

Peculiarities Of Clinical Picture Of Necrotic Infections Of Soft Tissues In Patients With Diabetes Mellitus

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Anotatsiya: The review presents data on the peculiarities of the clinical picture and course of necrotic infections of soft tissues against the background of diabetes mellitus, and highlights the issues of diagnosis. Characteristic clinical signs of inflammation that accompany surgical infection are not always manifested at early stages. This is especially pronounced in patients suffering from diabetes mellitus. The necessity of creating a unified diagnostic algorithm in case of suspicion of this pathology is substantiated. Thus, surgical soft tissue infection, in particular necrotic lesions in patients with diabetes mellitus remain one of the urgent problems of modern medicine, in solution of which early clinical diagnostics and further therapeutic tactics are of great importance.

Key words: purulent-inflammatory diseases of soft tissues, necrotizing fasciitis, myonecrosis, diabetes mellitus.

Speaking about the severity and relevance of necrotic infections of soft tissues, I would like to remind you that the mortality rate in diabetes reaches 76% [1], so it is important to standardize the process of diagnosis and treatment of this category of patients. Necrotic soft tissue infections are clinically complex diseases that all physicians should be aware of and require prompt diagnosis and early, comprehensive surgical treatment. This can save patients' lives, because necrotic changes develop rapidly, followed by a high probability of sepsis and, accordingly, a high mortality rate [2]. There is the fact that the field of changes seen in the atypical clinical presentation of diabetes does not come to the processes identified during surgery. The paucity of early pathologic features and often-necrotic soft tissue infections are misdiagnosed as other pathologies, leading to initial misdiagnosis [3]. The classic clinical presentation of necrotizing infections includes a triad of symptoms: local pain, swelling, and erythema (3). Tachycardia (>100 beats/min) and fever are the most common presenting vital signs at peak, followed by hypotension (<100 mmHg) and tachypnea (>20 /min) [3]. The infected area shows tenderness, sclerosis, skin necrosis and hemorrhagic bullae [4,5]. Depending on the development of the infection, the elevated clinical picture can always be clear, especially against the background of diabetes. For this, two groups of symptoms are considered, i.e. early and late symptoms [3,6]. The most common early symptoms are erythema, pain, and swelling. At the peak of the disease, in the acute form of the disease, the patient's condition worsens with symptoms of severe septic shock and multiple organ dysfunction syndrome. In this case, the clinical picture worsens quickly within a few hours. In contrast, the sub-acute form of the disease has a relatively slow clinical course that can last several days or weeks. The early clinical condition of the sub-acute form is the result of an existing condition that leads to infection. The patient often shows banal infection when there are signs of inflammation at the site of infection, but their intensity varies, especially in patients with diabetes, which is associated with the presence of angiopathy and neuropathy [7, 8]. Tenderness, especially disproportionate to skin manifestations, or refractive sensitivity to analgesia is a common reason for the diagnosis of necrotizing fasciitis [11]. However, some patients with diabetes may not feel pain. In our study, 87% of diabetic patients experienced tenderness, and this is supported by other studies, including Hsiao et al [12,13], who reported that only 54.7% of patients experienced tenderness. DJoshi et al [14] also reported that patients with diabetes had fewer systemic

signs and less severe symptoms than those without diabetes. This may contribute to the late onset and prolonged duration of symptoms seen in patients with diabetes. In most cases, the pain increases with the development of the infection. In addition, as a result of enzymatic and toxic effects, pain during palpation goes beyond the visible damaged area and spreads along the fascial structures. In addition, the boundaries of the lesion are usually ill defined and lymphangitis is rare because the infection is in the deep fascia rather than in the skin structures [10, 16]. The clinical picture is characterized by symptoms of general intoxication, including fever, dehydration, confusion, dizziness, diarrhea, nausea, vomiting, weakness and malaise [9]. If the disease is not diagnosed at this stage, skin symptoms may progress to blisters and bullae, eventually leading to limited skin necrosis and as the infection progresses, they may become hemorrhagic. Gas formation may occur at this stage, indicating an anaerobic infection such as *C. perfringens*. This classic skin condition usually does not appear until the fifth day or later [8]. The burden of clinical symptoms makes it difficult to make an early diagnosis in patients with diabetes. In studies conducted by different authors, the frequency of timely diagnosis varies from 14.6% to 38% of patients. Non-diabetic patients were significantly more likely to be diagnosed, possibly because of the atypical presentation seen in diabetics, who have longer symptoms and less signs of systemic toxicity. Similarly, and possibly for the same reason, patients with diabetes had longer hospital stays and underwent surgery later than nondiabetic patients. This delay in surgery is important because a delay in surgery during this period has been shown to be associated with increased mortality [3,11,15]. Thus, the key to a positive outcome in the treatment of diabetic patients with necrotic soft tissue infections is early diagnosis, surgical intervention, and subsequent intensive conservative treatment. This is the only way to reduce mortality and hospital stay.

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