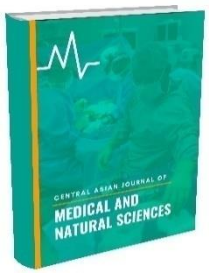
CENTRAL ASIAN JOURNAL OF MEDICAL AND NATURAL SCIENCES



Volume: 02 Issue: 05 | Sep-Oct 2021 ISSN: 2660-4159

http://cajmns.centralasianstudies.org

The Effectiveness of 25% Dimethyl Sulfoxide in Combination with an Electroactivated Aqueous Solution for Local Treatment of Purulent Diseases of Soft Tissues on an Outpatient Basis

1. **Rakhmatov Shuhrat Sharofovich**
2. **Safoev Baqodir Barnoyevich**
3. **Qosimov Umed Usmonovich**

Received 27th Aug 2021,
Accepted 29th Sep 2021,
Online 26th Oct 2021

[1,2 ,3] Bukhara State Medical Institute

Abstract: The results of the study showed that the use of 25% dimethyl sulfoxide on the basis of an electroactive aqueous solution accelerates wound cleansing and recovery in 2-3 days and is a more economical, simple and convenient way to treat purulent wounds in an outpatient setting.

Key words: electroactivated solution, purulent wound, dimethyl sulfoxide

Relevance.

Currently, purulent infection occupies one of the first places in surgical practice and is the essence of many diseases, injuries and postoperative complications. In the general structure of surgical diseases, surgical infection occurs in 35-45% of patients and proceeds in the form of acute and chronic diseases or suppuration of post-traumatic and postoperative wounds (4; p. 18-24., 11; -p. 336-344). infection is one of the main tasks of modern medicine requiring urgent solutions. Its importance is due to the wide spread of pyoinflammatory diseases, the frequency of which does not decrease, but tends to increase (9; p 591; 1; p 427). Patients with this pathology account for more than a third of all patients with a surgical profile. Postoperative purulent complications are observed in 10-12%, and mortality is more than 20% among all patients with a surgical profile. The severity of the patient's condition and the results of treatment of purulent diseases depends on the degree of pathogenicity of the microflora, the severity of intoxication of the organism, the duration and type of organ failure, the immunological dysfunction of the patient's body (12; p. 70-71., 2; p. 93-98., 3; p. 34-37)

Despite the invention of new medical technology in diagnostics and treatment, acute wound infection to this day remains the most important task in surgery [8; c. 253.5; c. 60-61., 4; from 18-24].

It is known that the problem of microflora resistance makes the fight against surgical infection much more difficult. The use of physicochemical methods in the treatment of purulent diseases of soft tissues is one of the most effective methods of treating purulent diseases of soft tissues, in which the problem of microflora resistance does not arise (10; p. 72-73; 13; p. 43-45.,) We have sufficient experience in the use of a chemical preparation of 25% dimethylsulfoxide solution in the treatment of

purulent diseases of soft tissues. Positive results were obtained in the treatment of purulent diseases of soft tissues when using a 25% solution of dimethyl sulfoxide in combination with electro activated aqueous solutions.

A number of scientists in their works give preference to the use of electro activated aqueous solutions of EAR obtained by the STEL apparatus in the treatment of purulent diseases of soft tissues of various etiologies. (6; p. 15., 7; p. 54-56).We have used electro activated aqueous solutions of anolyte and catholyte for the treatment of purulent diseases of soft tissues. For the preparation of an electro activated aqueous solution, the apparatus of NPF "Espero-1" was developed in 1998 by domestic scientists, employees of the Tashkent Institute Sredaz NIIgaz S.A. Alyokhin. The Espero type bio electro activator is approved by the Pharmaceutical Committee of the Republic of Uzbekistan to obtain drugs used in clinical practice and was widely used by employees of the VV Vakhidov Research Institute and the Tashkent State Medical Institute No. 2 clinics. The aim of the study was to determine the effectiveness of the use of EAR and 25% dimethyl sulfoxide solution in combination with EAR in the treatment of purulent soft tissue diseases on an outpatient basis.

Material and methods.

The results of a study of 124 patients with purulent soft tissue diseases who received outpatient treatment at the BSMI base, city family polyclinic No. 6 of the Bukhara City Medical Association 2018-2021 were studied.

All examined patients, depending on the method of treatment, were divided into two groups: Group I included 68 patients with purulent diseases of soft tissues, who, as a local treatment, used wound sanitation with an electro activated aqueous solution with the application of Levomekol ointment under gauze dressings once a day.

Patients of the main group II (56) received surgical treatment of a purulent focus, debridement and application of wounds with 25% dimethylsulfoccide in combination with an electro activated aqueous solution (EAS), Levomekol ointment under the bandage once a day (Table 1).

Table 1: Distribution of patients depending on the type of treatment

Groups of patients with soft tissue wounds	Treatment method: after surgical treatment
Группа сравнения I группа (n=68)	A - Levomekol ointment for gauze dressings with electro activated solution (EAR)
Main group Group II (n = 56)	B - Levomekol ointment for gauze dressings, 25% neurastine dimethyl sulfoxide in combination with an electro activated solution (EAS)

"Electro activated anolyte solution" EVR-A, in combination with a 25% solution of dimethyl sulfoxide, levomekol ointment under the bandage, once a day was used in the treatment of the first phase of purulent-surgical soft tissue disease.

"Electro activated catholyte solution" "EVR-K, in combination with a 25% solution of dimethyl sulfoxide, levomekol ointment under a bandage, once a day, is used in the treatment of the second phase of purulent surgical diseases of soft tissues.

For the preparation of an electroactivated aqueous solution, we used the Apparatus NPF "Espero-1" developed in 1998 by employees of the Tashkent Institute S.A. Alyokhin. Bio electro activator of the Espero type is approved by the Pharm Committee of the Republic of Uzbekistan for obtaining medicines used in clinical practice.

In order to prepare a 25% concentration of a pharmaceutical solution of dimethyl sulfoxide, 100% dimethyl sulfoxide concentrate for external use was diluted in 0.9% sterile sodium chloride solution, in a 1: 3 combination.

To assess the clinical efficacy of treatment methods, the dynamics of laboratory parameters, the level of indicators of endogenous intoxication (increased body temperature, the number of blood leukocytes, LII, ESR mm / h), the timing of cleansing and wound healing were studied.

Results and discussion

Of the 68 patients of the main group I, 46 (67.8%) patients had purulent wounds after various purulent surgical diseases of soft tissues, such as phlegmon, abscess, suppurative hematoma, panaritium, suppurative atheroma, paraproctitis, suppurative epithelial-coccygeal cyst, and 22 (32.2%) - purulent postoperative wounds. Taking into account the antibacterial and reparative properties of EAR, in the first phase of the wound, “Electroactivated solution of anolyte” EVR-A was used, in combination with a 25% solution of dimethyl sulfoxide, levomekol ointment under the bandage, during the transition of the wound process to the second phase of the wound, EAR-K was used , in combination with a 25% solution of dimethyl sulfoxide, levomekol ointment under the bandage. The results of the analysis of indicators of intoxication of the body of patients with purulent diseases of soft tissues of group I revealed the following:

On the first day of treatment, the body temperature of the patients averaged 38.8 ± 0.1 °C. The content of blood leukocytes was on average 8.1 ± 0.2 x 109 / l. Similarly, there was an increase in LII and ESR indicators to the level of 2.6 ± 0.13 and 46.7 ± 1.91 mm / h, respectively.

Against the background of complex treatment with the use of local surgical treatment of wounds with EAR-A, on the third day of treatment, there was a slight decrease in these indicators of body temperature from 38.8 ± 0.1 to 38.2 ± 0.09 °C, blood leukocytes decreased on average to 8.2 ± 0.27x109 / l. There was a decrease in LII and ESR indices to 2.1 ± 0.06 units. and 39.8 ± 1.47, respectively. On days 9-10 of treatment, all of the above indicators characterizing the degree of intoxication of the body were much closer to normal values of indicators, and within the normal range by 13-14 days of treatment.

Dynamic control of the level of microbial contamination of purulent wounds in the analyzed group revealed the following: at the time of admission, the microbial contamination of the wound was comparable to the first group and amounted to 108 mt / g, after surgical treatment of the wound and topical application of a 25% dimethyl sulfoxide solution, it decreased by 4 orders of magnitude, in In the course of treatment, its further decrease was noted, and already by 6-7 days of treatment in both groups, the microbial contamination of the wound was at the level and below the critical level, at the same time amounting to 103 mt / g - 102 mt / g of tissue. Results: the study of group II patients revealed the following features: the use of a 25% solution of dimethyl sulfoxide in combination with EAR-A and EAR-K in the treatment of purulent wounds in the complex treatment of patients in group II contributed to the complete cleansing of wounds from infection by 4.5 ± 0.5 days treatment. By 4.0 ± 0.5 days, active resorption of the infiltrate around the wound was observed. The beginning of the appearance of granulations was noted by 6.0 ± 0.5 days of treatment, and epithelialization by 8.5 ± 0.8 days of treatment. As can be seen from the indicators of the results obtained, the terms of cleansing and healing in patients of group 2, on average, were 2-3 days ahead of that in the control groups.

Table №1: Comparative assessment of the timing of cleansing and wound healing in patients Groups I-II (Day).

№	Indicators	I group	II group
1	Timing of cleansing from infection	7,0±0,4	4,5±0,5
2	Resorption of infiltrate	6,0±0,5	4,0±0,5
3	The appearance of granulation	7,1±0,4	6,0±,0,5
4	The beginning of epithelialization	9,8±0,7	8,5±0,8

Thus, the results of the studies carried out have shown the treatment of patients with the use of a 25% solution of dimethylsulfoxide in combination with EAR-A and EAR-K is an effective way to treat purulent soft tissue disease on an outpatient basis.

Conclusion.

1. The use of EAR-A in the first stage of the wound, EAR-K in the second stage in the complex treatment of purulent wounds effectively affects the healing of the wound process.
2. The use of a 25% solution of dimethyl sulfoxide in combination with an electroactivated solution improves the results of the treatment of purulent surgical diseases on an outpatient basis.
3. A 25% solution of dimethyl sulfokcide in combination with an electroactivated solution of EAR-A and EAR-K can be successfully used in the treatment of purulent diseases of soft tissues on an outpatient basis.

Bibliography:

1. Abaev, Yu.K. Surgeon's Handbook. Wounds and wound infection / Yu.K. Abaev.Rostov n / a: Phoenix, 2006.- 427 p.
2. Briskin, B.S. Immune status in patients with purulent infection of the abdominal cavity and the choice of immunocorrective actions. / Briskin B.S., Savchenko Z.I., Khachatryan H.A. // -Surgery .- 1988. -No. 2.- P. 93-98.
3. Briskin, B. S. The role of the drug midocalm in the complex treatment of patients with diabetic foot syndrome, neuropathic form of lesion // Briskin B. S., Sakunova T. I., Yakobishvili J. I. // - Surgery. -2000.- No. 5, - S. 34-37
4. Vinnik, Yu.S. Modern methods of treatment of purulent wounds / Yu.S. Vinnik, N.M. Markelova, V.S. Tyuryumin // Siberian Medical Review. - 2013. - No. 1.– P. 18-24.
5. Vlasova, O.S. Complex treatment of facial boils in a polyclinic using ultrasound and perfluorane / O.S. Vlasova // Collection of materials of the V All-Russian University Scientific and Practical Conference of Young Scientists and Students. - Tula, 2006 .-- S. 60-61.
6. Gridin A.A. The use of electroactivated aqueous solutions in the treatment of patients with purulent wounds: Ph.D. thesis abstract. honey. sciences. - Voronezh, 2005 .-- 15 p.
7. Koshelev P.I. Treatment of purulent wounds using anolyte and catholyte / P.I.Koshelev, K.M. Reznikov, AA Gridin // System analysis and management in biomedical systems. - M, 2005. - T.4, No. 1. -S.54-56
8. Koreyba K.A., Gaziev A.R. Surgical infections of the skin and soft tissues. Treatment of long-term non-healing wounds: monograph. - Kazan: Fatherland, 2011 .-- 253 p.
9. Kuzin M.I. Wounds! and wound infection / MI Kuzin, BM Kostyuchenok. M., Medicine, 1990.- 591p.

10. Boltaev T.Sh., Safoev BB, Borisov I.B. " Combined physical and chemical method of treatment of purulent wounds of soft tissues ”(Clinical and experimental research) Dissertation of the Doctor of Philosophy (PhD) in medical sciences. 2020; 72-73 p.
11. Svetukhin AM Purulent surgery: Current state of the problem. Edited by B.C. Savelyeva / A.M. Svetukhin, Yu.A. Amiraslanov // 50 lectures on surgery. M., 2003. - S.335-344.
12. Chechetkin, A.V. Immune system disorders in severe injuries and methods of their correction. / Chechetkin A.V., Tsibalyuk G.N.
13. Yarkulov Sh.Sh. "Ways to reduce the resistance of microflora to antibiotics in the treatment of purulent wounds": abstract, candidate of medical sciences.-Bukhara, 2021.-p43-45
14. NA Narzieva, N Hasanova. Communicative competence as a pedagogical model in the classrooms// ACADEMICIA: An international Multidisciplinary Research Journal 10(6),78-81, 2020
15. NA Narzieva. The concept of defined target technologies and their role in the educational process// Theoretical &Applied science, 356-360, 2020
16. AD Ahmedovna, Narziyeva N.A, Main styles and methods of teaching speaking foreign languages to medical institutes , International Engineering Journal for research and development 6 (SP), 4-4, 2021
17. NN Narzieva, Development of Education and Research Activity Profile Class Students on the Basis of Integrative and Personal Approach, www. auris-verlag, 2017
18. NN Narzieva Development of Education and Research Activity Profile Class Students on the Basis of Integrative and Personal Approach, www.auris-verlag. de, 2017
19. NN Atakulovna Factors supporting teaching and learning English in non-English speaking countries, ResearchJet Journal of Analysis and inventions 2(06), 297-305, 2021
20. Abdullayeva M.A., Abdurakhmonov M.M. Congenital risk factors in uzbek population with nonspecific aortoarteriitis// European science review. Austria. - 2018. - №11-12. - P. 51-53.
21. H., Davlatova M. "Aspectual Variability of Information Culture in the History of the English Language." International Journal on Integrated Education, vol. 3, no. 3, 2020, pp. 24-28, doi:10.31149/ijie.v3i3.81.
22. Davlatova, M. H. "Variability of A spectual Meanings in English." European Journal of Research and Reflection in Educational Science 7.12.2019 (2019): 778-780.
23. Davlatova, M. H. "An Integrative history of Aspectual meanings." JournalNX-A Multidisciplinary Peer Reviewed Journal, Volume6 4 (2020): 17-22.
24. Давлатова, Мухайё Хасановна. "The role of songs in learning English." Молодой ученый 10 (2015): 1145-1147.
25. Mukhayyo Hasanovna Davlatova, “RELATION OF LEXICAL-SEMANTIC STRUCTURE OF VERBS IN THE LINGUISTIC ESSENCE”, IEJRD - International Multidisciplinary Journal, vol. 6, no. SP, p. 5, Jan. 2021.
26. Davlatova, Mukhayyo H. "Lexico-semantic Structure and Its Analysis on the Example of Verbs." JournalNX, vol. 6, no. 06, 2020, pp. 189-192.
27. Давлатова, Мухайё Хасановна. "Этапы работы с видеотекстами на занятиях Английского языка." Интернаука 9-2 (2017): 16-19.

28. Davlatova Mukhayyo Hasanovna. (2021). DIFFERENT ASPECTS OF RESULTATIVE STRUCTURES ACCORDING TO THEIR LINGUISTIC ESSENCE. Academicia Globe: Inderscience Research, 2(05), 475–479. https://doi.org/10.17605/OSF.IO/D4T8J.
29. Hasanovna, Davlatova Mukhayyo. "SEMANTIC IMPLEMENTATION OF RESULTUTIVE STRUCTURES." METHODS 7.6 (2021).
30. Давлатова, Муҳайё. "ASPECTUAL AND LEXICO-SEMANTIC CLASSIFICATION OF VERBS." Сўз санъати халқаро журнали 1.3 (2020).
31. Hasanovna, Davlatova Muhayyo. "VARIABILITY OF ASPECTUAL MEANINGS IN ENGLISH." European Journal of Research and Reflection in Educational Sciences Vol 7.12 (2019).
32. Давлатова, М. Х. "РАБОТА НАД ВИДЕОТЕКСТОМ НА ЗАНЯТИЯХ АНГЛИЙСКОГО ЯЗЫКА." *Теория и практика современной науки* 4 (2018): 242-246.
33. Boltaev T.Sh., Safoev BB, Borisov IV, Rakhimov A.Ya. Improvement of the method of treating purulent wounds in patients with purulent surgical diseases of soft tissues // Problems of Biology and Medicine. - 2019, No. 4.2 (115) - S. 261-264.
34. Boltaev T.Sh., Safoev B.B. Local treatment of purulent-surgical diseases of soft tissues with a chemical drug dimethyl sulfoxide and its combination with a physical method of treatment // Problems of Biology and Medicine. - 2020, No. 1 (116) - S. 27-31.
35. Petrushin A.L. Experience in the treatment of complicated forms of panaritium in a regional hospital / A.L. Petrushin // Bulletin of the National Medical and Surgical Center. N.I. Pirogov. - 2010. - No. 1. - P. 47-50.
36. Rutenberg D.G. Purulent diseases of the upper limb: Auto-ref.dis ... Dr. med Nak.-SPb, 2011.-43p.
37. Safoev BB, Latipov OZ, Boltaev T.Sh. Modern approaches to the treatment of purulent diseases of the hand on an outpatient basis (Literature review) // Tibbiyotda yangi kun. - 2020, -№3 (31). - S. 700-705.
38. Boltaev T.SH., Safoev B.B., Borisov I.B., Yarikulov Sh.Sh., Khasanov A.A., Rahmatov Sh.Sh., Rajabov V.B. Effectiveness of the application of the phys-ical method on a wound by plasma flow of argon in the complex treatment of patients with purious diseases of soft tissues // Asian Journal of Multidimensional Research. - 2019, No. 8 (12), p.161-167.