INTERNATIONAL MULTIDISCIPLINARY JOURNAL FOR RESEARCH & DEVELOPMENT
SJIF 2019: 5.222 2020: 5.552 2021: 5.637 2022:5.479 2023:6.563 2024: 7,805
eISSN :2394-6334 https://www.ijmrd.in/index.php/imjrd Volume 12, issue 02 (2025)

EXPERIENCE IN THE TREATMENT OF ODONTOGENIC SINUSITIS, TAKING INTO ACCOUNT FEATURES OF MICROFLORA

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In case of odontogenic sinusitis, the presence of a message between the bottom of the sinus and the oral cavity or an exacerbation of the closed process is the reason for hospitalization. [1,4,6].
With perforated sinusitis, the doctor has two tasks:
1. Elimination of the inflammatory process in the maxillary sinus.
2. Closing the communication between the sinus and the oral cavity.

Without eliminating the active inflammatory process, it is impractical to close the perforation. However, the use of traditional methods of treating odontogenic sinusitis is often accompanied by various complications and relapses of the process in a certain group of patients. [3,4,6].

According to some authors, this is due to the treatment without taking into account the characteristics of the sinus microflora and the local use

of short-acting antiseptics. [2,3,7].

The purpose of this report is to present our experience in the treatment of odontogenic perforated sinusitis using a complex of therapeutic measures that have a prolonged etiopathogenetic effect. [3,7].

Materials and methods:

From 2009 to 2011, 40 patients with odontogenic sinusitis were comprehensively examined and treated at the Maxillofacial Surgery Clinic at TASHIUV. 9 of them had an acute form of sinusitis, while the rest had a subacute course. The diagnosis was established on the basis of clinical, radiological, laboratory and bacteriological studies.

During the examination, it was noted that in most cases the "causal " teeth were _6_!_6__. 31 out of 40 patients had an open form of sinusitis, i.e. perforation of the sinus floor.

and 9 has a closed one. Considering the sensitivity of the anaerobic microflora to oxygen vapors and the long-term antiseptic effect of eludril. We have proposed an improved complex of local antibacterial therapy. [2,3,7].

ELUDRIL: it is an antiseptic, anti-inflammatory analgesic and wound healing solution,

Ingredients: Chlorhexidine digluconate: 0.10%, Chlorbutanol: 0.50%.

Sodium docusate ..The filler is alcohol +++42.8%. Essence of mint oil 90 ml.in a bottle.

The method involves rinsing the sinuses with an eludril solution at the rate of four teaspoons per cup of boiled water and oxygenation with ethyl alcohol vapor for 30 minutes at a pressure of 0.7 atm 4-8 l/min using a special device

(rat. proposal No. 147 dated 02/15/1995, Tashiuv.). Sinus lavage with eludril solution was combined with oxygenation with ethyl alcohol vapor for three days before and after surgery in all patients.

As a comparison group, a retrospective analysis of the medical histories of 203 patients with odontogenic sinusitis treated in the traditional way was performed.

The results of the study. According to the results of the bacteriological examination, the patients of the main group were divided into two groups. In 12 patients, pure anaerobic culture was sown, and in the remaining 28, along with aerobic microflora, non-clastic anaerobic microflora was also sown. It should be noted that in these 12 patients with an obvious anaerobic infection, the course of the disease was much more severe than in patients with an aerobic infection, i.e. purulent discharge had a fetid odor, marked body temperature and severe pain on the affected side. The research results showed that on the day of admission, suppression of the leukocyte system by toxic products was noted (2.9±0.92, especially in patients with anaerobic microflora and a decrease in phagocytic activity of FAN neutrophils-48.5±0.6).

After washing the sinuses with a solution of eludril and local oxygenation with ethyl alcohol vapors, the general and local manifestations of the disease were eliminated much faster than in the control group. In the first hours after the application of oxygenation with ethyl alcohol vapors, patients showed a significant decrease in soft tissue edema, foul odor, and headaches, as well as pain in the upper jaw, and improved nasal breathing. In patients with odontogenic sinusitis, sinus suppuration decreased faster than in the control group: after 3.27±0.09 and 5±0.15 days, respectively. The clinical recovery of patients in the main group occurred after 9.28±0.25 days, i.e. 4.28±0.25 days earlier than in the control group (13.5±0.22 days). The data obtained are statistically reliable ($p<0.001$).

The results of a retrospective analysis of patients in the control group showed that improvements in nasal breathing, a decrease in local and general signs of sinusitis and headaches occurred at a later date – after a day or more.

Thus, when using eludril solution and local sinus oxygenation with ethyl alcohol vapors in the complex treatment of odontogenic sinusitis, general and local manifestations of the disease (tissue edema, purulent discharge, pain) were eliminated much faster.

After surgical treatment, rapid wound healing was noted in patients of the main group than in the control group. The LII decreased to 1.90±0.45, and the FAN to 75.6±1.1, i.e. increased by (26.1%) (see Table No. 1

Group	LII, conl. ed	ФАН, %
Healthy, n=15	1,01±0,10	50,5±0,2
Traditional therapy (control group), n=203	2,9±0,92 2,1±0,3	48,5±0,6 54,8±3,1* (6,3%)
Traditional therapy: eludril rinse + oxygenation with ethyl alcohol vapor, n=40	2,9±0,92 1,90±0,45	49,5±1,5 75,6±1,1* (26,1%)

Note: * p<0.05 compared to healthy individuals. % of FAN growth in parentheses.

Microbiological studies revealed a decrease in the microbial contamination of the sinuses. The release of anaerobes stopped while maintaining aerobic microorganisms (on the 7th day after surgery in 35.7±12.8%). Comparative bacteriological studies have shown a significant difference in the quantity and quality of microflora between the main and control groups in the pre- and postoperative periods, which once again confirms the effectiveness of the proposed treatment method.

An analysis of the materials of a retrospective examination of 203 patients showed that after traditional treatment, postoperative complications were observed in 10% of patients

Clinically, in the postoperative period, one patient in the main group had a divergence of two flap sutures, an increase in body temperature to 38 * and headaches. After the continuation of appropriate local and general therapy, the complication (2%) was eliminated.

Discussion of the research results

Literature data show that the cause of complications and relapses in odontogenic sinusitis is complex treatment without taking into account the characteristics of the microflora and the local use of short-acting antiseptics.

The results of clinical, radiological and bacteriological studies show that anaerobes in monoculture or in association with aerobes can cause inflammation of the maxillary sinus.

Clinically, odontogenic sinusitis of anaerobic etiology has a more severe course than banal ones.

The use of an improved method of local therapy has a long-term etiopathogenetic effect on the pathological process and leads to a faster elimination of clinical signs of inflammation compared with the group of patients who received traditional treatment. The data from laboratory and bacteriological studies at various stages of complex treatment show an improvement in PHAN indicators, a decrease in LII, as well as the elimination of anaerobic microbes. All of the above confirms our assumption that neutrophils are activated under the influence of eludril and ethyl alcohol vapors, which leads to the complete destruction of anaerobes and their associations.

Conclusion

Thus, the combination of flushing the sinus cavity with eludril and subsequent oxygenation with ethyl alcohol vapors has a long-term etiopathogenic effect on anaerobes and its associations, leading to a decrease in the number of complications in the complex treatment of odontogenic sinusitis.

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