

Methods of Treatment and Prevention of Complications of Odontogenic Diseases of the Jaws in Children

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Abstract: Treatment and prevention of inflammatory diseases of the maxillofacial region are one of the main problems of pediatric dentistry. According to a number of researchers, inflammatory diseases of the maxillofacial region account for up to 21% of all surgical and 52% of dental diseases in childhood. In most children, the source of odontogenic inflammatory diseases is complications of caries of temporary teeth.

Keywords: Abscesses and phlegmons, odontogenic diseases, microbes, pathogen, sensitization of the body, osteomyelitis.

Depending on the nature of the pathogen and the reaction of the child's body, the ways of infection, etc., inflammatory diseases in the maxillofacial region can be both acute and chronic [1.3].

Exposure to microorganisms alone is not enough for the development of odontogenic inflammatory diseases. Most often, the process develops during a period of a decrease in the protective reaction of the body as a whole and locally. Hypothermia or overheating of the body, weakening of the child's body due to past infectious diseases, etc. contribute to the emergence of the process.

Among inflammatory diseases of the maxillofacial region in children, periostitis is more common than abscesses, phlegmons and osteomyelitis. Unfortunately, both their number and the frequency of complicated forms of these diseases continue to grow. Periostitis of the jaws in children occurs from 15 to 35% of diseases [2.4.6].

More A.Sobolev first described odontogenic periostitis as a separate nosological unit, and in the twentieth century a number of prominent scientists believed that jaw periostitis occurs as a complication of the carious process and has a characteristic clinical picture. And today, a number of well-known dentists attribute periostitis to purulent periodontitis, others to limited osteomyelitis. Therefore, the interest of scientists and practitioners in this problem is quite understandable [5.7.9.10]

In children, jaw phlegmon is usually a complication of acute or aggravated chronic periodontitis (apical or marginal). The disease develops most often from destroyed temporary molars of the lower and upper jaw, permanent molars of the lower jaw, less often from other foci of odontogenic infection. The process is more often localized in the upper jaw. Symptoms of intoxication in the form of pale skin and mucous membranes, lethargy, malaise are not expressed in all cases. The onset of the disease is characterized by pain localized in half of the cases in the affected tooth.

Objective: To improve the treatment and prevention of complications of acute odontogenic diseases with the inclusion of bacterial lysate IRS-19 in complex therapy.

Research material and methods: This study is based on the results of the treatment of 551 children treated at 3 clinics of TSI and surgical dentistry of Bukhgosmi in 2015-2019. Taking into account the formation of the dental system and the change of teeth, all children are divided into 3 groups. The first group consisted of 336 patients aged 2-5 years with temporary occlusion. The second group consisted of 175 children aged 6-9 years with a removable bite, the third group of 40 children aged 10-13 years, who mostly had a change of temporary teeth to permanent ones. The localization of the inflammatory process (upper, lower jaw, right and left), "causal" teeth, which were the entrance gates of infection, etc., was studied in all patients.

Of the 551 patients in 85, we conducted detailed clinical, microbiological and immunological studies.

To take into account anamnestic, clinical and laboratory studies of the course of the disease, we have developed an examination card for a patient with acute purulent periostitis, in which anamnestic information, general and local signs of the disease, and laboratory data were recorded. All qualitative signs were translated into quantitative expression (points). On the day of admission, complaints were carefully studied when collecting anamnesis, local signs of the inflammatory process, the general reaction of the body, previous and concomitant diseases, and previous treatment were taken into account. Hospitalization of children with phlegmon was carried out according to the indications established by the doctor on duty at the clinic's reception department and the doctors of polyclinics.

Along with clinical and dental methods, microbiological and immunological studies were conducted in 55 patients with phlegmon. Prior to emergency surgery, oral fluid was taken from children into a sterile tube. During the operation, immediately after the autopsy, a swab was taken from the separated wound, which was inserted into a sterile tube.

Microbiological and immunological studies were conducted in the tank laboratory of 3 clinics and the Department of Microbiology and Immunology of TMA. Head of the Department, MD, Professor E.M. Mukhammedov.

In the laboratory, serial dilutions were prepared from the obtained material using a phosphate buffer for better survival of asporogenic anaerobes. Subsequently, under boxing conditions, a certain volume was taken from the corresponding dilutions and seeded on the surface of differential diagnostic and selective nutrient media, such as agar for anaerobes, medium for lactobacilli - MPC-4, for Escherichia, Endo medium, lactic-salt agar - for staphylococci, Viburnum medium for enterococci, blood agar - To determine the hematological activity, Saburo medium is used for fungi of the genus Candida. All crops were incubated for 24-72 hours under thermostat conditions at 37 ° C. An anaerostat was used to cultivate anaerobes. After a certain time of cultivation, Petri dishes were taken out, the number of colonies was counted. The number of bacteria of each species was expressed in CFU/ml.

All patients, after a clinical and stomatoscopic examination by a dental surgeon and the results of a laboratory blood test, were examined by an anesthesiologist to resolve the issue of anesthesia. As a rule, the children did not have any contraindications to general intravenous anesthesia. With the consent of the parents, all children underwent emergency surgery under premedication and intravenous anesthesia.

In the complex treatment of purulent wounds in the first phase (in the hydration stage), they sought to ensure a good outflow of inflammatory products from the wound to the outside. Adequate drainage of the wound in many cases reduces the intoxication of the patient's body, helps him fight infection and prevents the development of purulent complications. The wound was repeatedly washed with antiseptic solutions. Solutions of rivanol, furacilin, dimexide, and chlorhexidine were used for this purpose [8.9.10].

All 85 patients received the above-described medication (traditional). Along with this, 35 children were injected with one dose of the aerosol drug IRS-19 immediately after completion of opening and irrigation of the wound on its surface and the surrounding mucous membrane of the oral cavity. In the following days, this drug was injected in 2 doses in the morning and evening. To assess the effectiveness of the use of bacterial lysate IRS-19 in the treatment of odontogenic diseases, the dynamics of the disappearance of clinical signs of the disease, blood picture, microbiological and immunological parameters on the 3rd and 6th days of treatment were monitored. The clinical assessment of the effectiveness of the use of IRS-19 in the complex treatment of periostitis was assessed by the dynamics of the disappearance of clinical signs of the disease and normalization of clinical, laboratory and immunological indicators. In children receiving IRS-19, collateral edema disappeared much earlier, inflammatory infiltrate resolved, skin hyperemia disappeared, and lymph nodes decreased. IRS-19 had a beneficial effect on the course of the wound process. Infiltration of transitional fold tissues after incision disappeared for 3 days in 50% of children and was completely

epithelized by 6 days, while in children who did not receive IRS-19 in 1/4 it persisted and they had a smell of pus from the oral cavity. When evaluating the effectiveness of the treatment, it was found that with traditional treatment on day 3, the general signs of phlegmon decreased by only 25.7%, and by day 6 of treatment by 52.2% and, nevertheless, did not disappear, and in children receiving IRS-19, the general signs decreased by 37.5% by day 3, by 6 by 89.4% per day.

Conclusion: The clinical picture of odontogenic diseases depends on the age of the child: in the period of formed lactic occlusion (2-5 years), the general signs of inflammation are more pronounced due to a hyperergic reaction during the shift period (6-9 years), local signs of inflammation and their general manifestations correspond to the severity of the disease. During the formation of a permanent bite (10-13 years), local signs of inflammation prevail in the phlegmon picture. In odontogenic diseases in children, bacteria are seeded from pus in the form of monoinfection (*Str.pyogens*, *St.epidermidis*), and in the association of several microorganisms (*St.aureus*, *St.epidermidis*, *E.coli* JH). The inclusion of the drug IRS-19 in the complex treatment of odontogenic diseases significantly reduces the contamination of wounds and saliva with epidermal staphylococcus, *Staphylococcus aureus* disappears.

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