УДК 616.001.17-07-084+616-089

COMPLICATION OF THERMAL INJURY: BURN SEPSIS

Tuxtayev Firdavs Muxiddinovich
Akhmedov Rakhmatillo Furkatovich
Samarkand State Medical University
Republic of Uzbekistan, Samarkand
e-mail: rahmatjon6868@mail.ru

Annotation. *One of the most severe complications leading to high mortality is sepsis of burn patients, accompanied by the formation of secondary metastatic purulent foci in various organs and tissues. Its development is preceded by bacteremia resulting from the translocation of bacteria from many reservoirs of infection into the bloodstream. An indispensable condition for the formation of secondary foci of infection is the insufficiency of natural immunity factors and immunodeficiency, which develop as a result of a severe burn injury.*

Key words: *burn sepsis, microflora, diagnostics.*

INTRODUCTION. Sepsis is a pathological process, which is based on the reaction of the body in the form of generalized (systemic) inflammation to an infection of various nature [1].The problem of diagnosis and treatment of generalized infection in severely burned patients, which consistently ranks first among the possible causes of death in patients with extensive burns, still remains relevant, since mortality from burn sepsis, according to various authors, ranges from 23 to 82% [2].

PURPOSE OF THE STUDY. To study the composition of the microflora in blood and wounds in severely burned patients with sepsis and to improve the outcome of thermal injury.

MATERIALS AND METHODS. To fulfill the tasks of assessing the prognostic and diagnostic value of a number of laboratory markers of burn sepsis in severely burned patients, we conducted a prospective study, during which the main attention was paid to identifying the etiology of the process using bacteriological and cytological data.

To achieve the goals and objectives before the study, data from a total of 130 victims with thermal injury were used, who were treated in the combustiology department of the Samarkand branch of the RSCEMC from 2020 to 2023.

The patients were aged 17 to 76 years (average 48.5±2.0 years). Of these, there were 74 men (56.9%), women - 56 (43.1%). 82 (63.1%) victims were of working age. All observed patients had an area of deep IIIB-IV degree burns over 20% (up to 85%) of the body surface (average 41.5±2.5%).

According to clinical and laboratory data (hemoglobin (Hb), albumin - globulin test (A/G), lymphocytes, leukocytes, body temperature above 38 ° C) and bacteremia recorded in patients more than 3 times, we diagnosed sepsis in 80 burned patients. .

The microflora and its sensitivity to antibacterial agents were analyzed in 45 patients, aged 17 to 76 years (mean age 41.5±4.3), there were 29 men and 16 women. The area of deep burns ranged from 25% to 65 % of the body surface (average 39.5±5%). The examination was carried out at admission, then on days 4-5 and 10-15 of treatment. Blood for sterility was taken from the central vein. The cultivation of microorganisms was carried out according to the standard method of microbiological analysis of blood on a double medium. The result was evaluated by the presence of colonies of microorganisms. In addition, the analysis of crops from wounds for microflora was carried out. In isolated pathogenic and conditionally pathogenic

microorganisms, sensitivity to 15-20 antibiotics produced in far and near abroad was determined.

RESULTS AND DISCUSSION: In blood cultures with positive results, S. Aureus (13 cases - 37.2%), Enterococcus (10-28.6%), Ps.aeruginosa (5-14.3%) prevailed, and 74.3% of the pathogens were multiresistant strains (Table 1).

Table 1

The structure of pathogens isolated from the blood of burn patients

Type of pathogen	Number of samples		Including resistant	
	Abs.	%	Abs.	%
S. aureus	13	37.2	eleven	31.4
Enterococcus	ten	28.6	ten	28.7
Ps. aeruginosa	5	14.3	2	5.8
S. epidermidis	3	8.6	one	2.8
Candida	2	5.7	0	0
E. coli	one	2.8	one	2.8
Acinetobacter	one	2.8	one	2.8
Total samples	35	100	26	74.3

From wounds with positive results, S. Aureus (42 cases - 37.8%), bacteria of the Escherichia coli group (30-27.1%), Ps.aeruginosa (20-18%) were predominantly sown. Polyresistance of microorganisms sown from wounds to antibacterial drugs was noted in 63.1% (Table 2).

Table 2

The causative agents of suppuration of burn wounds

Type of pathogen	Number of samples		Including resistant	
	Abs.	%	Abs.	%
S. aureus	42	37.8	37	33.3

E. coli	thirty	1 27.1	ten	9.1
Ps. aeruginosa	twenty	18.0	eleven	9.9
S. epidermidis	ten	9.0	3	2.7
Streptococcus	four	3.6	four	3.6
Enterococcus	3	2.7	3	2.7
Acinetobacter	2	1.8	2	1.8
Total samples	111	100	70	63.1

In patients with critical and supercritical deep burns, the risk of developing generalized infectious complications of burn disease increases significantly. In this regard, in patients with extensive deep burns of more than 20% of the body surface, we include antibacterial therapy in order to prevent and then treat complications of burn disease in complex therapy immediately after the patient is removed and the state of burn shock. All antibacterial drugs are administered to these patients intravenously. An absolute indication for immediate and intensive antibiotic therapy is the development of infectious complications of burn disease. The appointment of antibacterial drugs for burned patients should be based on a comprehensive assessment of their condition, taking into account the extent of the damage, its depth, the stage of the burn disease, its complications,

A comparative analysis showed that the developed and implemented principles of intensive complex therapy for burn sepsis and rational surgical tactics in patients with deep burns contributed to a decrease in overall mortality in the second period (2020-2023) compared to the first (2016-2019) - from 72.5% to 45%.

CONCLUSION: The rational use of antibiotic therapy in the complex treatment of burn patients can reduce the frequency and severity of infectious complications of burn disease, but to this day they are a serious threat to the lives of victims with thermal injury. That is why the continuous improvement of methods for the prevention and treatment of burn sepsis remains one of the priority tasks of combustiology.

LIST OF REFERENCES

1. Abdurakhmanovich A. A., Furkatovich A. R. Methods of early surgical treatment of Burns //Web of Scientist: International Scientific Research Journal. – 2022. – Т. 3. – №. 6. – С. 528-532.
2. Akhmedov R. F. et al. Diagnostic significance of procalcitonin level in burn disease //Journals of Emergency Surgery. Janelidze II. – 2021. – №. S1. – С. 11-12.
3. Akhmedov R. F. et al. Our experience in the treatment of burn sepsis //Actual problems of thermal trauma. Emergency Surgery.-Saint-Petersburg. – 2021. – С. 10-11.
4. AKHMEDOV R. F. Modern Views On The Etiopathogenesis And Diagnosis Of Burn Sepsis (Literature Review) //International Journal of Pharmaceutical Research (09752366). – 2021. – Т. 13. – №. 1.
5. Nadirovich K. R., Jamshidovich N. H., Shukurullaevich A. D. ASPECTS OF SURGICAL CORRECTION OF INTRAOPERATIVE BILE DUCTS INJURIES //Journal of Survey in Fisheries Sciences. –2023. –Т. 10. –No. 2S. –С. 3921-3931.
6. Furqatovich A. R., Karabaevich K. K., Muxiddinovich T. F. OZONOTERAPIYANING KUYISH SEPSISI KECHISHIGA TA'SIRI //JOURNAL OF BIOMEDICINE AND PRACTICE. – 2022. – Т. 7. – №. 6.
7. Furqatovich A. R., Karabaevich K. K., Muxiddinovich T. F. BURN SEPSIS-A TERRIBLE COMPLICATION THERMAL INJURY //JOURNAL OF BIOMEDICINE AND PRACTICE. – 2022. – Т. 7. – №. 6.
8. Ахмедов Р. Ф. и др. Диагностическая ценность прокальцитонина как маркера ожогового сепсиса у детей //Детская хирургия. – 2020. – Т. 24. – №. S1. – С. 18-18.

9. Ахмедов Р. Ф. и др. Полиорганная недостаточность при ожоговом сепсисе //Роль больниц скорой помощи и научно исследовательских институтов в снижении предотвратимой смертности среди населении. – 2018. – С. 204-205.

10. Ахмедов Р. Ф. и др. Наш опыт лечения ожогового сепсиса //Журнал Неотложная хирургия им. ИИ Джанелидзе. – 2021. – №. S1. – С. 10-11.

11. Ахмедов Р. Ф. и др. Диагностическая значимость уровня прокальцитонина при ожоговой болезни //Журнал Неотложная хирургия им. ИИ Джанелидзе. – 2021. – №. S1. – С. 11-12.

12. Ахмедов Р. Ф. и др. Ожоговый сепсис: грозное осложнение термической травмы //Инновационные технологии лечение ожогов и ран: достижения и перспективы: Всерос. симп. с междунар. участием. – 2018. – С. 19-21.

13. Ахмедов Р. Ф., Карабаев Х. К. СОВРЕМЕННЫЕ ВЗГЛЯДЫ НА ЭТИОПАТОГЕНЕЗ И ДИАГНОСТИКИ ОЖОГОВОГО СЕПСИСА //Проблемы биологии и медицины. – 2020. – Т. 5. – С. 244-248.

14. Ахмедов Р. Ф., Карабаев Х. К. Прогнозирование сепсиса при ожоговой болезни //Актуальные вопросы современной науки и образования. – 2022. – С. 183-185.

15. Карабаев Х. К. и др. Результаты хирургического лечения ожогового сепсиса //Журнал Неотложная хирургия им. ИИ Джанелидзе. – 2021. – №. S1. – С. 29-30.

16. Курбонов Н. А., Ахмедов Р. Ф. Modern approaches to the treatment of deep burning patients //Узбекский медицинский журнал. – 2022. – Т. 3. – №. 2.

17. Muhamadiev H. M. et al. A Retrospective Study Of The Clinical Significance Of Hemoconcentration As An Early Prognostic Marker For The Development Of Severe Acute Pancreatitis //The American Journal of Medical Sciences and Pharmaceutical Research. – 2020. – Т. 2. – №. 11. – С. 72-77.

18. Нарзуллаев С. И., Ахмедов Р. Ф. СОВРЕМЕННЫЕ МЕТОДЫ МЕСТНОГО ЛЕЧЕНИЯ К ЛЕЧЕНИЮ ПАЦИЕНТОВ С ГЛУБОКИМИ ОЖОГАМИ //Boffin Academy. – 2023. – Т. 1. – №. 1. – С. 314-325.

19. Нарзуллаев С. И., Ахмедов Р. Ф. ОПТИМИЗАЦИЯ И ЛЕЧЕНИЕ ПОЛИОРГАННОЙ НЕДОСТАТОЧНОСТИ У БОЛЬНЫХ ТЕРМИЧЕСКОЙ ТРАВМОЙ //Research Focus. – 2023. – Т. 2. – №. 11. – С. 124-132.

20. Рузибоев С. и др. Методы и средства местного консервативного лечения обожженных //Журнал проблемы биологии и медицины. – 2016. – №. 4 (91). – С. 186-192.

21. Хакимов Э. А. и др. Печеночная дисфункция у больных с ожоговым сепсисом //Журнал Неотложная хирургия им. ИИ Джанелидзе. – 2021. – №. S1. – С. 66-67.

22. Хидиров Л. Ф. и др. РАННЯЯ ДИАГНОСТИКА И ПРИНЦИПЫ ЛЕЧЕНИЯ СЕПСИСА У ТЯЖЕЛООБОЖЖЕННЫХ //Research Focus. – 2024. – Т. 3. – №. 3. – С. 169-172.

23. Шоназаров И. Ш., Ахмедов Р. Ф., Камолидинов С. А. ОСОБЕННОСТИ РАЗВИТИЯ ИНТРААБДОМИНАЛЬНОЙ ГИПЕРТЕНЗИИ У ПАЦИЕНТОВ С ТЯЖЕЛЫМ ОСТРЫМ ПАНКРЕАТИТОМ //Достижения науки и образования. – 2021. – №. 8 (80). – С. 66-70.

24. Шоназаров И. Ш., Камолидинов С. А., Ахмедов Р. Ф. ХИРУРГИЧЕСКОЕ ЛЕЧЕНИЕ ОСТРОЙ СПАЕЧНОЙ ТОНКОКИШЕЧНОЙ НЕПРОХОДИМОСТИ ЛАПАРОСКОПИЧЕСКИМ МЕТОДОМ //Вопросы науки и образования. – 2021. – №. 31 (156). – С. 69-78.