the extracted tooth, and also does not perform simple diagnostic tests (nose-mouth ah, oral test). At the same time, in a number of cases, the dental surgeon does not pay attention to profuse bleeding from the socket of the extracted tooth, as well as bleeding from the corresponding half of the nose.

When perforation is detected during tooth extraction, some doctors do not have the proper motivation to conduct targeted radiography of the tooth socket, as well as the paranasal sinuses. The absence of the above radiographs is a defect in the work of the dental surgeon and ultimately leads to the choice of incorrect treatment tactics and the development of complications.

Of the additional and special examination methods, computed tomography and endoscopy of the maxillary sinuses have the greatest informativeness and diagnostic value. Computed tomography (cone beam), being the most reliable method of examination, allows for diagnosis and planning of the scope of surgical intervention for perforated maxillary sinusitis.

Errors in the treatment of patients with oroantral communications and perforated sinusitis are usually predetermined by the

diagnostic errors outlined above. However, there are mistakes that are directly related to the doctor's manipulations:

- improper tamponade of the socket with iodoform turunda to its entire depth,
- simple suturing of the tooth socket, instead of plastic closure,
- unjustified refusal of bioplastic materials and their use in combination with plastic methods for eliminating oroantral messages,
- expansion of indications for the use of only local plastic methods for eliminating oroantral messages without intervention in the maxillary sinus in the presence of chronic sinusitis. As a result of incorrect treatment in the early postoperative period, partial or complete separation of the sutures is possible, as well as the development of an exacerbation of the inflammatory reaction.

In the late postoperative period - the development of the acute phase of the inflammatory reaction or relapse and further development of a chronic proliferative inflammatory process with total damage to the mucous membrane maxillary sinus.

Thus, summarizing the data obtained, to choose the right treatment tactics for perforation of the maxillary sinus, the following clinical situations should be considered.

Perforation of the intact maxillary sinus. An outpatient dental surgeon should immediately begin to eliminate it. Algorithm of actions: perform targeted radiography of the socket of the extracted tooth and radiography of the paranasal sinuses in a direct chin-nasal projection.

Perforation of the intact maxillary sinus with pushing of the root into it. Algorithm of actions: urgent hospitalization with mandatory indication in the direction of the presence of a foreign body in the maxillary sinus; perform facial antrotomy with removal of the foreign body.

Perforation of the bottom of the maxillary sinus against the background of chronic inflammation of its mucous membrane. Algorithm of actions: routine examination (general blood test, general urine test, blood for RW, blood for HIV, blood for HBS antigen, etc.) and hospitalization of the patient.

Perforation of the maxillary sinus against the background of chronic inflammation with pushing of the root into it. The procedure is similar to those described above. The maxillofacial surgeon is previously informed about the presence of a foreign body in the maxillary sinus, and the tooth root is removed.

Conclusion

Thus, as a result of a retrospective study, it was revealed that one of the most common complications when removing teeth of the upper jaw is perforation of the maxillary sinuses. Early (timely) diagnosis of perforation of the maxillary sinus and immediate measures to separate the oral cavity and sinus provide the necessary conditions for the prevention of odontogenic perforated sinusitis.

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