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Research Article

RESULTS OF SIMULTANEOUS APPLICATION OF DIFFERENT TYPES OF WOUND COVERINGS IN THE TREATMENT OF PATIENTS WITH PHLEGMONS OF THE FACE AND NECK

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ABSTRACT

A distinctive feature of inflammatory diseases in the maxillofacial area is that they are all infectious. Studies of the microflora of purulent-inflammatory foci have shown their polymicrobial nature, which are represented by associations of obligate and facultative anaerobes and aerobes. In mixed cultures, bacteria enter into antagonistic and synergistic relationships, which aggravates the course of the disease. The aggressive and lightning-fast development of the phlegmonous process with pronounced intoxication and a tendency to spread and increase the number of local and general complications, as a rule, is also associated with the emergence of antibiotic-resistant forms of bacteria, changes in the body's resistance and a significant change in the properties of pathogens of inflammatory processes, high virulence of microflora and ability produce aggressive enzymes that destroy tissue.

KEYWORDS

Resistance, microflora, purulent-inflammatory foci.

INTRODUCTION

An important feature of extensive purulent processes, which include phlegmon of the face and neck, is that due to the extensive distribution, complex topography (variable depth of the lesion, the presence of a large number of cellular spaces located at different depths, the formation of difficult-to-reach cavities, “pockets” during inflammation) and folds), unevenness of inflammatory changes in different places of the lesion, inflammatory and restorative wound processes do not have a strict sequence and occur simultaneously in different areas/depths of the wound, overlapping one another [2].

Despite the large number of works devoted to the surgical treatment of phlegmons of the face and neck, many problems of postoperative treatment remain unresolved (inadequate wound management in the postoperative period can lead to the progression of the inflammatory process and the need for repeated operations; secondary nosocomial infection, lack of bacteriological control of discharge from the wound, inadequate antibacterial therapy also lengthens the

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length of hospital treatment). Good results of treatment of patients with phlegmon of the face and neck depend not only on surgical, but also on subsequent local adequate treatment of a purulent wound [4,6,]. In this regard, the search for optimal methods of postoperative management of patients with phlegmon of the face and neck is an urgent problem for a modern surgeon.

Currently, in practical healthcare, the treatment tactics for purulent wounds are based on the principle of sequential wound treatment, taking into account the phase of the wound process. Management of a purulent wound includes surgical treatment with further covering of the wound surface with a gauze bandage with medications. In the first phase (purulent-necrotic), it is customary to prescribe drugs with antimicrobial, necrolytic , dehydration , sorption properties (“ Levosin ”, “ Levomekol ”, etc.), and in the second and third phases (regeneration and epithelization) - drugs with trophic, regenerative, anti-adhesive properties, i.e. ointments that can maintain a moist environment in the wound. Such representatives are methyluracil ointment, “ Methyldoxycillin ”, etc. [3]. However, the use of such traditional dressings (gauze, synthetic) has significant disadvantages [2,3,]. A large number of new methods have been proposed based on the physical principles of local treatment of purulent wounds, such as: active drainage, ultrasound sanitation, hyperbaric oxygenation, laser , light, magnetic , ozone therapy , etc. [7]. In the last decade, scientific works have appeared on the pathogenetic principles of treatment of purulent wounds based on new biopolymers [1-4]. The principle of wet treatment of wounds using various types of dressings is becoming dominant in surgical practice. There is practically no information on the simultaneous use of two or more types of dressings with specified different properties in different areas of the wound, taking into account the phases of the wound process [8,9].

RESULTS

Complex treatment carried out in 45 patients of the main group with phlegmons of the face and neck after examination and preparation began with surgical intervention with simultaneous planning of local wound treatment, using wound coverings under the guise of general pathogenetic therapy. Already directly at the surgical stage of treatment, the entire surface of the wound was examined, paying special attention to identifying “pockets”, leaks, “hidden” cavities and surfaces, i.e. poorly drained places where the wound process remains in the inflammatory phase for a long time. After that, taking into account the properties of wound coverings and indications for their use, an absorbent bandage in the form of an Aquacel tape was placed in the deep, hard-to-reach cellular spaces of the phase Ag + Hydrofiber dressing " with absorption, antimicrobial, hyperosmatic and proteolytic properties. A non-adhesive foam-based dressing “ Aquacel” was applied over it Ag Foam dressing Hydrofiber "with an internal absorbent layer with antimicrobial, absorbent, dehydration, necrotic, hyperosmatic, proteolytic properties.

The surgical stage was supplemented with cytological, morphological studies and bacterial cultures from different areas of the wound surface. In the postoperative period, the location and boundaries of areas of the wound surface that were in different phases of development of the wound process were determined. When areas of granulation and marginal epithelization appear (phases II, III of the wound process) to stimulate the processes of neoangiogenesis and regeneration. The surface of these areas is covered with Granuflex hydrocolloid dressings with stimulating, healing, hydrocolloid

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properties. After surgical treatment of phlegmon of the face and neck, an absorbent bandage in the form of a ribbon with silver " Aquacel" was placed in the deep, hard-to-reach cellular spaces of the face and neck (I phase of the wound process). Ag + Hydrofiber bandage ", an " Aquacel" bandage was applied on top of it Ag Foam dressing Hydrofiber ", isolating the wound from the external environment. Postoperative local wound management during the transition of the wound process to phases II–III, the Granuflex dressing was used , while in areas where the process of cleansing the wound from necrotic tissue and exudation continued (phase I of the wound process), dressings containing silver Aquacel continued to be used Ag + Hydrofiber dressing ". The obtained result was achieved due to the simultaneous but "targeted" distribution of dressings with different pharmacological effects on areas of the wound surface, in accordance with the phases of the wound process.

The method we have developed allows for the fastest "maturation" and transition of the wound to the stage of repair and epithelization , which prevents the occurrence of persistent infection and reduces the time of treatment for patients. Dressings were performed after 1–2 days with wound treatment with chlorhexidine solution bigluconate 0.02%. When the wound was cleaned, filled with granulation tissue and marginal epithelialization appeared , secondary sutures were applied. The process of wound cleansing and healing was monitored over time, taking into account its macroscopic picture, clinical and laboratory parameters, and with the help of microbiological, cytological, and morphological studies. The use of wound coverings with different properties, applied differentially and targetedly, depending on the phase of the wound process in each area of an unevenly healing wound, made it possible to maintain an optimal environment in the wound and did not cause trauma to the underlying tissues . At the same time, it ensured complete congruence with the wound surface and did not cause pain during dressings in patients.

Taking into account the pronounced antimicrobial and absorption properties of wound coverings, this method provides effective drainage, reduction of microbial contamination in the wound, faster relief of the purulent inflammatory process, acceleration of the maturation of granulations and epithelization , which avoids the spread of the inflammatory process to adjacent cellular spaces. At the time of admission to the hospital, all patients of the main group were in serious and extremely serious condition. The level of endogenous intoxication according to LII indicators corresponded to 6.6 ± 0.76 arb . units, SIVR in all patients upon admission corresponded to a severe degree, body temperature reached 39.7 ± 0.7 °C, tachycardia – 119 ± 1.8 beats. per minute, respiratory rate – 20 ± 1.1 per minute, leukocytosis – 21 ± 5.4 × 109, lymphopenia was noted – 10 ± 1.2%, number of segmented leukocytes – 74 ± 3.6%, band leukocytes – 9 ± 2.3%. Some patients showed monocytosis up to 10 ± 1.8%. Locally, a dense and sharply painful infiltrate with no clear boundaries, a symptom of crepitus or fluctuation (36% of patients), was identified. The skin over the infiltrate was hyperemic, the skin did not gather into a fold. During the opening and inspection of the purulent focus, copious purulent discharge was noted.

In cases of treating patients with the use of wound coverings, there was a positive dynamics of clinical and laboratory parameters already by the 3rd day after surgery, namely, there was a statistically significant decrease ($p < 0.05$) in the total number of leukocytes and band neutrophils with an increase in the total number of lymphocytes. SIRS in patients of the main

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group by the 3rd day in 32 people (71.1%) corresponded to mild, in 10 patients (22.2%) the syndrome stopped on the 4th day, and in 3 patients the intensity decreased SIRS occurred on the 5th day after surgery. Normalization of LII in all patients receiving local treatment using the proposed method occurred on the 7th day and corresponded to 1.48 ± 0.53 arb . units C-reactive protein reached normal values by the 6th day. When treating a purulent wound under Aquacel bandages Ag + Hydrofiber bandage , Aquacel Ag Foam dressing Hydrofiber " and " Granuflex " by the 5th day from the start of treatment, a decrease in body temperature was observed to 36.7 ± 0.3 °C. When performing dressings, all patients noted that they were slightly painful; the wound coverings did not interfere with movements and were well fixed on the surface of the purulent wound. The course of the acute purulent-inflammatory process was more favorable: the end of exudation in patients of the main group was 6.74 ± 1.10 days, the appearance of granulation occurred on 5.60 ± 1.1 days.

Planimetric studies revealed the following dynamics of healing of a purulent wound: on the 3rd day - 10.7 ± 2.4%, on the 5th day - 18.5 ± 3.8%, by the 10th day the area of the postoperative wound decreased by 74 .8 ± 3.4%. The time for applying secondary sutures was 10.6 ± 1.4 days. The number of days in hospital was 15.2 ± 2.62. During observations in patients receiving local treatment with Aquasel dressings Ag + hydrofiber bandage , Aquacel Ag Foam dressing Hydrofiber " and " Granuflex ", significant differences were noted not only in the dynamics of the general condition, but also in the course of the wound process, which was confirmed by microbiological, cytological and morphological research methods. Changes in the level of bacterial contamination were observed on the 5th day of treatment: microbial contamination significantly decreased from 107–8 CFU immediately after surgical treatment to 104–5 CFU. Against the background of the use of a combination of wound coverings, the microbiological landscape during this period was represented by conditionally pathogenic aerobic and facultative anaerobic microflora.

On the 8th day of observation, against the background of a significant improvement in clinical and laboratory parameters, complete decontamination was observed in 76% of patients; in the remaining patients, only single colonies of microorganisms were detected. The positive effect on the condition of a purulent wound at all phases of treatment was confirmed by studying cytological preparations. Against the background of “targeted” use of a combination of wound coverings, a rapid decrease in cells characterizing the acute inflammatory process is observed: segmented and band leukocytes. Already by the 5th day in patients of the main group, the early appearance of a significant number of macrophages was noted against the background of neutrophils.

In the fingerprint smears on the 7th day of treatment, the appearance of fibroblasts was recorded, which indicate the appearance of granulation tissue, and on the 10th day, young epithelial cells with basophilic cytoplasm appearing in the preparations, belonging to the basal layer of the epidermis, which clinically corresponded to the appearance of marginal epithelialization in wound. Analysis of the changes observed in histological preparations noted significant dynamics in the morphological picture of the wound process. When examining primary biopsy specimens (on the day of surgical treatment), the morphological picture corresponded to the early stage of an acute purulent-inflammatory process. The wound showed abundant infiltration of neutrophilic leukocytes with tissue melting similar to diffuse inflammation.

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Conclusions. The proposed author's method of treatment has proven to be highly effective in the combined use of dressings in the clinic for purulent inflammatory foci due to the simultaneous drainage of the wound (using a coating with absorption properties) and a dressing with antimicrobial properties, which made it possible to reduce microbial contamination in the wound and avoid the spread of the inflammatory process to adjacent tissues space and prevent secondary wound infection.

REFERENCES

1. Malanchuk V., Sidoryako A., Vardzhapetian S. Modern treatment methods of phlegmon in the maxillo-facial area and neck. – 2019.
2. Okhunov A. O., Boboev K. K., Bobokhodjaev A. S. Errors and causes of ineffectiveness of primary operations for phlegmons of the face and neck //Journal of education and scientific medicine. – 2023. – Т. 1. – №. 2. – С. 30-38.
3. Simion L., Dumitru S. Phlegmon of the oral floor. Contradictions in diagnosis and treatment //The Moldovan Medical Journal. – 2018. – Т. 61. – №. 1. – С. 42-48.
4. Durnovo E. A. et al. Clinical results of the application of perftoran for the treatment of odontogenous abcesses and phlegmons in the maxillofacial region //Journal of Cranio-Maxillofacial Surgery. – 2008. – Т. 36. – №. 3. – С. 161-172.
5. Kurbonov Y. K., Boymuradov S. A., Djuraev J. A. Overview Of Comprehensive Treatment Of Acute Purulent-Inflammatory Diseases Of The Face And Neck //The American Journal of Medical Sciences and Pharmaceutical Research. – 2021. – Т. 3. – №. 01. – С. 15-23.
6. Malanchuk V. A., Sidoryako A. V., Kulbashna Y. A. TREATMENT OF PHLEGMONS OF THE MAXILLOFACIAL AREA BY AUXILIARY DRAINAGE WITH CONSTANT REDUCED NEGATIVE PRESSURE //Medical Science of Ukraine (MSU). – 2019. – Т. 15. – №. 3-4. – С. 59-63.
7. Okhunov A. O. et al. Comparative Evaluation of The Effectiveness of Treatment of Deep Phlegmon of the Neck and Acute Secondary Mediastinitis //Journal of Advanced Zoology. – 2023. – Т. 44. – №. S-3. – С. 256-263.
8. Kurbonov Y. K., Boymuradov S. A., Djuraev J. A. Purulent-Necrotic Diseases of The Face: Aspects of Diagnostics and Treatment //The American Journal of Medical Sciences and Pharmaceutical Research. – 2021. – Т. 3. – №. 01. – С. 24-30.
9. Rustamova G. A., Ten V. I., Rustamov A. A. Optimization Of Local Treatment Of Patients With Phlegmon Of The Face And Neck Using Modern Antiseptics //The American Journal of Medical Sciences and Pharmaceutical Research. – 2020. – Т. 2. – №. 11. – С. 42-52.