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THE EFFECT OF ULTRAVIOLET RAYS ON THE RESISTANCE OF MICROFLORA IN THE TREATMENT OF PURULENT-SURGICAL DISEASES OF SOFT TISSUES

Latipov Orif Zaripovich
Bukhara State Medical Institute

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Abstract:

Wound infection, including postoperative infection, continues to be one of the most pressing problems in surgery. Solving the problems associated with microflora resistance undoubtedly improves the results of treatment for this category of patients. In the literature, there are significantly few studies devoted to the suppression of the existing microflora resistance.

The purpose of the study: study of the influence of ultraviolet rays on the resistance of the microflora of purulent wounds. In 22 patients with purulent diseases of soft tissues, resistance to 15 antibiotics was studied on the day of admission and in the dynamics of local treatment using ultraviolet irradiation (UFO) of the wound in two biodoses.

The results of the study showed: the treatment of purulent wounds with the use of ultraviolet irradiation of the wound in two biodoses, in addition to the bactericidal one, has an overwhelming effect on the resistance of microflora.

Keywords: purulent wound, resistance, ultraviolet irradiation.

RELEVANCE

Purulent diseases of various localization, including soft tissues, as well as purulent complications of postoperative and accidental wounds have always been one of the important problems of surgery.

Purulent surgical diseases today account for up to 25-30% of the total number of surgical diseases, it is not uncommon for an unfavorable outcome of treatment, the completion of lethality or disability of patients. One of the main factors that plays a role in the outcome of treatment for this pathology is the resistance of microflora.

MATERIAL AND METHODS

The data of examination and treatment of 22 patients with purulent soft tissue wounds of various etiologies who were treated in the purulent surgical department of the clinical base of the Bukhara State Medical Institute in 2018-2020 were analyzed.

In the examined patients, on the day of admission, an emergency operation was performed to open a purulent focus and sanitize the purulent cavity with an antiseptic 3% solution of hydrogen peroxide, after drying, sanitization was performed with a chemical solution of 25% dimethyl sulfoxide, followed by the application of levomekol ointment and aseptic gauze bandages with a 25% solution of dimethyl sulfoxide.

From the first day, qualitative and quantitative studies of microflora were carried out from the isolation of wounds and the daily dynamics of antibiotic resistance was determined. In the course of treatment, a step-by-step selection of antibiotics for local and general use was carried out.

RESULT AND DISCUSSIONS

In most cases, pathogenic staphylococcus is sown in 22 patients, of which 14 (19.4%) in the form of monoculture and 17 (23.6%) in associations. In 28 observations, E. coli was sown, which in 10 (13.9%) cases was present as a monoculture and in 18 (25.0%) as part of microbial associations. The next most frequently detected was proteus - 16 observations, seeded in 7 (9.7%) cases as a monoculture and in 9 (12.5%) as part of microbial associations.

This was followed by enterococci found in 14 observations, 7 (9.7%) in the form of monoculture and association, respectively, streptococci in 6 observations, 4 (5.5%) - monocultures and 2 (2.8%) in association. Pseudomonas Aeruginosa was sown in 2 (2.8%) patients as a monoculture and in 1 (1.4%) as part of microbial associations.

Dynamic control of the level of microbial contamination of purulent wounds in patients of this subgroup revealed the following: at the time of admission, microbial contamination, on average, was 108 mt/g, on the next day after surgical treatment of the wound with the application of an ointment dressing, its values were 105 mt/g. By 6-7 days of complex treatment in these patients, the degree of microbial contamination was lower critical level and amounted to 102mt/g of tissue.

The study of the dynamics of the sensitivity of microflora from the isolation of purulent wounds

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revealed the following features, namely: in the treatment of purulent wounds with the use of UV wounds in two biodoses per day, there was an increase in sensitivity to antibiotics in dynamics, i.e. the number of antibiotics to which the microflora is sensitive increases. In the course of treatment, the sensitivity of microflora to new antibiotics appears, when there was no sensitivity to these antibiotics on the day of admission.

The maximum peak of the expected results was achieved starting from the 8-9 day of treatment. At the same time, during the treatment on 8-9 days, they were accompanied by a maximum increase in the sensitivity of pathogenic microbes. As can be seen from Table No. 2, the microflora from the isolated purulent wounds of the III A subgroup of 15 antibiotics was only 26.7% sensitive to the third day of treatment, sensitivity to antibiotics increased to 46.7%, by 4, 5, 6, 7, 8 and 9 days there was a further increase in the amount of sensitivity of microflora to antibiotics, so 60%, 73,3%, 73,3%, 80%, 86,7% accordingly.

Thus, our studies revealed the following main features: the percentage of sensitivity to 15 antibiotics was only 26.7% by the third day of treatment, 33.3% of antibiotics were sensitive, and the further dynamics of these indicators had an increase in the number of sensitivity of microflora, and by the 7th day these indicators amounted to 66.7%. By 8-9 days these figures reached the maximum is up to 73.3%.

All this shows that when applying physical methods of influencing the microflora using UFO wounds in the course of treatment, the number of sensitivity of microflora to antibiotics increases.

CONCLUSIONS:

1. Local exposure to ultraviolet rays in two biodoses (according to Dalfeldo-Gorbachev) has both bactericidal and suppressive properties on the resistance of microflora.

2. When using UFO wounds in two biodoses during treatment on the third day, the microflora begins to lose resistance to antibiotics of purulent wounds.

3. Local exposure to UV wounds contributes to the expansion of the choice of antibiotics in the treatment of purulent wounds.

REFERENCES:

1. Influence of different concentrations of dimethylsulfoxide solution on antibiotic sensitivity of pathogenic microorganisms in experiment (In Vitro) Safoyev Bakhodir Barnoyevich1, Yarikulov Shukhrat Shokirovich2, Boltayev Timur Shavkatovich3 European Journal of Molecular & Clinical Medicine ISSN 2515-8260 Volume 07, Issue 03, 2020.
2. Safoev B.B., Turdiev Kh.K., Boltaev T.SH., Clinical and Laboratory Features of Covid - 19 Course in Combination with Pneumonia// European multidisciplinary journal of modern science. – 2022, Vol. 4, 2021, Pages. 622 – 626.
3. Turdiev Khurshid Kobilovich. Diagnostic criteria for covid - 19 combined with pneumonia. European Journal of Interdisciplinary Research and Development, Volume-05 July-2022, ISSN (E): 2720-5746.
4. Turdiev Khurshid Kobilovich, Rakhmatov Shukhrat Sharopovich. Complications After Covid - 19 Combined with Pneumonia. Texas Journal of Medical Science, ISSN NO: 2770-2936.
5. Safoev B.B., Arzikulov Sh.Sh., Ikromov T.E. The effect of different doses of ultraviolet rays on the resistance of pathogenic microorganisms in the experiment (in vitro). Tibbietda yangi kun - Bukhoro, 2020. No. 4(33) -- p. - 129-131. (14.00.00; № 22)
6. Safoev B.B., Arzikulov Sh.Sh. Suppression of microflora resistance under the influence of dimethyl sulfoxide solution in the treatment of purulent-surgical diseases of soft tissues // Biologiya va tibbiet muammolari - Samarkand, 2021. - No. 2 (127). - pp. 125-130.
7. Articulov Sh.Sh., Khasanov A.K., Mukhamadiev I.Sh., Ways to reduce the resistance of microflora to antibiotics in the treatment of purulent wounds. // Tibbietda yangi kun - Bukhoro, 2020. -№3(31). – Pp. 156-160 (14.00.00; No. 22)
8. Safoyev Bakhodir Barnoyevich, Yarikulov Shukhrat Shokirovich, Boltayev Timur Shavkatovich. Influence of different concentrations of dimethylsulfoxide solution on antibiotic sensitivity of pathogenic microorganisms in experiment (In Vitro) European Journal of Molecular & Clinical Medicine. Great Britain. 2020, Volume 7, Issue 3, P. 5194-5198 (14.00.00; Scopus)
9. Safoev Baqodir Barnoyevich., Yarikulov Shuxrat Shokirovich. The influence of different doses of ultraviolet rays on the resistance of pathogenic microorganisms in experiment (in vitro) // Journal NX - A Multidisciplinary Peer Reviewed Journal. Maharashtra India. - 2021. - Vol 7. - №. 06. - P. 285–290. Impact Factor 7.223.
10. Yarikulov. Sh/ Sh. Influence of different concentrations of dimethylsulfoxide solution on antibiotic sensitivity of pathogenic microorganisms in the experiment. - No.4 – 33 - 2020. – Pp. 153 – 155.

World Bulletin of Public Health (WBPH)
Available Online at: https://www.scholarexpress.net
Volume-17, December 2022
ISSN: 2749-3644

11. B Safoev.B., Yarikulov Sh.Sh., Arashov R.R. Methods of improving the local treatment of purulent wounds using ultraviolet irradiation in combination with multicomponent ointments on a water-soluble basis // innovations in the modern education system: collection of scientific papers of the International scientific and practical Conference // April 25, 2021. – Washington, USA:
12. "CESS", 2021. Part 5, Issue 1 – p, pp. 558-565.Сафоев Б.Б., Ярикулов Ш.Ш., Каршиев Н.Р. Application of physical and chemical methods in treatment of purulent diseases of soft tissue Proceedings of Ingenious Global Thoughts An International Multidisciplinary Scientific Conference Hosted from San Jose, California November 29th, 2020 P. 55-56.
13. R.R.Arashov, & Sh.Sh.Yarikulov. (2022). Comparative evaluation of the outcome of treatment of patients with cavity liver formation with a simple and complex subdiagphragmal position. World Bulletin of Public Health, 13, 55-62. Retrieved from.
14. Radjabov Vohit Bafoyevich, & Yarikulov Shukhrat Shokirovich. (2022). Modern approaches to abdominal drainage in diffuse peritonitis. World Bulletin of Public Health, 13, 50-54. Retrieved from.
15. R. R.Arashov, & Sh. Sh. Yarikulov. (2022). Features of surgical treatment of patients with liver cavities with complex intrahepatic arrangements. European Journal of Interdisciplinary Research and Development, 6, 30–38. Retrieved from.
16. R. R. Arashov, Sh. Sh. Yarikulov, & B. B. Safoev. (2022). Treatment of patients with cavity liver formation with a simple and complex subdiagphragmal position. Galaxy International Interdisciplinary Research Journal, 10(8), 65–74. Retrieved from.
17. Sharopova M. S., Safoev B. B., & Yarikulov Sh. Sh. (2022). Peculiarities of the clinic-laboratornogo tesheniya manure ran in soshetannom behind sacarnogo diabeta and diffuznogo toxisheskogo oats. Galaxy International Interdisciplinary Research Journal, 10(8), 75–87. Retrieved from
18. Safoev Baqodir Barnoyevich, & Yarikulov Shuxrat Shokirovich. (2021). The influence of different doses of ultraviolet rays on the resistance of pathogenic microorganisms in experiment (in vitro). JournalNX - A Multidisciplinary Peer Reviewed Journal, 7(06), 285–290.
19. Akbarov, A. N., & Jumaev, A. K. (2019). The choice of materials depending on the topography of partial dentition defects. ACADEMICIA: An International Multidisciplinary Research Journal, 9(12), 46-49.
20. Akbarov, A. N., & Jumayev, A. (2020). Hygienic condition of prostheses in patients with partially removable dental prostheses. PalArch's Journal of Archaeology of Egypt/Egyptology, 17(6), 14351-14357.
21. Zhumaev, A. K. (2020). Partial defects of dental rows results of the questionnaire and clinical assessment of the condition of removable prostheses. Middle European Scientific Bulletin, 6, 94-97.
22. Jumaev, A. X. "MICROBIOLOGICAL STUDY OF THE ORAL CAVITY FOR PROSTHETICS OF DEFECTS OF DENTITION." УЗБЕКСКИЙ МЕДИЦИНСКИЙ ЖУРНАЛ 2.2 (2021).