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CASE REPORT

Multifocal necrotizing fasciitis: Presentation of a case☆

E. Navarro-Cano*, D. Noriego-Muñoz

Servicio de Cirugía Ortopédica y Traumatología, Hospital Universitario Dr. Josep Trueta, Girona, Spain

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KEYWORDS
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Abstract
Introduction: Multifocal necrotizing fasciitis is a condition in which there is more than one non-contiguous body area affected, and it is usually the result of the dissemination of septic emboli.
Clinical case: We present a 67-year-old patient, on oral corticosteroid treatment, who was admitted with a septic shock. During the previous week he had been operated on due to the perforation of a colon diverticulum.

He had signs that suggested necrotizing fasciitis on all four limbs which progressed quickly.

Emergency fasciotomies on all limbs were performed, and empirical antibiotic treatment was started.
Results: After the surgery the patient improved, and seven days after the debridement, primary closure of the wounds was performed. Tissue cultures were negative.
Discussion: Being a rare entity, there is no consensus regarding the management of multifocal necrotizing fasciitis. However, early and aggressive debridement (including fasciotomies and even amputation) and broad-spectrum antibiotics are essential for its treatment.

PALABRAS CLAVE
Fascitis;
Necrotizante;
Multifocal;
Infección

Fascitis necrosante multifocal. A propósito de un caso

Resumen
Introducción: La fascitis necrosante multifocal es aquella entidad en la que hay afectada más de un área corporal no contiguas, y que suele ser resultado de la diseminación de émbolos sépticos por vía hematógena.
Caso clínico: Paciente de 67 años, en tratamiento corticoideo oral, que presenta un cuadro de shock séptico. La semana anterior había sido sometido a una intervención de urgencia por la perforación de un divertículo colónico.

Presentaba signos compatibles con fascitis necrosante en las 4 extremidades que evolucionaron rápidamente.

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* Corresponding author.
E-mail address: ester.ncano@gmail.com (E. Navarro-Cano).

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Se decidió la realización urgente de fasciotomías de las 4 extremidades e iniciar tratamiento antibiótico empírico.
Resultados: Tras la intervención, el paciente evolucionó favorablemente, y 7 días después del desbridamiento se realizó el cierre primario de las heridas. Los cultivos intraoperatorios fueron negativos.
Discusión: Debido a su escasa frecuencia, no existe consenso para el manejo de las fascitis necrotizantes multifocales. Sin embargo, se considera esencial el desbridamiento precoz y la antibioticoterapia de amplio espectro.

Introduction

Necrotizing fasciitis is a severe infection affecting soft tissues that progresses rapidly, usually involving the limbs. Although the most common entry point is through trauma, there have been some cases described secondary to intestinal perforation.

A much less common occurrence is the onset of multifocal necrotizing fasciitis, referred to an entity in which more than one, non-contiguous body areas are affected, and which is usually caused by the hematogenous dissemination of septic emboli.

Case report

We present the case of a 67-year-old male patient who was admitted to our hospital with septic shock symptoms. Nine days earlier he had suffered a case of peritonitis secondary to diverticular perforation which had been treated at another center, and which had required resection of the colon at the rectal sigma level, as well as a colostomy (Hartmann intervention). Peritoneal fluid cultures were negative.

The postoperative evolution was correct until, on the ninth day, he began to suffer from hemodynamic instability symptoms, oliguria and disorientation.

Upon arrival, the patient suffered tachycardia, hypotension and significant disorientation. The analysis revealed leukocytosis, with 34,000 cells/μl, 79% segmented neutrophils and 8% immature neutrophils. Other levels included lactate 26 mg/dl, C reactive protein 28.12 mg/dl, sodium 130 mEq/l, hemoglobin 9.0 g/dl, creatinine 0.92 mg/dl and glucose 134 mg/dl.

Examination by the general surgery service did not find peritonitis and an abdominal computed tomography (CT) scan did not reveal the presence of intraperitoneal fluid or images of abscesses.

Examination identified purplish lesions on the 2 lower limbs, extending from the feet to the thighs and evolving rapidly, as well as phlyctenas and areas of ecchymosis. In addition, these lesions progressively began to appear in the upper limbs, which initially presented no abnormalities (Fig. 1).

The 4 limbs were swollen and no distal pulses were palpated.

The patient worsened systemically so we began treatment with vasoactive drugs to maintain vital constants.

Given the rapid evolution of the lesions toward all 4 limbs and the systemic deterioration of the patient without any other focus which could explain the shock symptoms, we suspected sepsis secondary to necrotizing fasciitis and opted for urgent surgical intervention.

We carried out urgent surgical debridement, with fasciotomies of all 4 limbs. We identified edema and friability of the subcutaneous tissue, which appeared gray and was easily separated from the underlying fascia, releasing a liquid which appeared like meat washing water. The subfascial musculature appeared viable, with the exception of the deltoid region of the right upper limb.

We collected samples for microbiological culture and anatomopathological assessment.

We initiated broad-spectrum antibiotic therapy with piperacillin 4 g/tazobactam 500 mg every 8 h.

Results

The hemodynamic status improved notably during surgery. The patient was admitted into the ICU, where his overall and septic parameters continued to improve. Primary wound closure was performed 7 days after debridement.

Intraoperative cultures taken during the first surgery were negative.

Discussion

Necrotizing fasciitis is caused by the proliferation of a microorganism on the surface of the fascia. The specific mechanism of proliferation is not completely clear, but it is attributed to liquefactive necrosis caused by the action of bacterial enzymes, such as cytokines, toxins and hyaluronidase. The subcutaneous tissue undergoes ischemic necrosis due to vessel obturation.[1]

The clinical manifestations include swelling, rapidly spreading cellulitis, severe pain and even palpable crepitus if the causative germ is anaerobic. The patient may suffer septic shock.

The definitive diagnosis is obtained through surgical exploration,[2] where the characteristic findings include gray, edematous, subcutaneous fat which is easily separated from the fascia by blunt dissection, fascia which do not bleed and the presence of a gray liquid with a fetid smell (meat washing water) throughout the fascial plane.[3]

Necrotizing fasciitis is traditionally classified into type I (polymicrobial/synergistic) and type II (monomicrobial, generally caused by a gram-positive germ). The majority of fasciitis cases are secondary to polymicrobial infections.[1]