

## **CLINICAL COURSE OF PURULENT SOFT TISSUE DISEASES ON THE BACKGROUND OF DIABETES MELLITUS AND DIFFUSIVE TOXIC GOITER**

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### **ABSTRACT:**

Against the background of concomitant endocrine diseases of diabetes mellitus and diffuse toxic goiter, it significantly complicates the treatment of patients with purulent surgical diseases of soft tissues. The aim of our study was to study the features of the clinical course of purulent surgical diseases of soft tissues against the background of diabetes mellitus and with a combination of diffuse toxic goiter. Group I - patients with purulent surgical diseases of soft tissues on the background of diabetes mellitus. II - a group of patients with purulent surgical diseases of soft tissues against the background of a combination of diabetes mellitus and diffuse toxic goiter. **Results and discussion.** 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, the timing of cleansing and wound healing tended to normalize at a slower pace than group I, retreating by 2 days. In this case, the average bed days were  $10 \pm 1.4$  days, when in group I patients these indicators were equal to  $8 \pm 1.5$  days.

**Keywords:** Purulent surgical diseases, diabetes mellitus, diffuse toxic goiter

### **RELEVANCE:**

Due to the increase in the number of patients with diabetes mellitus (DM), the possibility of obtaining reliable information

about the health status of patients with purulent surgical diseases of soft tissues is relevant (2; 3; 5; 8). Along with diabetes mellitus, diseases of the thyroid gland currently occupy a leading place in the structure of all endocrinopathies (7). First of all, this is explained by the breadth of prevalence of diffuse toxic goiter in iodine-deficient areas, which ultimately leads to hyperthyroidism (4; 6).

Treatment of purulent surgical diseases against the background of diabetes mellitus is an urgent problem of surgery. Combining severe concomitant endocrine pathologies, such as diabetes mellitus and diffuse toxic goiter, makes it difficult to treat patients with purulent surgical soft tissue diseases. Many directional deviations from the norm in this pathology in the body, including disturbances in carbohydrate, mineral, protein metabolism, negatively affect the reparative processes of the body, which is the main thing in the treatment of purulent diseases of soft tissues.

### **PURPOSE OF THE WORK:**

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

### **MATERIALS AND METHODS:**

The data of examination and treatment of 147 patients with purulent wounds of soft tissues of various etiology, who were treated in the purulent surgical department of the clinical base of the Bukhara State Medical Institute in 2011-2020, 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 diabetes mellitus. II - group, patients with purulent surgical diseases of soft tissues against the background of combined pathologies of diabetes mellitus and diffuse toxic goiter.

Of the 107 patients examined, 76 (70.9%) had purulent wounds of various etiology, and 31 (29.1%) patients had purulent postoperative wounds (Figure 1). On admission, all patients had wounds in phase I of the wound process.

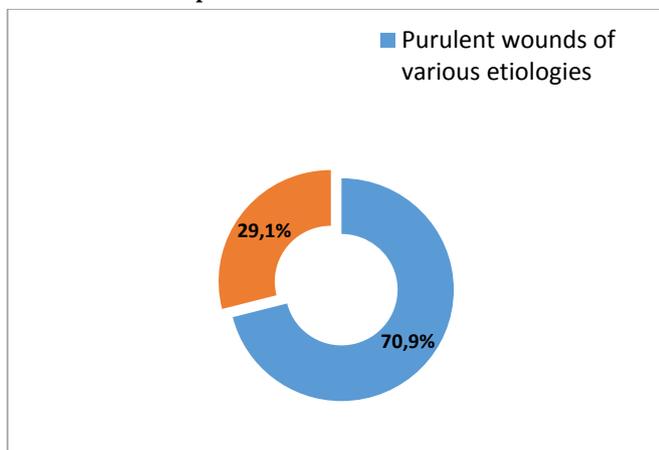


Figure 1. Distribution of patients in group I by etiological factors

In parallel with the general symptoms, local manifestations of the disease were expressed: hyperemia, edema and tissue infiltration in the wound area. Deep, painful infiltration was detected by palpation. In patients with postoperative purulent complications during removal of sutures, abundant purulent discharge from wounds was noted. On the day of admission, all patients with purulent soft tissue diseases of groups I – II underwent an opening of the purulent focus. Post-necrectomy and wound sanitation with antiseptics - 3% hydrogen peroxide solution, 0.02% furacilin solution, 25% dimethyl sulfoxide solution, for local treatment a gauze bandage with levomekol ointment on a water-soluble basis was applied. Systemic antibiotic

therapy was carried out taking into account the sensitivity of microflora secreted from wounds, detoxification therapy, as well as symptomatic treatment.

Correction of blood sugar and thyroid hormone levels in the examined patients was carried out along with an endocrinologist. Clinical laboratory and instrumental research methods.

Mazurik, the percentage of reduction in the area of the wound surface, the rate of wound healing, bacteriological and cytological examination). The leukocyte intoxication index (LII) was calculated according to the formula of Ya. Ya. Kalf-Caliph. In order to assess the rate of wound healing, the method proposed by L.N. Popov according to the formula:

$$S = \frac{(S - S_n) \cdot 100}{S \cdot t}$$

Where S is the size of the wound area during the previous measurement; Sn is the size of the wound area at the moment; t is the number of days between the first and the next measurement. Microbiological analysis was carried out by sampling the discharge from the wound. Cytological prints were made according to the method of M.P. Pokrovsky also M. S. Makarov. The cellular composition was expressed as a percentage in order to have a clear understanding of the dynamics of the process.

The prognostic coefficient (PC) of the course of the wound process was determined by the formula of M.F. Mazurik (1984):

## RESULTS AND DISCUSSION:

Considering the concomitant pathology of diabetes mellitus in this group of patients with purulent surgical diseases of soft tissues, all patients with the participation of an endocrinologist underwent drug correction of blood sugar levels. The majority of patients 77 (89.5%) were type II diabetes mellitus, 9

(10.5%) patients were type I diabetes mellitus. On the day of admission, the initial blood sugar level in group II patients averaged  $12.8 \pm 1.1$  mmol / L. In the course of complex treatment with specific therapy of diabetes mellitus with the participation of an endocrinologist, the blood sugar level in dynamics by 5-6 days decreased to  $7.8 \pm 0.8$  mmol / L. Insulin therapy was carried out taking into account the individual characteristics of each patient. On the first day of treatment, the body temperature of the patients averaged  $38.6 \pm 0.36$  °C. The content of blood leukocytes was on average  $9.2 \pm 0.38 \times 10^9$  / l. The volume of medium molecules averaged  $0.194 \pm 0.008$  units. Similarly, an increase in LII and ESR was noted. On the third day of treatment, there was a slight decrease in body temperature indicators to  $38.1 \pm 0.14$ , the number of blood leukocytes decreased on average to  $8.4 \pm 0.32 \times 10^9$  / l.

The volume of medium molecules averaged  $0.158 - 0.006$  units. There was a decrease in LII and ESR indicators to  $1.8 - 0.08$  and  $38.2 - 1.46$ , respectively.

With further treatment and observation by the tenth day, all analyzed indicators of intoxication, except for ESR of blood, were within normal limits. ... In patients of the analyzed group, on the day of admission, the initial pH level of the wound environment was significantly lower (acidosis) and averaged  $4.1 \pm 0.16$ . The protein of the exudate of the wounds was on average  $58.4 \pm 1.57$  g / l. PC averaged  $0.9 \pm 0.01$  units.

By the third day of treatment, the pH of the wound environment averaged  $4.4 - 0.12$ , and the percentage of reduction in the area of the wound surface per day averaged  $0.6 - 0.03\%$ . The protein fraction of the exudate of wounds was on average  $55.44 \pm 1.34$  g / l, and in the blood -  $65.1 \pm 1.82$  g / l, while the PC according to Mazurik was  $1.2, 0.03$ . By the seventh day, PC was equal to  $1.5 \pm 0.02$ , and the

wound area per day significantly decreased by  $2.2 \pm 0.11\%$ . The pH of the wound environment averaged  $5.8 - 0.19$ . Only by the tenth day of treatment did the pH of the wound environment become neutral. The decrease in the area of the wound surface per day became equal to  $2.9 - 0.16\%$ . The release of exudate from the wound has ceased, which, in our opinion, is due to the transition of the wound process from the 1st to the 2nd phase.

Analysis of the level of microbial contamination of purulent wounds in patients of this group revealed the following: at the time of admission, the 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 the 7-8th day of complex treatment in these patients, the degree of microbial contamination was below the critical level and amounted to 102 mt/g of tissue.

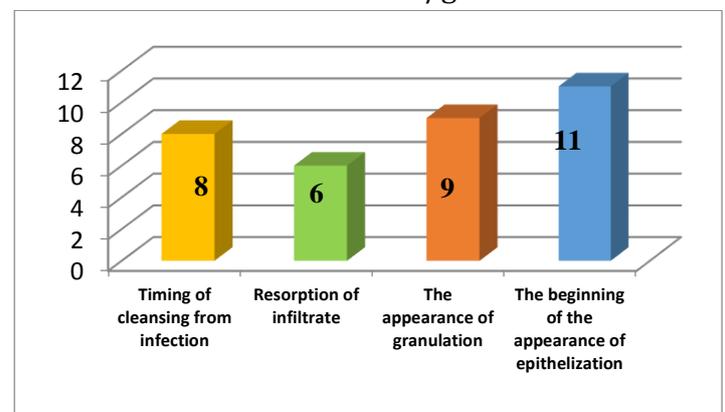


Figure 2. Timing of cleansing and wound healing in patients of group I comparison with purulent-necrotic diseases (n = 86)

The results of the analysis of the terms of wound cleansing and healing in patients of group II, shown in Figure 5, indicate that in patients of the analyzed group, the cleansing of wounds from infection occurred on average by  $8.0 \pm 0.5$  days. By the sixth day, resorption of infiltrates was noted.

At the same time, the onset of the appearance of granulations was noted on average on the seventh to eighth days. Thus,

our study of patients with purulent-necrotic soft tissue diseases revealed the following features of the course of the wound process with the traditional method of treatment against the background of diabetes mellitus: the blood sugar level on the day of admission averages  $12.8 \pm 1.1$ , the transition of the wound process to the 3rd phase occurs on the 7-8th day of treatment, all these indicators in the course of treatment with positive dynamics have a certain correlation with each other.

On the day of admission, all patients with purulent diseases of soft tissues had the same surgical treatment tactics as in the previous group. The majority of patients with diabetes mellitus were 19 (90.4%) type II and 2 (9.6%) type I diabetes mellitus patients.

Analysis of the results of indicators of intoxication of the body of patients with purulent diseases of soft tissues of group II revealed the following changes. On the first day of treatment, the body temperature of the patients averaged  $38.9 \pm 0.410^{\circ}\text{C}$ . The content of blood leukocytes was on average  $9.6 \pm 0.22 \times 10^9 / \text{l}$ . The volume of medium molecules averaged  $0.244 - 0.011$  units. Similarly, an increase in LII and ESR was noted.

On the third day of treatment, there was a slight decrease in body temperature indicators from  $38.9 \pm 0.41$  to  $38.7 \pm 0.21$ , the number of blood leukocytes decreased on average to  $8.9 \pm 0.28 \times 10^9 / \text{l}$ . The volume of medium molecules averaged  $0.211 - 0.017$  units. There was a decrease in LII and ESR indices to  $2.1 \pm 0.09$  and  $42.3 \pm 1.54$ , respectively. With further treatment and observation by the tenth day, all the analyzed indicators of intoxication, except for MSM and blood ESR, were within normal limits. In patients of the analyzed group, on the day of admission, the initial pH level of the wound environment was significantly lower (acidosis) and averaged  $4.2 \pm 0.14$ . The protein of the exudate of the wounds was on average  $57.9 \pm$

$1.33 \text{ g} / \text{l}$ . PC at the same time averaged  $0.9 \pm 0.02$  units.

By the third day of treatment, the pH of the wound environment averaged  $4.3 \pm 0.16$ , there was no decrease in the area of the wound surface for the third day. The protein fraction of wound exudate was on average  $54.3 \pm 1.38 \text{ g} / \text{l}$ , and in the blood -  $59.8 \pm 1.32 \text{ g} / \text{l}$ , while the PC according to Mazurik was  $1.1 \pm 0.04$ .

Analysis of the level of microbial contamination of purulent wounds in patients of group II also revealed: at the time of admission, the microbial contamination, on average, was  $108 \text{ mt} / \text{g}$ , on the next day after surgical treatment of the wound with the application of an ointment bandage, its values were  $105 \text{ mt} / \text{g}$ . By the 9th day of complex treatment in these patients, the degree of microbial contamination was below the critical level and amounted to  $102 \text{ mt} / \text{g}$  of tissue.

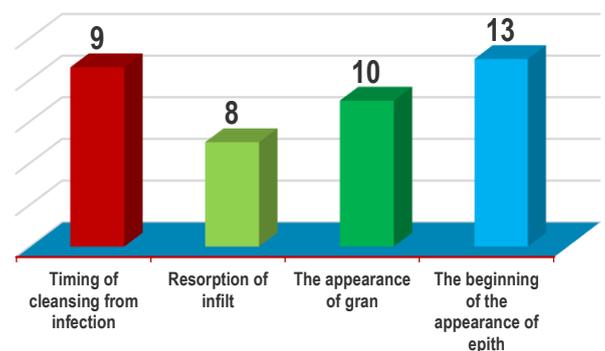


Figure 3. Terms of wound cleansing and healing in patients of the II group of comparison with purulent-necrotic diseases (n = 21). The results of the analysis of the terms of wound cleansing and healing in patients of group II shown in Figure 3 indicate that in patients of the analyzed group, the cleansing of wounds from infection occurred on average by  $9.0 \pm 0.5$  days. ... By the eighth day, resorption of infiltrates was noted.

At the same time, the beginning of the appearance of granulations was noted, on average, on the ninth to tenth days. Only by the thirteenth day, a predominantly regenerative type of cytograms was ascertained. These data

were confirmed by cytological studies.

The initial blood sugar level in patients of group II was  $13.8 \pm 1.2$  on average. In the process of treatment of purulent surgical diseases of soft tissues with simultaneous drug correction of blood sugar levels, the indicators gradually returned to normal. The study of indicators of thyroid hormones in patients of group II - with purulent diseases of soft tissues against the background of diabetes mellitus and diffuse toxic goiter revealed that the thyroid hormones of this group on the day of admission had significant deviations from the norm. ... Thus, with a decrease in TSH activity, the level of thyroid hormones T-3 and T-4 increased sharply. All these violations aggravated the course of the wound process, which was manifested in a slowdown in the time of wound cleansing, the transition of the wound process from the first to the second phase.

#### CONCLUSION:

Thus, our study of patients of group II 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 patients on the day of admission were significantly deviated from norms than in patients of group I. In the course of the traditional method of treatment, these indicators in dynamics tended to normalize at a slower pace than in group I, retreating by 2 days. At the same time, the average bed days were 10 1.4 days, when in group I patients these indicators were equal to 8 1.5 days.

The correlation between the presence of concomitant pathologies and a negative course of the disease revealed by our research indicates the need to focus attention on the timely correction of hormonal, carbohydrate

and protein metabolism disorders in the treatment of purulent surgical soft tissue diseases against the background of diabetes mellitus, diffuse toxic goiter and their combination.

#### REFERENCES

- 1) AkanovZh.A., SeydinovaA.Sh., ZhunusbekovaN.Zh. and others. The incidence of complications in patients with diabetes mellitus according to the diabetes center // Bulletin of KazNMU. 2015. No. 4. – S.289-292
- 2) Vlasov A.P., Zaytsev P.P., Vlasov P.A. Increasing the reparative potential of tissues in diabetes mellitus // Surgery. - 2017.-№12.-P.52-57.
- 3) Okhunov A.O., Babadzhanov B.D., Pulatov U.I. The reasons for the generalization of infection in patients with purulent-inflammatory diseases of soft tissues against the background of diabetes mellitus // Bulletin of the Tashkent Medical Academy. No. 4, 2016. Pp. 89-93.
- 4) Pastukhov DO Surgical treatment of toxic goiter: abstracts of the conference: 2018.- Pages: 314-315
- 5) Safoev B.B., RakhimovA.Ya. Critical ischemia of the lower extremities and diabetic foot. Monograph. 2019 P.321. Smanova D.K., Alymkulov R.D., Zurdinov A.Z. Predictability of long-term results of treatment of endemic goiter with transdermal administration of potassium iodide // Universum: medicine and pharmacology. 2017. No. 3 (37).
- 6) Stolyarov S. I., Grigoriev V. L. Experience in the treatment of pyoinflammatory diseases of the thyroid gland // Health. Medical ecology. The science.2018. No. 1 (73).
- 7) Safoev BB, RakhimovA.Ya. Critical ischemia of the lower extremities and diabetic foot. Monograph.2019 P.321.

- 8) Davlatova, M. H. (2020). An Integrative history of Aspectual meanings. JournalNX-A Multidisciplinary Peer Reviewed Journal, Volume6, (4), 17-22.
- 9) Davlatova M.H. Variability of Aspectual Meanings in English. -European Journal of Research and Reflection in Educational Science, Volume.7 No.12.2019.-P.778-780
- 10) Davlatova M.H. An Integrative history of Aspectual meanings. -JournalNX-A Multidisciplinary Peer Reviewed Journal, Volume 6, ISSUE 4, Apr.-2020.-P.17-22
- 11) Kurban B.Shadmanov, Mukhayyo H.Davlatova, Sanam N.Ostonova, Azima T. Radjabova, English Renaissance: Transformation of Philosophy understanding as a Factor of Information Culture Development of the Epoch. The American scholarly journal Cross-Cultural Studies: Education and Science (CCS&ES), Volume-5, Issue I, March 2020.- P.61-68
- 12) Давлатова, М.Х. The role of songs in learning English. / М.Х. Давлатова// Молодой ученый. – 2015. – №10. – С.1145-1147
- 13) Mukhayyo Hasanovna Davlatova. Lexico Semantic Structure and its Analysis on the Example of Verbs Journal NX- A Multidisciplinary Peer Reviewed Journal Volume 6, Issue 6, June. (2020) 189-192
- 14) МХ Давлатова. Этапы работы с видеотекстами на занятиях Английского языка. Международный научный журнал «Интернаука», - М., 2017, 16-19
- 15) 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.
- 16) NA.Narzieva, N.Hasanova Communicative competence as a pedagogical model in the classrooms, Academia-An international Multidisciplinary Research Journal, volume 10(6),78-81,2020
- 17) NA Narziyeva The concept of defined target technologies and their role in the educational process, Theoretical and Applied science, 356-360,2020
- 18) Abdullayeva D.A, Narziyeva N.A(2021), Main styles and methods of teaching speaking foreign languages to medical institutes, International Engineering Journal for research and development 6(SP), 4-4,2021
- 19) NN Narzieva (2017), Development of Education and Research Activity Profile Class Students on the Basis of Integrative and Personal Approach, www. auris-verlag.