

Post-Panaris Necrosating Fasciitis of the Right Upper Limb in a Case Observed at the Markala Reference Health Center

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Abstract

Necrotizing fasciitis is an infection of the skin and deep subcutaneous tissues, spreading along the fasciae and adipose tissue, mainly caused by Group A streptococcus (*Streptococcus pyogenes*) but also by other bacteria such as *Vibrio vulnificus*, *Clostridium perfringens* or *Bacteroides fragilis*. **Objective:** To report a case of Necrotizing Fasciitis received at the Markala Reference Health Center. **Clinical observation:** It was a 45-year-old rice farmer with no known medical-surgical history received for an extensive wound on the right upper limb evolving for three months with impaired general condition and consciousness. The onset of the symptomatology dates back to about 3 months marked by a paronychia of the pulp of the right thumb extended secondarily to the right forearm. The physical examination finds an extensive necrotic wound of the right upper limb presenting voluminous blisters of brown color with a black background filled with purulent and smelly serosities. The diagnosis of Necrotizing Fasciitis was strongly suspected due to the presence of Pyogenic Streptococcus (Sensitive to gentamycin and Amoxicillin) in the pus sample. The patient was therefore put on antibiotic therapy combining Clavulanic acid at a rate of 2g x 3 per day and gentamicin at a rate of 160 mg per day with wide excision of necrotic tissues under general anesthesia in the operating room followed by a daily dressing with 30V hydrogen peroxide and Polyvidone iodine. The evolution was very favorable with a directed healing on D16. **Conclusion:** Necrotizing fasciitis is distinguished by its increasingly increasing and worrying frequency, its clinical severity and its detrimental character from a functional and vital point of view, which is why its management must be early.

Keywords: Necrotizing fasciitis, infection, excision, *Streptococcus pyogenes*.

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INTRODUCTION

Necrotizing fasciitis is an infection of the skin and deep subcutaneous tissues, spreading along the fascia and adipose tissue, mainly caused by group A streptococcus (*Streptococcus pyogenes*) but also by other bacteria such as *Vibrio vulnificus*, *Clostridium perfringens* or *Bacteroides fragilis* [1]. This infection most often affects the extremities and the perineum. The affected tissues become red, warm and swollen, reminiscent of severe cellulitis, and pain develops disproportionately to the clinical signs. On surgical

exploration, gray exudate, friable superficial fascia, and absence of pus are found [2].

The major problem is that the diagnosis of necrotizing fasciitis is rarely suggested at the onset of the infection. This difficulty is due to the initial paucity of signs of skin involvement. The diagnosis of NF is based on the association of local and general signs. The key symptom is severe pain that is completely disproportionate to the skin lesions observed on clinical examination [3].

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The association of local and general signs. The key symptom is severe pain that is completely disproportionate to the skin lesions observed on clinical examination. The intensity of local signs may be reduced by prior antibiotic therapy or in immunocompromised patients [4].

Bacteriological examinations

Local swabbing or needle puncture,

Biopsy

Anatomopathological examination must be very rapid and will also provide satisfactory tissue material for bacteriological analysis.

Imaging

X-rays are always useful because they can reveal the presence of gas [5].

The treatment of necrotizing fasciitis is first surgical debridement of all necrotic or necrotizing tissues. This includes the skin, subcutaneous tissue, and fascia superficialis through extensive fasciotomies. This immediate radical surgery is associated with increased survival compared to delayed surgery [5].

Parenteral antibiotic therapy based on the Antibiogram result should cover a wide range of germs including Gram-negative and positive, as well as anaerobes. Despite appropriate and prompt use, the infection may progress due to vessel thrombosis which prevents optimal penetration of the antibiotic.

The use of hyperbaric oxygen therapy (HBOT) is justified by retrospective animal and clinical studies. The hyperoxia generated would be responsible for the therapeutic efficacy [6].

CLINICAL OBSERVATIONS

We report the medical file of a 45-year-old rice farmer with no known medical or surgical history who consulted us for an extensive wound of the right upper limb that had been evolving for three months with alteration of the general state and consciousness.

The onset of the symptomatology was about 3 months ago, marked by a localized panic attack on the pulp of the right thumb. At first treated traditionally with herbs and fumigation products by local application, the paronychia evolved into a deep abscess of the hand progressively invading the wrist, the forearm and the right arm.

Physical examination revealed an extensive necrotic wound of the right upper limb with large brown blisters with a black background filled with purulent and foul-smelling serosities. The patient was referred because of the deterioration of the general condition and the persistence of the pain. In addition,

anorexia, weight loss, physical asthenia, conjunctivo-palmo-plantar pallor were noted with a height: 1.75 m; weight: 62 kg. BP: 09 /7CmHg; pulse: 87 pulses/min; T°: 38.2 °c; FR: 22 cycles / min; SPO2: 98%.

Faced with this picture, we undertook complementary examinations including a biological assessment (NFS-VS, Groupage-Rhésus, Glycemia, Creatinemia, HIV serology), bacteriological samples with Antibiogram and an X-ray of the different segments of the right upper limb.

The diagnosis of necrotizing fasciitis was strongly suspected due to the presence of *Streptococcus Pyogenes* (sensitive to gentamycin and Amoxicillin) in the pus sample. The patient was therefore put on antibiotic therapy combining clavulanic acid 2g x 3 per day and gentamicin 160 mg per day with wide excision of the necrotic skin tissue under general anaesthesia in the operating theatre, followed by a daily dressing with 30V hydrogen peroxide and polyvidone-iodine. The evolution was very favorable with directed healing at D16.

DISCUSSION

Since 2001, a consensus conference has proposed a classification of skin infections according to the severity and depth of involvement [4]. Thus, it defined: simple bacterial dermohypodermatitis or erysipelas, with hypodermic involvement of variable depth but which is not accompanied by necrosis and does not reach the deep fascias. The treatment of this form is medical; necrotizing cellulitis, which associates a necrosis of the connective tissue and the adipose tissue, but does not affect the deep fascias, and whose treatment is surgical; necrotizing fasciitis, in which the necrosis reaches and exceeds the deep fascia, with more or less extensive involvement of the intermuscular fascias and the muscles. This is the form we describe in this case report. The germ involved is often group A beta-hemolytic streptococcus [9], which constitutes a true life-threatening emergency.

The diagnosis of FN is primarily clinical and is often confused with cellulitis [3]. It should be suspected in the presence of intense pain, phlyctenes, rapidly spreading necrotic lesions and the perception of crepitus under the skin [7]. However, it is not uncommon to observe subacute forms, especially in diabetic patients, where the pain may be less marked and the skin manifestations are falsely reassuring and often associated with more severe deep lesions [5,6]. The treatment of necrotizing fasciitis is based on early surgery to excise the necrotic tissue in order to avoid the extension of the lesions and to promote directed healing with minimal aesthetic damage. Antibiotics are sometimes ineffective due to the presence of thrombosis in the vessels, thus limiting tissue diffusion. The precocity of the surgical intervention is a determining prognostic factor. Excision is the main procedure. There

is no cure without total excision of the necrotic tissue [4]. Further excision is often necessary and requires daily monitoring for the first few days. Reconstructive surgery is only considered once the excision is complete and the patient is in good general condition.

CONCLUSION

Necrotizing fasciitis is a deep acute inflammatory disease of infectious origin, most often bacterial, of the soft tissue. It is characterized by its increasing and worrying frequency, its clinical severity and its detrimental character from a functional and vital point of view. The streptococcal origin is classic. It is most often group A beta-hemolytic streptococcus (9).

The diagnosis is based on the history, clinical examination, and evidence of fulminant infection. Treatment includes antimicrobial agents and surgical debridement. The prognosis is poor without early aggressive management.

Conflict of interest: None

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QUELQUES ICONNOGRAPHIES/SOME ICONNOGRAPHY:

