

Optimal Method for Treatment of Purulent Diseases of the Brush in Ambulatory Conditions

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Annotation:

In modern surgical practice, acute purulent-inflammatory diseases of the hand occupy one of the leading places, both in terms of the frequency of occurrence and in terms of the total number of patients' incapacity for work. Among all suppurative processes of soft tissues and bones in patients who first applied for surgical help, the proportion of purulent diseases of the hand is, according to modern Russian and foreign authors, from 8 to 30%.

Keywords: evaluate, treatment, purulent, surgical, disease, condition, panaritium, dimexide, abacterial environment.

Purpose: to study and evaluate the effectiveness of traditional treatment and the use of an abacterial environment on an outpatient basis in the treatment of purulent surgical diseases of the hand in a comparative aspect.

Materials and Methods: the analysis of the results of treatment of 86 patients with acute purulent destructive surgical diseases of the hand was carried out; they were conditionally divided into 2 groups. The 1ST group of comparison included 33 patients who used the traditional method of treatment, which included surgical treatment of a purulent focus followed by debridement of the wound with 25% Dimexidum solution. In the second (main) group, 21 patients were additionally exposed to an abacterial environment on the purulent focus in accordance with the objectives of the study.

The method of application of the abacterial environment, developed by us, using a 25% solution of dimethyl sulfoxide, is a fairly simple, cheap and highly effective method of treatment that can be used on an outpatient basis.

Justification of relevance. In modern surgical practice, acute purulent-inflammatory diseases of the hand occupy one of the leading places, both in the frequency of occurrence and in the total number of patients' disability (Petrushin A.L. 2011; Rutenburg D.G. 2014; Kennedy CD, Lauder AS, Pribaz JR. 2017).

Among all suppurative processes of soft tissues and bones in patients who first applied for surgical help, the proportion of purulent diseases of the hand is, according to modern Russian and foreign authors, from 8 to 30% (Menendez ME, Ring D. 2016). Purulent-inflammatory diseases of the upper limb are a serious medical and social problem. The relevance of this topic is due to the high incidence among the working-age population, the predominant lesion of the functionally active right upper limb, as well as the unsatisfactory organization of surgical care at the pre-hospital stage of treatment (Okhunov A.O. 2018).

Statistics show that more often the disease occurs in the most working age from 20 to 50 years. The observed trend continues not only in Russia and Uzbekistan, but is also typical for the entire world community.

The results of epidemiological studies conducted in Poland and Germany (University of Münster) confirmed an increase in the incidence of purulent diseases of the hand (Krainyukov P.E. 2018). In Uzbekistan, a number of measures were taken to systematically organize surgical care for patients with severe surgical diseases of the hand and fingers, to improve diagnostics, to treat and prevent wound infections (Krasenko Yu.V., 2017). According to the analysis of recent studies, it can be seen that the search for simple and effective methods of treating purulent surgical diseases of the hand and fingers continues, and the best treatment results can be obtained when using an abacterial medium using a 25% solution of dimethyl sulfoxide. However, to date, this method has not been used, and the question of its effectiveness in the local treatment of purulent surgical diseases of the hand and fingers has not been studied.

Taking into account the scattered, sometimes contradictory data on the use of an abacterial medium with the chemical preparation Dimexide in the treatment of purulent surgical diseases of soft tissues, we considered it expedient to conduct studies to study and evaluate the effectiveness of traditional treatment and the use of local sanitation of a 25% solution of Dimexide.

In this regard, the aim of the study was to study and evaluate the effectiveness of traditional treatment and the use of the bacterial environment on an outpatient basis in the treatment of purulent surgical diseases of the hand in a comparative aspect.

Material and research methods. *The results of examination and treatment of 54 patients with purulent surgical diseases of the hand of various etiology, who were on outpatient treatment in the central polyclinic of the Bukhara city medical association in 2020, were analyzed.*

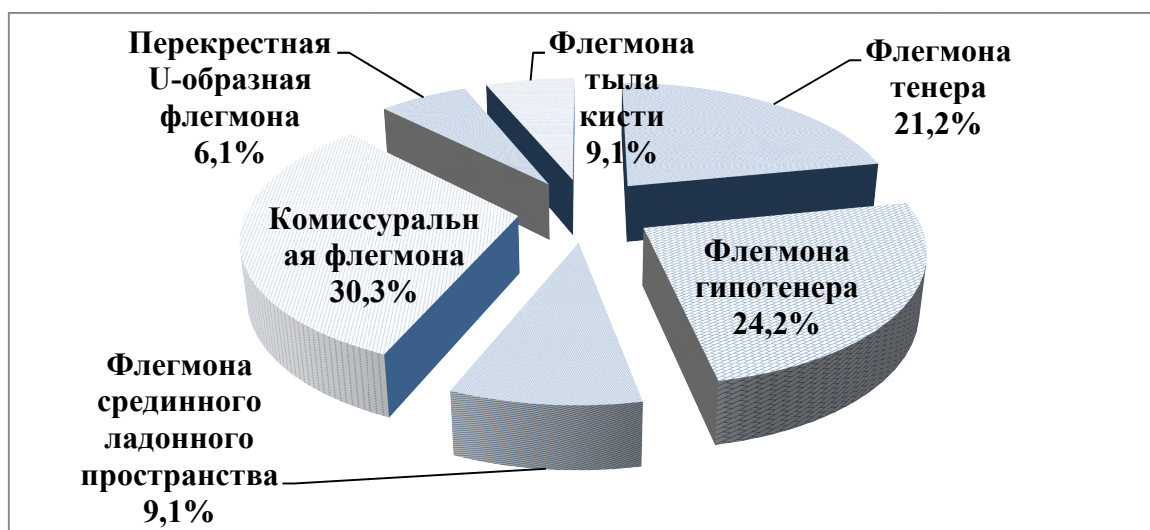
All patients were conditionally divided into 2 groups: I - control and II - main, which included patients who received, in addition to traditional local treatment, the use of a bacterial medium with a 25% solution of dimethyl sulfoxide (Table 1).

Table 1. Distribution of patients depending on the type of treatment (n = 54)

Group of patients	Methods of treatment
Igr Control group Patients with purulent surgical diseases of the hand (n = 33)	Levomekol ointment for gauze bandage with 25% dimethyl sulfoxide solution
Iigr. Main group Patients with purulent surgical diseases of the hand (n = 21)	+ use of an abacterial medium with a 25% solution of dimethyl sulfoxide

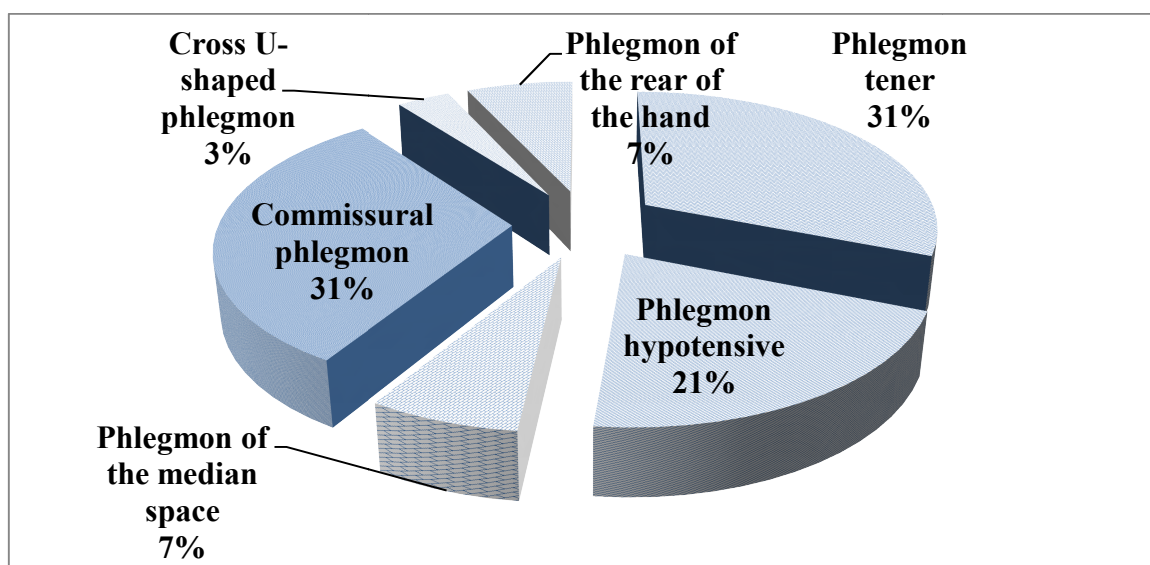
The first group consisted of 33 patients with various forms of purulent surgical diseases of the hand.

Patients of the control group I, after sanitation with an antiseptic solution of dimethyl sulfoxide and necrectomy of the wound for local treatment, were bandaged with levomekol ointment on a water-soluble basis and 25% dimethyl sulfoxide solution. Antibiotic therapy was carried out taking into account the sensitivity of the wound microflora, as well as symptomatic treatment. In 33 patients of group I, various purulent surgical diseases of the hand of various localization were noted. Phlegmon tenar 7 (21.2%), phlegmon hypotenar 8 (24.2%), phlegmon of the median palmar space (supra-subgoneurotic) 3 (9.1%), commissural phlegmon (callus abscess) 10 (30.3%), cross (U-shaped phlegmon) 2 (6.1%), phlegmon of the back of the hand (supra-neurotic) 3 (9.1%), after various etiological factors (Fig. 1).



Pic. 1 Variety of purulent surgical hand diseases in patients of group I (n = 33)

In 21 patients of the II main group, there were purulent diseases of the hand in the form of phlegmon thenar 6 (28.5%), phlegmon of the hypotenar 4 (19.1%), phlegmon of the median palmar space (subaponeurotic) 2 (9.5%), commissural phlegmon (callus abscess) 6 (28.5%), cross (U-shaped) phlegmon, phlegmon of the dorsum of the hand (supra-subgoneurotic) 1 (4.8%), furuncle of the dorsum of the hand 2 (9.5%) after various etiological factors (Fig. 2). In all patients, the wound process was in phase I.



Pic. 2 Variety of purulent surgical diseases of the hand in patients of group II (n = 21)

When examining patients of both groups, the results of indicators of the qualitative and quantitative analysis of the microflora of wounds in the dynamics of indicators of intoxication, the timing of cleansing and healing of wounds were studied.

Results and discussion An important characteristic criterion for assessing the wound process was the identification of the amount of microbial contamination, determination of the species composition of microflora and the timing of wound cleansing. Analysis of the results of indicators of intoxication of the body of patients with purulent surgical diseases of the I group revealed the following (Table 2).

Table 2. Dynamics of indicators of intoxication in patients with purulent surgical diseases of the hand in the control group I, n = 33.

Показатель и	Время наблюдения				
	1 день	3 день	5 день	7 день	10 день
t ⁰ тела	39,1±0,29	37,9±0,16*	37,5±0,16*	36,9±0,14	36,6±0,12*
L крови ×10 ⁹ /л	10,1±0,51	8,9±0,42*	8,2±0,34	7,1±0,24	6,4±0,32
МСМ ед	0,216±0,011	0,162±0,006**	0,157±0,008	0,135±0,003**	0,106±0,007***
ЛИИ ед	2,4±0,11	2,1±0,08*	1,8±0,06	1,5±0,05	1,3±0,04***
СОЭ мм/ч	48,7±1,64	39,6±1,47*	34,3±1,21*	28,6±1,14***	18,4±0,62***

Note: * - differences relative to the data of the previous day are significant (* - P < 0.05, ** - P < 0.01, *** - P < 0.001)

As can be seen from the table, on the first day of treatment, the body temperature of the patients averaged 39.1 ± 0.290C. The content of leukocytes in the blood was on average 10.1 ± 0.51 x 10⁹ / l. The volume of medium molecules averaged 0.216 - 0.011 units. Similarly, an increase in LII and ESR was noted.

By the seventh day of treatment, these figures, although they tended to further decrease, however, remained above the norm.

With further treatment and observation by the tenth day, all analyzed parameters of intoxication, except for ESR of blood, were within normal limits. The following criteria for assessing the dynamics of the wound process of examining patients by us were the pH of the wound environment, the percentage of reduction in the area of the wound surface and the PK indicators for protein according to M.F. Mazurik (Table 3).

As evidenced by the data in Table 5, in the patients of the analyzed group on the first day of inpatient treatment, the initial pH level of the wound environment was significantly lower (acidosis) and averaged 4.3 ± 0.14.

Conclusion.

1. In the treatment of purulent surgical diseases of the hand of various etiologies, the use of an abacterial environment is the most optimal, which helps to accelerate the process of wound healing, leaving no room for the need to combat microflora resistance.
2. The use of an abacterial medium using a 25% solution of dimethyl sulfoxide in a complex for the treatment of purulent surgical diseases of the hand reduces the time for cleansing them from infection to 3.0 ± 0.5 days, resorption of the infiltrate to 2.0 ± 0.5 days, the appearance of granulations to 4 ± 0.5 days, epithelization up to 5.0 ± 0.5 days. All these indicators are 4-5 days ahead of those when using traditional treatment tactics, which contributes to the shortening of the wound process. The average duration of inpatient treatment in patients is reduced by 4 days.
3. The method of application of the abacterial environment, developed by us, using a 25% solution of dimethyl sulfoxide, is a fairly simple, cheap and highly effective method of treatment that can be used on an outpatient basis.

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