

Palpebral Necrotizing Fasciitis: A Rare Case Report

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ABSTRACT

Necrotizing fasciitis is an infection of the subcutaneous soft tissues; involvement of the face and periorbital region is exceptional. Diagnosis is clinical, and prognosis depends on prompt management.

This report describes the case of a 1 year-old infant who presented to the ophthalmological emergency department with inflammatory palpebral edema of the right eye, which had been evolving for 24 hours.

The clinical picture worsened, necessitating surgical debridement.

Our aim is to illustrate the warning signs of this disease by reporting a rare case of necrotizing fasciitis of the eyelids.

INTRODUCTION

Necrotizing fasciitis is a subcutaneous soft-tissue infection, rarely affecting the face and periorbital region. Periorbital necrotizing fasciitis can lead to blindness, functional and cosmetic sequelae, multi-organ failure and death. *Streptococcus pyogenes* and *Staphylococcus aureus* are the most common bacterial etiologies; however, cases due to anaerobic germs have also been isolated.

CLINICAL CASE

The patient was an infant aged 1 year, with no previous pathological history. Admitted to an ophthalmological emergency department with palpebral edema that had been evolving for 24 hours, the clinical examination on admission revealed inflammatory edema of the right eye, spontaneous palpebral opening impossible, and examination of the anterior segment was unremarkable. Initially, the diagnosis of orbital cellulitis was strongly suspected. The patient was admitted to hospital for a course of empirical broad-spectrum antibiotics (Ceftriaxon, gentamycin, metronidazol) administered intravenously.

On day 2 of hospitalization, the evolution was marked by a septic state (fever 40 °C, tachycardia and hypotension) with a local aggravation of necrosis of the upper and lower eyelids of the right eye (**Image 1**). Biological tests showed hyperleukocytosis with PNN 25800/mm³ and CRP 242 mg/ml. The diagnosis of palpebral necrotizing fasciitis with septic shock was made. The patient was transferred to intensive care until general condition improved. Surgical debridement was then performed in the operating room under general anesthesia (**Image 2**). The patient benefited from controlled healing with slow recovery and no further complications

apart from a residual skin defect on both eyelids, which was subsequently corrected by a full skin graft (**Image 3**).

An etiological workup to determine the origin of this necrotizing fasciitis was requested, with a consultation and workup for immune deficiency with no obvious cause.



Image 1. Aspect of right necrotizing



Image 2. Surgical debridement palpebral fasciitis



Image 3. Appearance at 2 months post skin graft

DISCUSSION

Necrotizing fasciitis is an exceptional infectious pathology with a poor local and general prognosis.

Despite careful treatment, severe toxic shock with multivisceral failure is likely to occur, leading to death in 14.4% of patients [1].

Clinical manifestations are important for the diagnosis of necrotizing fasciitis. It is characterized by the acute appearance of a painful erythematous rash accompanied by palpebral edema.

Necrosis due to progressive thrombosis of dermal and subcutaneous perforating vessels occurs more rapidly [1] [2].

Ocular involvement in periorbital necrotizing fasciitis is rare, manifesting as keratitis, uveitis or chorioretinitis [3][4].

Only a few series describing pediatric necrotizing fasciitis are available. Factors predisposing children to NF include chickenpox, surgery, minor trauma and malnutrition [5,6,7].

Clinical signs and symptoms, treatment, histopathology, diagnosis and prognosis appear to be similar to those of adult FN, although the small number of pediatric cases makes comparison difficult [8].

Management of periorbital necrotizing fasciitis includes early diagnosis and immediate aggressive multidisciplinary treatment [9-10]. Thorough debridement and prompt antibiotic treatment contribute significantly to reducing the risk of infection, and thus significantly to reducing morbidity and mortality [10 11 12].

Surgical treatment of necrotizing fasciitis should be combined with intravenous antimicrobial therapy [1- 2-9].

The prognosis of necrotizing fasciitis is poor due to the rapid progression of infection.

In a study of 163 patients with necrotizing fasciitis in

California, the mean age was 43 years. There were 91 men and 72 women, and predisposing factors included diabetes mellitus and intravenous drug use. Mortality was 28% [13].

Factors significantly correlated with death were age < 1 year or age > 60 years, intravenous drug use, comorbidities of cancer, renal failure, peripheral vascular disease, heart failure, positive blood culture, trunk or perineal involvement and delay in treatment. [13]

CONCLUSION

Although palpebral necrotizing fasciitis remains an exceptional and rare pathology, it constitutes a medical-surgical emergency requiring rapid, multidisciplinary management to improve functional prognosis and avoid death.

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