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New Approaches in the Treatment of Odontogenic Sinusitis

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ABSTRACT: The results of treatment of 37 patients with odontogenic sinusitis are presented. In the main group, 18 patients were treated with local application of an osteotropic antibiotic - lincomycin in combination with low-frequency ultrasound. For control, the results of treatment of 19 patients with odontogenic sinusitis, who received traditional treatment, including parenteral administration of antibiotics in conjunction with low-frequency ultrasound, were studied. The study of the treatment results showed a more pronounced effectiveness of the proposed method compared to the control group. The effectiveness was manifested in the reduction of the duration of treatment from 5 bed-days in the control group to 7 in the main group. An earlier decrease in the edema of local tissues, the timing of the normalization of body temperature.

Key words: Odontogenic sinusitis, low-frequency ultrasound, paranasal sinuses, sinus evacuation.

Introduction.

Sinusitis is one of the most common pathologies in the practice of otorhinolaryngologists. Acute course, frequent complications, frequent relapses make this pathology one of the most relevant in otorhinolaryngology. Quite often, the cause of sinusitis can be acute or chronic odontogenic inflammatory processes. A noticeable increase in odontogenic sinusitis is noted against the background of the use of dental pins.

Traditional methods of treating sinusitis include the use of enteral or parenteral administration of antibiotics. This tactic has yielded some positive results. However, disadvantages were also

identified, such as a violation of the intestinal microbiota, allergic reactions, and the appearance of resistant strains of pathogens.

The development of treatment methods that minimize the drug load on the body, the use of physical methods of influencing the pathological focus become a priority in the choice of tactics for the treatment of odontogenic gamoritis.

In physiotherapy practice, the use of (NUZ) (44 kHz), the study of the therapeutic possibilities of which in odontogenic goimaritis (OG) seems appropriate due to the large penetrating power of low-frequency ultrasonic vibrations. Including in the air environment and the ability to have not only a reflex, but also a direct effect on the pathologically altered paranasal structures, which can contribute to improving the effectiveness of treatment. NUZ has an antimicrobial, stimulating microcirculation, anti-inflammatory effect, promotes the diffusion of antibiotics in the tissue, stimulates the nonspecific resistance of the body, has an immunostimulant effect. NUZ has a bactericidal and loosening effect, improves vascular and epithelial permeability, promotes the introduction of more and to a greater depth of medicinal substances.

AIM

To improve the results of treatment of odontogenic sinusitis by topical application of an osteotropic antibiotic in combination with low-frequency ultrasound.

MATERIAL AND METHODS OF RESEARCH

In the period from 2018 to 2020. 37 patients with odontogenic sinusitis were treated. The patients were aged from 18 to 56 years. There were 22 women (59.5%) and 15 men (40.5%).

In the treatment of odontogenic sinusitis, the treatment complex included the empathic parenteral administration of cephalosporins and the effect of low-frequency ultrasound (NUZ) on the projection of the maxillary sinuses. Also, there was a reorganization of the odontogenic source of infection. 19 (51.4%) patients had a control group.

Further, from 2019 to 2020, the antibiotic lincomycin, a form of release solution for injection of 300 mg/ml, was used empirically. The antibiotic was administered periosteal along the projection of the transition fold of the 7-upper tooth. Previously, the tissues were infiltrated with a 2% lidocaine solution. The course of treatment is 3-5 injections, once a day. Subsequently, as well as in the control group, sessions of exposure to NUZ percutaneously in the area of the maxillary sinus were performed. At the same time, parenteral administration of antibiotics was not used. The rehabilitation of the odontogenic focus was also carried out. The proposed method was used to treat 18 (48.6%) patients in the main group.

The frequency of 44 kHz was used for the application of the NUZ.

It should be noted that in both groups was carried out by sinyavskoye respnsiones manipulation. All patients simultaneously received local sanitation treatment at the dentist until the complete subsiding of the dental purulent process.

The effectiveness of treatment was evaluated based on the results of a local examination, taking into account the presence of pain, swelling and swelling, pathological discharge from the nasal passages, and indicators of clinical tests. If necessary, X-ray examinations were carried out.

To determine the etiology of the pathogen, bacteriological studies were conducted. According to the results of bacteriological studies, if necessary, antibiotic therapy was continued, taking into account sensitivity.

In the control group, the results of local examination showed the disappearance of edema and swelling on an average of 10.3 ± 1.2 days. In the main group, this indicator was 6.1 ± 0.9 . The disappearance of pain was noted respectively by 5.5 ± 1.5 and 3.1 ± 1.1 .

Pathological exudation from the nasal passages stopped in the main group earlier than in the control group (4.1 ± 1.6 and 8.5 ± 1.3 , respectively).

The study of leukocytosis indicators showed an earlier normalization in the main group (10.1 ± 1.7 and 14.5 ± 1.5 , respectively). ESR normalized by 6.4-1.4 days in the main group than in the control group.

THE RESULTS OBTAINED AND THEIR DISCUSSIONS

Observations of the dynamics of the disease showed that 94 % of patients in the main group and only 70% of patients in the control group evaluated the effect of treatment as positive. The satisfactory effect of the treatment was noted by 6% of the patients of the main group and 27% of the control group, the ineffectiveness of the treatment was noted in 3% of the control group.

The main group received antimicrobial (lincomycin) 1.0 in the area along the transitional fold of the gums at the seventh tooth, after pre-treatment with 2% lidocaine 2ml on the background of NUS. Preliminary sinus evacuation was performed, as well as daily anemization of the nasal mucosa and oral administration of antihistamines of the 2nd generation.

The control group received standard treatment: parenteral administration of an antibacterial drug (cefamed at a dosage of 1 g 1 time per day) in combination with punctures, physiotherapy procedures, daily anemization of the nasal mucosa and oral administration of antihistamines of the 2nd generation. At the beginning and end of treatment, the effectiveness of therapy was evaluated on the basis of an objective examination, which included a routine examination of the ENT organs, endoscopic examination of the nasal cavity, functional examination: anterior active rhinopneumometry, olfactometry score scale for assessing the severity of symptoms score for evaluating the effectiveness of treatment.

Along with these studies, the duration of the patient's stay in the hospital was compared, as well as the value of the performed punctures of the maxillary sinuses.

We studied the reactive manifestations, and palpation of soreness in the projection of the maxillary sinuses. Nasal breathing, the nature of the mucous membrane and the discharge from the nasal cavity, sniffing, and sense of smell were evaluated. All patients at the beginning of treatment were orthophotography, R-graphy or CT scan of the paranasal sinuses.

We selected an antibacterial drug based on the available information about the spectrum of the pathogen in odontogenic sinusitis, a broad spectrum of action, a long half-life, having high osteotropy and better tolerability, and a smaller volume of side effects. All of the above requirements are met by the drug lincomycin.

All patients of the main group were injected with 30% lincomycin into the transitional fold in the area of the large molars. For preliminary anesthesia, a 2% solution of lidocaine with supercaine was used. For atraumatic patients, a syringe with the smallest needle diameter was used. The drug was administered in a dosage of 1.0 ml once a day for 5 days.

Due to the long circulation of the antibiotic in the therapeutic concentration and its slow entry into the affected organ, a good clinical effect was created. When the drug was administered, a depot was created in the very vicinity of the affected area.

The analysis of the effectiveness of therapy was carried out at the end of the patient's stay in the hospital. The score of the treatment results was as follows: 1 point - no effect, 2 points-a satisfactory effect, 3 points-a positive effect. It was noted that 93.3% of patients in the main group (16 patients) and 70% of patients in the control group (13 patients) had a positive effect of treatment.

CONCLUSION

The conducted studies have shown that the use of an osteotropic antibiotic – lincomycin with NUZ-in the complex treatment of odontogenic sinusitis improves the results of treatment, which can be seen by reducing the time of disappearance of edema and pain, and earlier normalization of the indicators of clinical tests.

Thus, the comparative analysis demonstrated the harmlessness and effectiveness of regional therapy with lincomycin against the background of NUZ, as well as its superiority over the parenteral (systemic) use of antibacterial drugs.

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