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HEALING OF PURULENT WOUNDS IN PATIENTS WITH CHRONIC DISEASES

SHAROPOVA MALOHAT SAYFULLAYEVNA
Bukhara State Medical Institute

Abstract

Purulent surgical diseases against the background of endocrine pathologies remains an urgent problem. The course of this pathology against the background of diffuse toxic goiter with a combination of diabetes mellitus negatively affects the outcome of the disease. The aim of the study was to study the clinical and laboratory features of the course of purulent surgical diseases of soft tissues against the background of diffuse toxic goiter and diabetes mellitus. The results of the study showed that the timing of the normalization of the criteria for assessing the wound process and the indicators of general intoxication of the organism of groups I and II were 2-3 days late in patients with purulent surgical diseases of soft tissues against the background of diffuse toxic goiter in combination with diabetes mellitus than in patients with the background of only diffuse toxic goiter.

Key words: Purulent wounds, diffuse toxic goiter, diabetes mellitus.

Relevance. Treatment of purulent surgical diseases against the background of diabetes mellitus is an actual problem of surgery [1;2;4]. With a combination of concomitant formidable diseases, endocrine pathologies such as diabetes mellitus and diffuse toxic goiter, the treatment of patients with purulent surgical diseases of soft tissues is significantly more difficult [5]. Many directed deviations from the norm in this pathology in the body, including violations of carbohydrate, mineral, protein metabolism, directly negatively affect the reparative processes in the body, which is the main thing in the treatment of purulent diseases of soft tissues [3;6;7].

Goal of the work: To study the features of the clinical course of purulent surgical diseases of soft tissues against the background of diffuse toxic goiter and its combination with diabetes mellitus.

study of clinical and laboratory features of the course of purulent wounds against the background of diffuse toxic goiter and its combination with diabetes mellitus.

Materials and methods: The data of examination and treatment of 88 patients with purulent wounds of soft tissues of various etiologies, who were treated in the purulent surgical department of the clinical base of the Bukhara State Institute in 2017-2020, were analyzed.

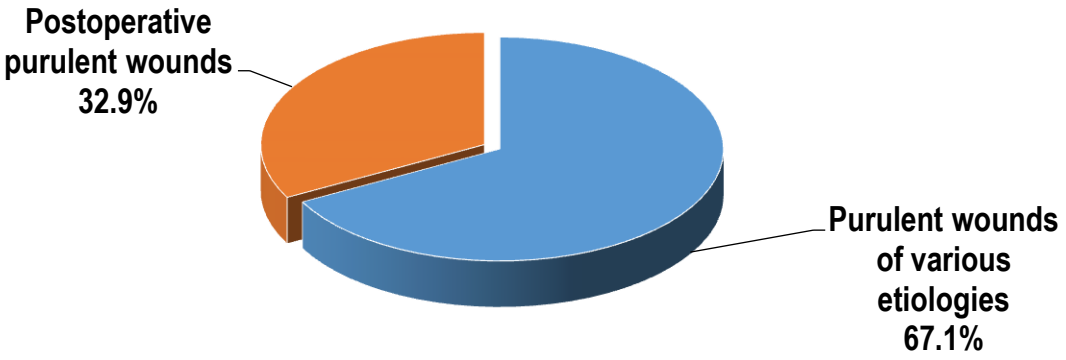
All patients, depending on the method of treatment, were divided into 2 groups: Group I - patients with purulent surgical diseases of soft tissues against the background of diffuse toxic goiter. II - group of patients with purulent surgical diseases of soft tissues against the background of a combination of diffuse toxic goiter and diabetes mellitus.

All patients with purulent diseases of soft tissues of groups I and II on the day of admission underwent an opening of a purulent focus. After debridement of wounds with antiseptics - a 3% solution of hydrogen peroxide, a 0.02% solution of furacilin and necrectomy, using a 25% solution of dimethyl sulfoxide for topical treatment, a gauze dressing with levomekol ointment on a water-soluble basis was applied. Conducted systemic antibiotic therapy, taking into account the sensitivity of the microflora isolated from wounds, detoxification therapy, as well as symptomatic treatment.

Correction of blood sugar levels and thyroid hormones in the examined patients was carried out jointly with an endocrinologist.

An objective assessment of the course of general and local manifestations of the process was carried out according to subjective indicators (the nature of the wound discharge, resorption of the infiltrate, the state of the wound edges, the development of granulation tissue and epithelialization) and according to objective signs (body temperature, general clinical blood test, leukocyte index of intoxication, concentration of medium molecular weight peptides in blood serum, pH of the wound discharge, calculation of PC according to M.F. Mazurik, the percentage of reduction in the area of the wound surface, the rate of wound healing, bacteriological and cytological examination).

Microbiological analysis was carried out by sampling the discharge from the wound with a qualitative and quantitative assessment of the wound infection, as well as its susceptibility to various antibiotics.At admission in both groups of patients, the wounds were in the first phase of the wound process. All patients with purulent diseases of the soft tissues on the day of admission underwent an opening of the purulent focus (Fig. 1).



Rice. 1. Distribution of patients by etiological factors

Upon admission, the general condition of the examined patients of both groups, objective and subjective criteria, and clinical and laboratory parameters were identical.

On the day of admission on an emergency basis, all patients of both groups underwent surgery: opening of the purulent focus, and sanitation of the purulent cavity with an antiseptic 3% hydrogen peroxide solution, after drying, sanitation was performed with a chemical solution of 25% dimethyl sulfoxide, followed by the application of levomekol ointment and aseptic gauze dressings , impregnated with a 25% solution of dimethyl sulfoxide daily 1 time per day. After the implementation of the basic principles of the treatment of purulent wounds and systemic antibiotic therapy, taking into account the sensitivity of the microflora of wounds. Most of the operations were performed under local anesthesia.

Results and discussions. It should be noted, given that group I patients with purulent surgical diseases of soft tissues had a concomitant disease - diffuse toxic goiter, all patients, with the participation of an endocrinologist, underwent drug correction of the level of thyroid hormones.

An analysis of the results of indicators of intoxication in the body of patients with purulent diseases of soft tissues of the I comparison subgroup revealed the following changes (Table 1).

Table 1.

Dynamics of indicators of intoxication in patients with purulent soft tissue diseases group I (n=67)

Indicators	Observation time

	day of admission	3 day	5 day	7 day	9-10 day
t^0 body	39,2±0,36	38,2±0,15*	37,6±0,14*	37,0±0,18	36,6±0,11*
L blood $\times 10^9$/л	9,6±0,32	8,2±0,27*	7,4±0,18	7,1±0,18	6,6±0,22
MSM unit	0,196±0,011	0,151±0,008**	0,132±0,004	0,118±0,006**	0,106±0,005***
LII unit	2,2±0,06	1,5±0,07*	1,2±0,05	1,1±0,05	1,0±0,05***
ESR mm/h	44,1±1,35	36,2±1,32*	30,4±1,22*	21,4±1,08***	12,1±0,65***

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, during treatment and observation, by the tenth day, all analyzed indicators of intoxication, except for blood ESR, were within the normal range.The following criteria for assessing the dynamics of the wound process in patients were the pH of the wound environment, the percentage of reduction in the area of the wound surface and the indicators of PC according to M.F. Mazurik table 2.

Table 2.

Dynamics of biochemical parameters and rate of wound healing in patients of group I (n=67)

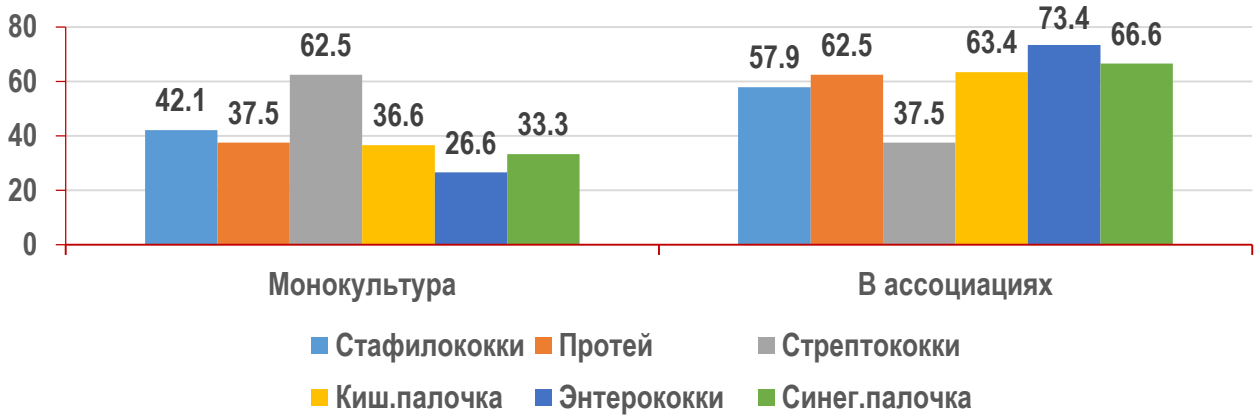
Indicators	Observation time				
	1 day	3 day	5 day	7 day	9-10 day
pH of the wound environment	4,4±0,11	4,9±0,14	5,3±0,14***	6,4±0,17	7,1±0,18***
Percentage reduction in wound surface area	0	0,9±0,03***	1,4±0,05***	2,7±0,11***	3,1±0,16
Wound exudate protein (g/l)	59,6±1,36	52,3±1,42	39,2±1,21***	32,9±1,19	-
Total blood protein (g/l)	64,6±2,6	66,8±1,93	67,1±1,48	68,8±2,1	72,2±2,28
PC according to M.F. Mazurik	1,0±0,01	1,2±0,04**	1,7±0,05***	1,7±0,03*	-

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

In patients of the analyzed group, by the tenth day of treatment, the pH of the wound medium became neutral. The decrease in the area of the wound surface per day became equal to 3.1±0.16%. The release of exudate from the wound stopped, which, in our opinion, is due to the transition of the wound process from the 1st to the 2nd phase.

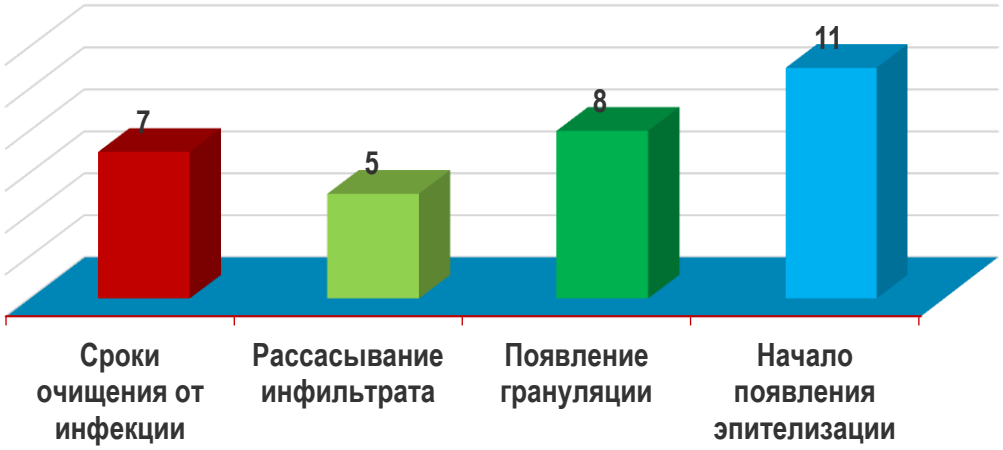
One of the characteristic criteria for assessing the wound process was the determination of the level of microbial contamination, the identification of the species composition of the microflora and the timing of wound cleansing. The identified species composition of the microflora sown from the exudate of infected wounds of patients with purulent diseases of soft tissues of group I is shown in

Figure 2.



Rice. Fig. 2. Species composition of the microflora inoculated from the exudate of infected wounds of patients with purulent diseases of the soft tissues of group I (n=67)

The results of the analysis of the terms of cleansing and healing of the wound in patients of group I are shown in Figure 3.



Rice. 3. Terms of cleansing and wound healing in patients of group I with purulent-necrotic diseases (n=67)

The results of the study of indicators of mineral, carbohydrate metabolism and thyroid hormones in patients of the first group are shown in tables 3 and 4.

Table 3

Dynamics of indicators of mineral and carbohydrate metabolism in patients Group I (n=67)

Indicators	Observation time				
	Normal	Day of admission	3 day	5 day	7 day
Na+ blood	136-145 mmol/l	151±2,31	147±3,73	144±2,66	149±2,58
K^+ blood	3,4-5,6 mmol/l	2,17±0,54	2,21±0,34	2,34±0,41	2,31±0,47
Ca^+ blood	2,03-2,6 mmol/l	1,22±0,92	1,31±1,14	1,48±0,67	1,51±0,19

blood sugar	4,5-7,0 mmol/l	8,9±0,9	7,4±1,03	7,1±1,12	7,2±1,54

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

Indicators of mineral and carbohydrate metabolism of group I on the day of admission had their own characteristics. So, in patients of the first group, all these indicators on the day of admission did not significantly differ from the norm. It should be noted that all deviations of mineral metabolism from the norm in patients of group I noted in table 3 were slightly lower than in patients with concomitant diseases of diabetes mellitus (group II). All this, in our opinion, is due to the peculiarities of the pathogenesis of the disease of diffuse toxic goiter, which naturally negatively affects the outcome of treatment.

Analysis of the results of thyroid hormones in patients of group I with purulent diseases of soft tissues against the background of diffuse toxic goiter revealed a significant deviation from the norm (Table 4). In the course of treatment, these indicators tended to normalize at a much slower pace.

Table 4.

Dynamics of thyroid hormones in patients
Group I (n=67)

Indicators	Observation time				
	Normal	Day of admission	3 day	5 day	7 day
T3 nmol/l	1,5-3,8	4,1±0,17	3,95±0,15	3,88±0,11	3,74±0,11
T4 nmol/l	90-120	138±3,45	127±4,17	128±2,15	132±4,18
TSH μIU/l	0,10-4,0	0,085±0,012	0,09±0,009	0,088±0,008	0,09±0,097

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

Group II included 21 patients with acute purulent surgical diseases on the background of diffuse toxic goiter with a combination of diabetes mellitus.

In all patients with purulent diseases of soft tissues on the day of admission, surgical treatment tactics were similar to those of the previous group. Considering that this group of patients with purulent surgical diseases of soft tissues had concomitant diseases of diabetes mellitus and diffuse toxic goiter, all patients with the participation of an endocrinologist underwent drug correction of blood sugar levels. Most patients 77 (89.5%) were type II diabetes mellitus, 9 (10.5%) patients were type I diabetes.

On the day of admission, the initial blood sugar level of patients of group II averaged 12.8□1.1 mmol/l. In the process of complex treatment with specific therapy for diabetes mellitus with the participation of an endocrinologist, the blood sugar level in dynamics decreased to 7.8□0.8 mmol/l by 5-6 days. Insulin therapy was carried out taking into account the individual characteristics of each patient.

Analysis of the results of indicators of intoxication in the body of patients with purulent diseases of soft tissues of group II revealed the following changes (Table 5).

Table 5

Dynamics of indicators of intoxication in patients with purulent soft tissue diseases of group II (n=21)

Indicators	Observation time				
	day of admission	3 day	5 day	7 day	9-10 day
t^0 body	38,9±0,41	38,7±0,21*	38,0±0,18*	37,7±0,16	36,9±0,12*
L blood $\times 10^9$/л	9,6±0,22	8,9±0,28*	8,4±0,32	7,9±0,18	6,9±0,17
MSM unit	0,244±0,011	0,211±0,017**	0,192±0,005	0,178±0,015**	0,128±0,006***
LII unit	2,3±0,07	2,1±0,09*	1,9±0,07	1,7±0,04	1,4±0,06***
ESR mm/h	48,1±1,88	42,3±1,54*	39,5±1,22*	32,7±1,18***	24,1±0,56***

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 during treatment and observation, only by the tenth day all the analyzed indicators of intoxication, except for MSM and blood ESR, were within the normal range.

The following criteria for assessing the dynamics of the wound process in patients were the pH of the wound environment, the percentage of reduction in the area of the wound surface and the indicators of PC according to M.F. Mazurik (Table 6).

Table 6.

Dynamics of biochemical parameters and rate of wound healing in patients of group II (n=21)

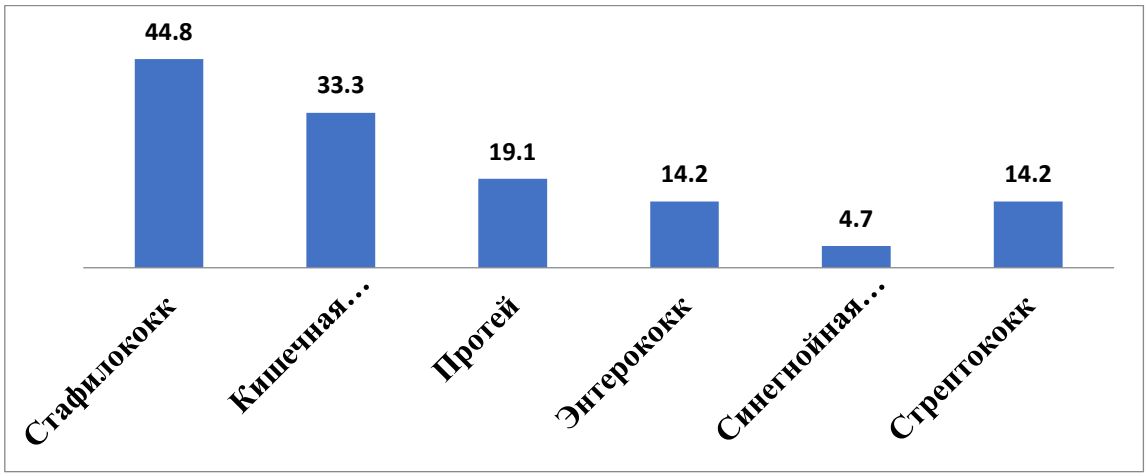
Indicators	Observation time				
	1 day	3 day	5 day	7 day	9-10 day
pH of the wound environment	4,2±0,14	4,3±0,16	4,7±0,14***	5,7±0,21	6,7±0,28***
Percentage reduction in wound surface area	0	0	0,6±0,03***	1,1±0,08***	2,2±0,11***
Wound exudate protein (g/l)	57,9±1,33	54,3±1,38	45,2±1,16***	43,6±1,19	40,4±1,26
Total blood protein (g/l)	59,6±1,44	59,8±1,32	60,7±1,72	61,9±2,64	63,1±2,17
PC according to M.F. Mazurik	0,9±0,02	1,1±0,04**	1,3±0,03***	1,4±0,04*	1,5±0,04*

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

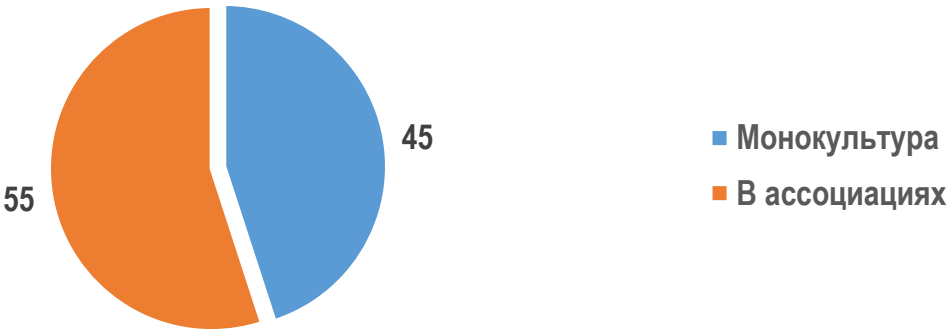
In patients of the analyzed group, only by the tenth day of treatment, the pH of the wound medium became neutral. The decrease in the area of the wound surface per day became equal to 2.2±0.11%. The release of exudate from the wound stopped, which, in our opinion, is due to the transition of the wound process from the 1st to the 2nd phase.

One of the characteristic criteria for assessing the wound process was the determination of the level of microbial contamination, the identification of the species composition of the microflora and the timing of wound cleansing. The identified species composition of the microflora, sown from the

exudate of infected wounds of patients with purulent diseases of soft tissues of group II, is shown in Fig. 4.

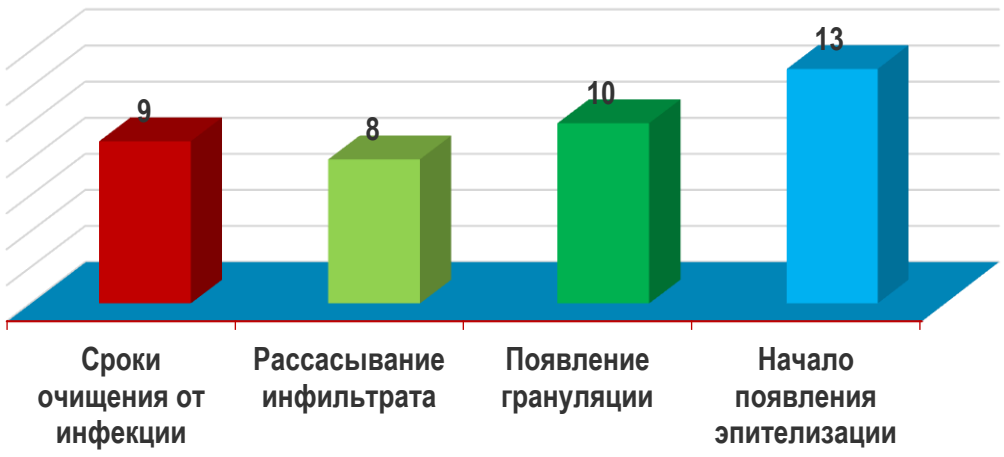


Rice. 4. Species composition of microflora, sown from their exudate



infected wounds of patients with purulent diseases of the soft tissues of group II (n=21)

The results of the analysis of the terms of cleansing and wound healing in patients of group III are shown in Figure 5.



Rice. 5. Terms of cleansing and wound healing in patients of group II with purulent-necrotic diseases (n=21)

The results of the study of indicators of mineral, carbohydrate metabolism and thyroid hormones in patients of the third group are shown in tables 7 and 8.

Table 7.

Dynamics of indicators of mineral and carbohydrate metabolism in patients Group II (n=21)

Indicators	Observation time				
	Normal	Day of admission	3 day	5 day	7 day
Na^+ blood	136-145 mmol/l	154±2,98	152±3,09	164±2,186	159±3,78
K^+ blood	3,4-5,6 mmol/l	1,98±1,14	2,11±0,29	2,04±0,24	2,08±0,35
Ca^+ blood	2,03-2,6 mmol/l	2,72±1,87	2,91±1,17	2,74±1,06	2,74±1,19
Blood sugar	4,5-7,0 mmol/l	13,8±1,2	11,4±1,21	9,1±1,32	9,2±1,71

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

Indicators of mineral and carbohydrate metabolism in patients of group II had the following peculiarities: on the day of admission, deviations from the norm of these indicators compared to group I, although they did not differ significantly, later normalized at a much slower pace, receding by 2-3 days. This, in our opinion, is due to the negative effect of the combined background disease of diabetes mellitus and diffuse toxic goiter.

The initial blood sugar level in patients of group II was equal to an average of 13.8±1.2. In the process of treating purulent surgical diseases of soft tissues with one-stage drug correction of blood sugar levels, the indicators gradually returned to normal.

The study of thyroid hormones in patients of group II with purulent diseases of soft tissues on the background of diabetes mellitus and diffuse toxic goiter revealed that thyroid hormones of this group on the day of admission had significant deviations from the norm, as in group I.

Table 8.

Dynamics of thyroid hormones in patients Group II (n=21)

Indicators	Observation time				
	Normal	Day of admission	3 day	5 day	7 day
T3 nmol/l	1,5-3,8	4,8±0,38	4,6±0,22	4,78±0,45	4,66±0,61
T4 nmol/l	90-120	141±3,16	139±2,78	133±2,88	131±2,54
TSH μIU/l	0,10-4,0	0,044±0,024	0,068±0,019	0,086±0,11	0,087±0,013

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

Thus, our study of patients of group I with purulent-necrotic diseases of soft tissues against the

background of a combined disease of diabetes mellitus and diffuse toxic goiter revealed the following features of the course of the wound process: all indicators of intoxication of the body, pH of the wound environment of the wound of patients on the day of admission were significantly deviated from norms. In the course of the traditional method of treatment, these indicators in dynamics tended to normalize at a slower pace than group I retreating by 2 days. At the same time, the average bed days were 10 1.4 days, while in group I patients these figures were 8 1.5 days.

CONCLUSION.

Thus, our study of patients of group II with purulent-necrotic wounds of soft tissues against the background of a combined disease of diabetes mellitus and diffuse toxic goiter revealed the following features of the course of the wound process: all indicators of intoxication of the body, pH of the wound environment of patients on the day of admission were significantly deviated from the norm than patients in group I. In the course of the traditional method of treatment, these indicators in dynamics tended to normalize at a slower rate than group I, receding by 2 days. At the same time, the average bed days were 10 1.4 days, while in group I patients these figures were 8 1.5 days.

REFERENCES:

1. Аканов Ж.А., Сейдинова А.Ш., Жунусбекова Н.Ж. и др. Частота осложнений у пациентов с сахарным диабетом по данным центра диабета // Вестник КазНМУ. 2015. №4. –С.289-292
2. Ахмедов Р.М., Сафоев Б.Б., Хамдамов Б.З., Хомидов Ф.К. Усовершенствованный метод ампутации при синдроме диабетической стопы с критической ишемией нижних конечностей// «Йирингли хирургиянинг долзарб муаммолари» мавзусидаги Республика илмий-амалий анжумани туплами Бухоро-Афшона 2010 йил 5-6 ноябр, - С. 123-125.
3. Болтаев Т.Ш., Сафоев Б.Б. Местное лечение гнойно-хирургических за-болеваний мягких тканей химическим препаратом диметилсульфоксидом и его сочетание с физическим методом лечения // Проблемы биологии и медицины. – 2020, №1 (116) – С. 27-31.
4. Охунов А.О., Бабаджанов Б.Д., Пулатов У.И. Причины генерализации инфекции у больных с гнойно-воспалительными заболеваниями мягких тканей на фоне сахарного диабета // Вестник Ташкентской Медицинской Академии. № 4, 2016. Стр. 89-93.
5. Столяров С. И., Григорьев В.Л. Опыт лечения гнойно-воспалительных заболеваний щитовидной железы // Здоровье. Медицинская экология.
6. Уроков Ш.Т. Буронов Ш.У. О проблеме локальных постинъекционных осложнений.// Проблемы науки. 2017 - С.-90-92.Наука. 2018. №1 (73).
7. 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, №8(12), p.161-167.
8. Makhmudova G.F. Age-related clinical,anatomical and morphological features of malignant tumors of the cervix// Journal of science and technology//2021.-P.-475-480
9. Guljamol Fazliddinonvna Makhmudova, Adkhambek Uygunovich Nurboboyev.Treatment of mechanical jaundice via the modern way// Scientific progress, 2021.-№6.-P.530-537
10. Nurboboyev A.U., Makhmudova G.F. Miniinvazive approach in the complex treatment of tumor and stone etiology of mechanical jaundice// International journal on Orange technology// Vol 3. Issue 9. Sep.2021.-P. 85-90
11. Махмудова Г. Ф., Темирова, Д. В., &Баротова, Ш. Б. (2021). Бачадон бўйни хавфли

ўсмаларининг ёшга хосхусусиятлари //Academic research in educational sciences // 2(5).-Б.-186-196. https://doi.org/10.24411/2181-1385-202100871

12. Maxmudova G.F.,Soxibova Z.R., Mamedov U.S., Nurboboyev A.U. Fertil va keksa yoshli ayollarda bachadon bo'yni xavfli o'smalari tahlili (Buxoro viloyatida)//Oriental Renaissance: Innovative, educational, natural and social sciences//-2021.-V 8.-B. 175-184.
13. MG Fazliddinovna, NA Uygunovich, ND Faxriddinovna The modern way of diagnosis of cervical pathology in women with uterine fibroids via the colposcopy//Web of scientist: international scientific research journal.-3(02), 1017-1027, 2022.
14. А.У. Нурбобоев, Г.Ф. Махмудова, А.Ф.Махмудова.Обсуждение Результатов Лечения Больных С Желчнокаменной Болезнью, Осложненной Механической Желтухой //CENTRAL ASIAN JOURNAL OF MEDICAL AND NATURAL SCIENCES//-2022.- 3 (3), 273-280.
15. GF Makhmudova. COLPOSCOPIC ANALYSIS OF CERVICAL PATHOLOGY IN WOMEN WITH UTERINE FIBROIDS // Scientific progress.-2022.-3 (1), 289-296.
16. NA Uygunovich, MG Fazliddinovna, SZ Rakhmonovna. Laparoscopic Methods in the Diagnosis and Treatment of Emergency Surgical Diseases of the Abdominal Cavity // European Multidisciplinary Journal of Modern Science//-2022.- 4, 196-202.
17. Abdullayev Habibulla Narzulloyevich, Makhmudova Guljamol Fazliddinovn, & Makhmudova Anora Fazliddinovna. (2021). Age-related clinical and instrumental analysis of malignant tumors of the cervix. Eurasian Medical Research Periodical, 3, 1–8. Retrieved from https://geniusjournals.org/index.php/emrp/article/view/254
18. Abdullayev Habibulla Narzulloyevich, Makhmudova Guljamol Fazliddinovna, & Khalikova Feruza Sharopovna. (2021). Comparison of the results of modern methods of treatment of elderly women with breast cancer. Eurasian Medical Research Periodical, 3, 9–15. Retrieved from https://geniusjournals.org/index.php/emrp/article/view/255
19. G. F., M. ., & F. Sh., X. . (2022). Pathomorphological Changes Occurring in the Spleen as a Result of External and Internal Factors. INTERNATIONAL JOURNAL OF HEALTH SYSTEMS AND MEDICAL SCIENCES, 1(5), 132–137.
20. Fazliddinovna, M. G. . (2023). Oncopsychology of Patients with Breast Cancer after Treatment. Scholastic: Journal of Natural and Medical Education, 2(2), 111–116.
21. Б.Б. Сафоев , А.У.Нурбобоев, Х.К. Турдиев, Г.Ф. Махмудова. (2022). ЗНАЧЕНИЕ ДИАГНОСТИЧЕСКОГО МЕТОДЫ ПРИ АБСЦЕССЕ ЛЕГКОГО. Uzbek Scholar Journal, 11, 170–178
22. F. Sh., X. ., & G. F., M. . (2022). Morphological Character of Breast Cancer Markers. Research Journal of Trauma and Disability Studies, 1(11), 13–19
23. Sultonova Lola Jahonqulovna, Sokhibova Ziyoda Rakhmonovna, Makhmudova Guljamol Fazliddinovna, & Barotova Shahnoza Bakhodirovna. (2021). RISK FACTORS FOR THE DEVELOPMENT OF LOCAL RECURRENCES OF INVASIVE BREAST CANCER. Galaxy International Interdisciplinary Research Journal, 9(10), 602–607
24. А.У. Нурбобоев, МС Шаропова, А.Ф. Махмудова Турли этиологияли механик сарикликни даволашда замонавий минилапаратом усуллар// Scientific progress// 3(1), 713-721, 2022
25. Nurboboyev Adhambek Uygunovich. Modern Laparoscopic Methods of Diagnosis and Treatment of Acute Abdominal Diseases// RESEARCH JOURNAL OF TRAUMA AND DISABILITY STUDIES// Volume: 01Issue: 10|Oct–2022 ISSN: 2720-6866.P.62-69
26. NA Uygunovich, MO Mirzonazarovich. LAPAROSCOPY IN THE DIAGNOSIS AND

TREATMENT OF EMERGENCY DISEASES OF THE ABDOMINAL CAVITY // Galaxy International Interdisciplinary Research Journal.-2021.- 9 (10), 651-657.

27. Uygunovich, N. A. . (2022). Effectiveness Mininvasive Laparoscopic Cholecystectomy during the Complication of Acute Cholecystitis. Research Journal of Trauma and Disability Studies, 1(11), 20–28
28. MS Sharopova. Improvements in the treatment of patients with purulent wounds onn abcombined background of diabetes mellitus and diffuse toxiv goiter//pioneer: journal of advanced research and scientific progress.-2022.-1 (4).-P. 35-41.
29. SM Sayfulloyevna, SB Barnoyevich. Improvement of therapeutic tactics for purulent surgical diseases against the background of endemic goiter//European Multidisciplinary journal of modern science .-2022.-4.-P. 403-407.
30. МС. Шаропова, ОМ Курбонов, ММ Шаропова, ИШ Мухаммадиев . Нарушения белкого обмена у больных с гнойными ранами на фоне тиреотоксикоза// Новый днь в медицине.-2020.- С. 608-610.