

## **Evaluation of the Efficiency of Sorption-Application Therapy for Purulent-Inflammatory Diseases of the Maxillofacial Region.**

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**Relevance.** The referral of patients to the maxillofacial surgical hospital with acute pyoinflammatory diseases (OHVD) of the maxillofacial region (MFA), despite the development and application of new methods and means of treating purulent wounds, has not only not decreased recently, but, according to a number of authors, even increased (Ksembaev S.S., Yamashev I.G., 2006; Shikhov M.Yu., 2013; Bogatov, V.V., 2015). This is due to a global negative change in the natural environment (urbanization, natural and man-made disasters), as a result of which there is a change in the biological properties of the wound microflora and human immune defense, which has a negative effect on the course of the wound process. In addition, their contribution is made by: late appeal of patients for medical care, adaptation of microbes to the applied antibacterial therapy, decreased immunity in patients with long-term presence of foci of infection and chronic diseases, etc. (Kuzin M.I., Kostyuchenok B.M., 1990 ; Ksembaev S.S., Yamashev I.G., 2006; Bogatov, V.V., 2015).

In turn, none of the existing methods of treating wounds to date fully satisfies specialists. Therefore, the issues of their treatment remain in the center of attention, and the relevance of research aimed at the development of new methods of treatment and their socio-economic significance are obvious.

In the treatment of patients with this pathology, surgical interventions play a leading role. However, in the CLO it is far from always possible to perform extensive surgical treatment of wounds and complete excision of all nonviable tissues. Therefore, conservative treatment of purulent wounds remains the method of choice.

Recently, various medical sorbents have been widely used in the world surgical practice for the local treatment of wounds. The main advantage of such methods is a comprehensive, comprehensively directed effect on the wound cleaning process: creating a microclimate for regenerative processes, simplicity and availability in carrying out, the absence of allergic and local irritating effects. In this case, materials are used based on natural and synthetic polymers, organic and inorganic compounds, which differ significantly in their structure and properties (Fedorov V.D., Chizh I.M. 2000; Adamyan A.A. et al., 2004; Abaev Yu. .K., 2005).

The recognized active surgical treatment of purulent wounds does not exclude traditional local medical treatment under a bandage, which is applicable in any conditions, and most importantly attracts with its accessibility and simplicity. Remaining until now the main one in practical surgery, this technique is not devoid of significant drawbacks. One of the main disadvantages of the therapy of the wound process is that many of the pharmacological drugs have a mild therapeutic effect, as a result of which the microflora is not completely suppressed, the

inflammatory process is slowly delineated and the wound is cleared of purulent-necrotic masses. The main reason for the low effectiveness of existing drugs for the treatment of purulent wounds is the unidirectional nature of their action (Izmailov S.G.; Abaev Yu.K., 2006).

From these positions, the methods of sorption-application therapy, aimed at the speedy cleansing of wounds from microorganisms and products of their vital activity, as well as necrotic tissues, have undoubted advantages.

In recent decades, sorption methods have become an integral part of the complex treatment of many surgical diseases. A large number of articles, both in domestic and foreign literature, are devoted to the creation of sorbents. Moreover, all currently existing sorbents can be used only either in the phase of inflammation, or in the phases of regeneration and epithelialization. In addition, many of them do not possess bacteriostatic or bactericidal properties (Fedorov V.D., Chizh I.M. 2000; Adamyan A.A. et al., 2004; Ksembaev S.S., 2015).

Unfortunately, in the clinic of maxillofacial surgery and surgical dentistry, sorption-application therapy has not yet found its widespread use.

The structural features of the CLO (large amount of fiber, well-developed blood supply) determine the general characteristics of inflammatory processes, which are accompanied by extensive and rapidly growing collateral edema, tissue infiltration. Considering this, along with performing the necessary surgical intervention, antibacterial and anti-inflammatory therapy is carried out in order to prevent and treat complications. However, the ever-increasing arsenal of medications and physiotherapy methods used to treat the effects of the inflammatory process does not always lead to the desired result. The search for new effective methods of treatment that prevent the development of complications is one of the urgent problems of maxillofacial surgery. In turn, there is a growing interest in non-drug treatments. An example of this is physiotherapeutic treatment, which is widely used to reduce pain, accelerate the resorption of edema and tissue infiltration, and improve blood supply in the area of the inflammatory focus.

In this regard, there is an urgent need to search and develop affordable and, at the same time, effective drugs and approaches to the treatment of wound infection that meet modern requirements.

**Objective of the study:** Increasing the effectiveness of complex treatment and rehabilitation of patients with acute pyoinflammatory diseases of the maxillofacial region through the use of sorption-application therapy.

**Materials and methods of research:** Examination and treatment of patients was carried out at the clinical base of the Department of Maxillofacial Surgery of the Samarkand State Medical Institute in the specialized department of maxillofacial surgery of the Samarkand City Medical Association. In accordance with the intended purpose of the study, we carried out a comprehensive examination of patients with inflammatory diseases of the PMO in the dynamics of treatment with the use of a drug approved for use in health care practice - the sorbent "Celoform" in the complex treatment of patients with OGVD, we selected patients with odontogenic phlegmons (OP) as one of the most difficult and indicative groups. At the same time, 87 patients with OB of one area or space (submandibular, submental, pancreatic, pterygo-mandibular) aged 21-51 years (men - 52, women - 35) were divided into two groups: the main group (MG) - 54 people and comparison group (HS) - 33.

In addition, both groups of patients were prescribed active rinsing of the oral cavity with antiseptic solutions daily up to 10 times a day. Microbiological examination was carried out after

the operation, the opening of the purulent focus and in the dynamics of the disease. Clinical studies were carried out according to the standard scheme and included a survey of patients, collection of anamnesis of the disease, anamnesis of life, physical research methods (examination, palpation, percussion) and instrumental, additional research methods (laboratory, microbiological, X-ray examination), as well as consultation with specialists.

When carrying out complex treatment, we were guided by the well-known principles of purulent surgery: opening of a purulent-inflammatory focus by layer-by-layer dissection of tissues above it, washing and adequate drainage of the resulting purulent wound with drainage tubes or rubber graduates. Patients with OH, in contrast to patients with HS, were evenly poured into the wound with Celoform powder during dressing.

To diagnose and predict the treatment of the wound process, the quantitative content of microbial bodies in the wound was determined.

Statistical processing of digital material was carried out on a personal computer by the method of variation statistics. The significance of the values was determined using the Student's t-test.

Research results and their discussion. It was found that the largest number of patients with acute odontogenic pyoinflammatory diseases (OOHPD) (68%) reliably fell on the age group 21–51 years. In this case, the structure of patients with OOHVZ was distributed as follows: acute odontogenic osteomyelitis complicated by phlegmon - 44.3%, acute odontogenic periostitis - 21.7%, others (pericoronitis, lymphadenitis, sinusitis) - 2.0%. At the same time, factors that reduce the effectiveness of treatment of patients with odontogenic phlegmons have been identified: irrational drainage and the practical absence of medical sorbents in the arsenal of a dentist surgeon of medical sorbents of means of sorption-application therapy.

The conducted microbiological studies showed that the contamination of wounds with aerobic and facultative anaerobic bacteria in patients with odontogenic phlegmons on the day of treatment averaged  $1283.2 \pm 324.7$  CFU / ml.

Bacteriological control of purulent wounds revealed a high antibacterial activity of the Celoform sorbent proposed for research against pathogenic bacteria in monoculture in associations. In MG, the level of bacterial contamination of wounds decreased 3.6 times faster than in HS during the entire study period.

This effect of the sorbent on the microflora, apparently, is explained by the peculiarity of the composition of "Celoform" established by us earlier, which consists in the presence of a large number of free radicals in it. In the course of the treatment, a comparative assessment of the dynamics of clinical indicators of patients with odontogenic pyoinflammatory diseases, such as relief of pain syndrome, cessation of suppuration, application of secondary sutures, and terms of treatment was carried out.

For all the above clinical parameters, a statistically significant prevalence of clinical indicators of patients with OH over indicators of patients with HC was determined. There was a decrease in the duration of inpatient treatment by  $2.6 \pm 0.4$  bed-days.

Based on these indicators, it can be concluded that the dynamics of the severity of general and local signs of the inflammatory process in patients with OP confirmed the dynamics of clinical indicators.

The results of using the sorbent "Celoform" in the complex treatment of patients with PF also indicate an improvement in cytological parameters. In the phase of inflammation, the sorbent accelerates the cleansing of a purulent wound, and in the phases of granulation and epithelization it acts as a protector of reparative processes.



Fig. Patient T. 42 years old. Odontogenic phlegmon of the bottom of the mouth, phlegmon of the neck on the left (condition after surgery with the use of the Celoform sorbent)

Thus, the sorbent "Celoform" is a pathogenetically substantiated means of local treatment of patients with odontogenic phlegmons in all phases of the wound process.

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