

## **Optimization of Treatment of Patients with Phlegmon of the Maxillofacial Region**

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**Abstract:** In our example, we used the drug Fargals for the treatment of wounds in patients with phlegmon of the maxillofacial region of various etiologies. We proved that the developed treatment technology has a pronounced positive effect on the dynamics of microbial contamination and allows reaching a significant etiological titer of pathogenic microorganisms in the focus in 100% of patients by 3 days.

**Keywords:** phlegmon, maxillofacial region, clinic, treatment, population, fargals, complication.

Recently, widespread purulent processes of the soft tissues of the maxillofacial region (MR) have attracted special attention of clinicians and researchers, as they most often lead to the development of complications that pose a serious danger to the life of patients. One of the most urgent problems of dentistry is acute odontogenic inflammatory processes. The modern development of medicine has made it possible to study in more detail the issues of the etiology and pathogenesis of inflammation, to develop new methods for the diagnosis and treatment of odontogenic phlegmon, but despite this, the number of complications remains high, and in some cases they lead to death. The relevance of the article is based on the prevalence of inflammatory processes in adults and children of various age groups and nosologies of the maxillofacial region. According to a number of authors, the incidence of surgical infection remains at a high level and ranges from 2% to 30% (V.B. Beloborodov, 2003; B.M. Kostyuchenok et al., 1990; A.T. Mikhailov et al., 2004; V. I. Struchkov, 1981; R. Kh. Yafaev et al., 1989; Figueiroa-Damian R. et al., 1992; Lickhaust H., 1993; Mazshall J. C. et al., 2001; Mundy L.M. et al., 2000; Oberholzer A. et al., 2002).

Purulent-inflammatory diseases of the maxillofacial region and neck of adults and children are the most common nosology in the hospital of maxillofacial surgery (from 40 to 55%). For inflammatory diseases of the maxillofacial region, there is seasonal activity in the spring and autumn. The severity of inflammatory processes in the maxillofacial region is due to the anatomical and physiological characteristics of the tissues of the face and neck in children and the age characteristics of the child's body, to be specific, the immaturity of the nervous, immune and neuroendocrine systems. In recent years, there has been not only an increase in the number of patients with inflammatory processes in the maxillofacial region, but also a change in the nature of their clinical course. The number of cases of protracted course of inflammatory processes, chronicity and development of local and general complications has increased. The reason for this may be changes in the immunological reactivity of the child's body due to malnutrition, adverse environmental conditions, stress, concomitant diseases, etc.

Phlegmon is an acute diffuse purulent-inflammatory disease of subcutaneous fat, intermuscular and interfascial tissue. Phlegmon of the mouth area, as well as phlegmon of the face, are diffuse in nature and tend to spread rapidly and develop life-threatening complications.

The clinical picture of phlegmon of the maxillofacial region is often manifested by a disorder of numerous links of the homeostasis system, some of which are: immunity, detoxification, hemostasis, rheology, etc. The development of the endogenous intoxication syndrome in purulent-inflammatory diseases is characterized by gross disorders of regulation and metabolism, which lead to a violation of homeostasis, "disruption" of protective functions and systems, the formation of vicious autocatalytic circles that create conditions for the preservation and progression of endotoxicosis.

Inflammatory processes in the maxillofacial region in all cases are of an infectious nature, i.e. in their occurrence, development and course, a large role belongs to the microbial flora. Numerous studies of the microflora of odontogenic abscesses and phlegmons have shown their polyetiological character in 68-88% of cases. Anaerobes were found in 28-100% of crops, and a mixed anaerobic-aerobic flora of purulent foci was found in 52-68% of clinical samples. Anaerobic-aerobic associations most often consist of 3-4 species. A huge role in the pathogenesis of inflammatory processes in the maxillofacial region in patients is played by the immunological and genetic components of the development of inflammation, as well as the individual susceptibility of the body to an infectious agent. The pathogenesis of inflammation is largely determined by the state of the immune system and nonspecific factors protecting the body.

Treatment of patients with inflammatory processes of the maxillofacial region and neck is based on the complex implementation of surgical interventions and conservative measures.

The problem of treatment of phlegmon of the maxillofacial area and neck continues to be relevant at the present stage. It can be said with full confidence that the issue of pathogenetic processes occurring in a purulent wound and their treatment belongs to one of the oldest sections of medicine and has its own centuries-old history. There are a huge number of different methods and ways of influencing a purulent wound, but, unfortunately, none of them fully satisfies modern surgeons. Every year, new methods of managing purulent wounds appear, both in the maxillofacial region and in other anatomical regions. At present, standards have been developed and put into practice for the treatment of patients with purulent-inflammatory diseases of the maxillofacial region and neck, including adequate surgical opening and drainage of the purulent focus, antibacterial, detoxifying, anti-inflammatory therapy, and correction of homeostasis systems. That is why the search for modern effective methods of local treatment of purulent wounds of the MR and neck is relevant, justified and necessary.

The method of treatment of phlegmon of the maxillofacial region of soft tissues using nitrogen monoxide proposed by the authors Maltsev P.A., Darwin V.V.

Exogenous nitric monoxide (NO) normalizes microcirculation, has an antibacterial effect, activates antioxidant protection, stops infection and reduces inflammation, activates the phagocytic and secretory functions of macrophages, the proliferation of endotheliocytes and fibroblasts, stimulates tissue regeneration, accelerates the healing of aseptic and purulent wounds, including gunshot, as well as burns, taking into account the deficiency of endogenous nitrogen monoxide in wound pathology (Krotovsky G.S., Zudin A.M., MirKasimov M.R. 1999, Krotovsky G.S. et al. 1999, Pekshev A.V. et al. 2001 ; Aleksandrov M.T., Labazanov A.A. 2004, Pekshev A.V. et al. 1986, Platonova V.V. 1990). At the same time, the diffusion of exogenous nitrogen monoxide was established by the method of electron paramagnetic resonance not only through the wound surface, but also through intact tissues, which opens up the possibility of its impact on deep pathological foci.

In our example, we used the drug Fargals for the treatment of wounds in patients with phlegmon of the maxillofacial region of various etiologies. We proved that the developed treatment

technology has a pronounced positive effect on the dynamics of microbial contamination and allows reaching a significant etiological titer of pathogenic microorganisms in the focus in 100% of patients by 3 days. It has been proven that the developed complex program for the treatment of abscesses and phlegmon of the soft tissues of the MR accelerates the cleansing of wounds from purulent-necrotic tissues and microorganisms, stimulates reparative processes, and statistically significantly reduces the duration of the first and second phases of the wound process.

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