

Be careful: It may be Necrotising fasciitis Dikkatli olun: Nekrotizan fasiit olabilir

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Abstract

Necrotizing fasciitis is a life-threatening medico-surgical emergency and invasive soft-tissue infection which primarily involves the fascia superficialis and rapidly extends along subcutaneous tissue with relative sparing of skin and underlying muscles. Clinical presentation includes fever, signs of systemic toxicity and pain out of proportion to clinical findings. Cutaneous findings are so minimal early in the course of the disease that diagnosis become challenging. Delayed diagnosis and/or treatment correlates with poor outcome, leading to sepsis and/or multiple organ failure. Necrotizing fasciitis is being recognized with increasing frequency in persons with diabetes mellitus in the world. In this article; a case of necrotizing fasciitis of a diabetic patient admitted to emergency service was reported.

Key words: Diabetes mellitus, emergency department, necrotizing fasciitis

Özet

Nekrotizan fasiit; primer olarak fascia superficialisi tutan, hızla subkutanöz dokular boyunca uzanan, göreceli olarak deri ve altta yatan kaslara uzanabilen, hayatı tehdit edici invaziv bir yumuşak doku enfeksiyonudur ve önemli tıbbi-cerrahi acil durumlardan bir tanesidir. Klinik bulguları arasında; ateş, sistemik toksisite bulguları ve klinik bulgularla orantısız ağrı vardır. Hastalığın gidişi sırasında erken dönemde kutanöz bulgular minimal düzeydedir; bu durum tanıyı zorlaştırır. Gecikmiş tanı ve/veya tedavi zayıf cevapla ilişkilidir, sepsis ve/veya multiple organ yetmezliği ile ilişkilidir. Dünyada nekrotizan fasiit, diyabetik hastalarda artan oranlarda görülmektedir. Bu makalede, acil servise başvurmuş olan bir nekrotizan fasiitli diyabetik hasta açıklanmıştır.

Anahtar kelimeler: Diabetes mellitus, acil servis, nekrotizan fasiit

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Introduction

Necrotizing fasciitis (NF) is used as a generic name for necrotizing infections of soft tissue. Necrotizing fasciitis is a life-threatening medico-surgical emergency and invasive soft-tissue infection characterized by rapidly spreading inflammation and subsequent necrosis of the underlying muscle, fascia, subcutaneous fat and in some cases the epidermidis. Necrosis is usually limited in depth to the plane of the muscle fascia (1). The disease often results in both loss of limb and loss of life with a high incidence of morbidity and mortality. Microbiologically, NF has been classified as either type 1 (polymicrobial) or type 2 (monomicrobial). Polymicrobial infections are more common, with cultures yielding a mixture of aerobic and anaerobic organisms. These infections typically occur in the perineum and trunk. Monomicrobial infections are less common than the polymicrobial forms. These typically occur in the limbs and afflict healthy patients with no implicative comorbidities. There is often a history of trauma, frequently trivial. In addition, NF may also be classified by the portal of entry, either by a known wound or idiopathic with no visible portal of entry.

Several predisposing factors (eg. IV drug abuse, diabetes mellitus, chronic liver disease, hypertension, ischemia and immunosuppressed state) may also contribute to or make a patient more susceptible to NF and can also lead to higher morbidity and mortality (2,3,4). Diabetes was found to be the major predisposing factor in adults in several studies (5,6). Diabetes was also shown to be present in up to 64% of patients suffering from NF (7).

This case report is a serious form of NF in a diabetic patient referred to our emergency department. We want to highlight the importance of early, aggressive management in controlling this potentially life threatening complication.

Case

In April 2009, a 82 years old diabetic female who referred to the emergency department, complaining of a painful, swollen right leg and state of altered consciousness and respiratory distress. She had a history of a little erythema and pain just one day previously. The

ankle became increasingly painful and a few hours ago she had a blister develop and she became worse. Her past medical history was significant for type 2 diabetes mellitus.

On initial examination, her temperature was 35.5°C, heart rate 110 beats.min⁻¹, arterial pressure 100/60 mmHg, the ventilatory frequency 20 bpm, altered mental status and unconscious. The right ankle had marked edema and ecchymosis and some hemorrhagic bullae were noted from the lateral surface of the leg till the inguinal part. Subcutaneous emphysema was examined in the same localisation. Peripheric pulses were absent in the right lower extremity. Laboratory findings showed mild renal impairment (creatin 2,6 mg.deciliter⁻¹, urea 55 mg.deciliter⁻¹), elevated creatine kinase (3642 iu.liter⁻¹), hyperglycaemia (311 mg.deciliter⁻¹), leucocytosis (white blood cell count 34.9×10⁹xliter⁻¹), pH:7.1, HCO₃:8.2 mmoleliter.

Figure 1. Marked edema and ecchymosis and some hemorrhagic bullae are noted from lateral surface of the right leg till the inguinal canal. Subcutaneous emphysema is also found during physical examination



She was hospitalised with the differential diagnosis of necrotising fasciitis and clostridial myonecrosis. Blood cultures were taken for differential diagnosis and antibiotics were given. Central subclavian catheter and foley catheter were placed and dopamine (15 µg.kg⁻¹.min⁻¹) infusions were started after a large fluid infusion (2000 ml of hydroxyethylstarch and 1000 ml of saline 0.9%). The patient was transferred to our intensive care unit to plan hip desarticulation. Poorly, the patient died 6 hours later. Then, blood cultures yielded coagulase negative Staphylococcus.

Discussion

NF is a disease that is influenced by several risk factors, and whose outcome is based on early recognition and surgical treatment (7,8,9). The major risk factor for

acquiring NF is diabetes mellitus (2,3,7,9). Our patient had a history of uncontrolled type 2 diabetes mellitus. Poorly controlled glucose levels can lead to additional associated risk factors such as arteriosclerosis, hypertension and neuropathy. They also can cause an immunocompromised state conducive to NF (3). Our patient had hyperglycaemia, leucocytosis and creatinine was also elevated, placing her in a higher risk category for increased mortality and limb loss. So that, the physical examination findings fastly showed multiorgan disfaillure (6). Probably the patient admission was delayed.

Typical signs and symptoms include pronounced pain (allodynia), crepitus, edema, skin blistering and cellulitis (3). But usually early cutaneous findings are so minimal that the diagnosis become challenging. Although, later clinical finding are more clear; gas on x-ray, bullae, skin necrosis, and thickening of the subcutaneous tissue with high fluid collections on magnetic resonance (5). However the confirmation of the diagnosis is often made after surgical debridement. Unless appropriate intervention is taken, there is likely to be a rapid evolution to cutaneous gangrene with myonecrosis and extension of inflammatory process. Then systemic symptoms like shock and organ failure exists. Thus, NF rapidly spreads and often mortality appears less than 1 week after the initiating event (4,5). In our case, we could not have the chance to make surgical debridement.

Conclusion

Clinicians must practise increased vigilance when treating patients with predisposing factors (eg. type 2 diabetes, penetrating injuries, minor cuts, surgical procedures) suffering erythema, pain and fever in order not to miss this rare but life-threatening condition. Also one of the major problem causing delayed diagnosis is the delayed admission of the patient. Herein we also want to increase the public awareness about minor wounds of the immunocompromised or diabetic patients, especially at the geriatric period. These wounds may be so serious and life threatening by the altered age. Thus they must have an immediate medical advise for every lesions of the skin.

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