



Necrotizing Bacterial Necrotizing Dermatitis with Necrotizing Fasciitis Anterior Cervico-Thoracic Complicating a Tooth Abscess: Clinical Case

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Abstract

Necrotizing bacterial dermohypodermatitis with necrotizing fasciitis (DHBN-FN) is a necrotizing infection of the hypodermis, the muscular aponeurosis and secondarily the dermis. The infection sometimes spreads in a fulminating manner along the aponeuroses. It constitutes a medical-surgical emergency. It is a rare and serious infection. The mortality remains high reaching 19% to 41%, despite an improvement in surgical techniques and resuscitation. The anterior cervical and thoracic involvement complicating a tooth abscess is exceptional. We report the case of a young woman of 35 years without comorbidity and discuss the clinical, therapeutic and evolutionary aspects through the literature.

Keywords: Necrotizing bacterial dermohypodermatitis; Necrotizing fasciitis; Dental abscess; Cervico-thoracic; Surgery

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Received Date: 15 Mar 2017

Accepted Date: 13 Jun 2017

Published Date: 28 Jun 2017

Citation:

Traoré A, Traoré A, Dembélé BT, Togo A, Diakité I, Kanté L, et al. Necrotizing Bacterial Necrotizing Dermatitis with Necrotizing Fasciitis Anterior Cervico-Thoracic Complicating a Tooth Abscess: Clinical Case. *Clin Surg.* 2017; 2: 1523.

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Introduction

Necrotizing fasciitis is a severe, rapidly progressive, mutilating, often fatal infection. It is a rare condition caused by contamination with germs with a high toxinogenic potential, represented mainly by the Group a hemolytic Streptococcus. It is a therapeutic emergency with a mortality varying between 19% to 41% according to the literature [1-4]. Cervical and thoracic involvement are rare [3,5].

Patient and Observation

A 35-year-old female housewife admitted to the emergency room for anterior cervico-thoracic pain with edema. The onset of the disease was 18 days after an abscess of dental caries. She undertook a traditional herbal treatment and fumigation that did not improve. The pain evolved becoming more intense, insomniante, pulsatile, permanent and irradiating towards the anterior cervical and thoracic regions, the left breast then that of right. The pain was accompanied by fever at 39°C, vomiting, hypersialorrhea, anorexia and slimming with weight loss of 8 kg. The patient had a history of tooth decay that she had never treated in a medical setting. On examination, there was a putrid odor of exudates, dehydration folds, and cyanic spots which were poorly limited in geography. An induration of the edema extending from the left cheek to the anterior cervico-thoracic region of the two breasts was shown. There was cutaneous hypoesthesia, necrosis plaques and fluctuations that were felt under the skin. The chest X-ray showed no pleurisy or focus of pneumonia. A surgical exploration included a hypodermic melt with a greenish creamy appearance, no pus frank, a large area of skin detachment, necrotizing fasciitis, rare bleeding, Myositis (Figures 1 and 2). We performed complete debridement of all necrotic tissues and drainage. A specimen for histopathological, bacteriological and antibiogram examination was carried out. The operative sequences were simple. Postoperatively, we performed a cutaneous autograft.

Discussion

Necrotizing fasciitis is a rare condition in our daily practice. It usually occurs on debilitated land. The infection begins with necrosis of the hypodermis with vascular thrombosis and then extends secondary to the underlying superficial aponeurosis and the dermis. Its evolution is lightning



Figure 1: DHBN-FN anterior cervico-thoracic with vascular thrombosis, absence of pus.



Figure 2: Breast necrosis.



Figure 3: After extensive necrosisctomy.



Figure 4: Budding of the wound J30.



Figure 5: Thin skin autograft at D30.



Figure 6: After autograft.

resulting in the death of the patient by multi-visceral failure. Few data exist on epidemiology. In countries such as Canada, where we recur between 90 and 200 cases annually [6]. For invasive infections with *Streptococcus A*, 5% to 10% of forms with fasciitis have been reported in the USA [5,7], in France 1.7/100,000 in 2002 and 2.7/100,000 in 2004 [8]. One case of breast DHBN-FN on HIV positive soil has been described by Kourouma et al. [9]. The Group A haemolytic *Streptococcus* and *Clostridium perfringens* are the germs responsible for this pathology [5,10], which is most often polymicrobial in 40-90% of patients with risk factors: Age >50 years, obesity, diabetes (25% to 30%), immunosuppressive treatments, chemotherapy, chronic alcoholism (10% to 20%), immunosuppressed, addictions, cancers, peripheral vascular disorders (36%) [2]. In contrast, streptococcal

fasciitis can occur in the young patient with no prior history as in our patient A number of local risk factors have been reported: ulcers, perforating ailments Plantar, surgery [11], IV injection in drug addicts. The identified germs were β hemolytic streptococcus group A and *E. coli*. On histopathological examination, the hypodermis is the site of oedematous inflammation, rich in polymorphonuclear cells, and extensive necrosis of the muscular aponeurosis. There is thrombosis of the subcutaneous vessels. Cervical involvement is rare and the incidence of this disease is 2.6% of all infections in the head and neck. The most common primary cause is dental infection [3] as in our patient. Isolated thoracic forms are extremely rare [6,12]. The cases reported in the literature are secondary to thoracic drainage,

pulmonary, oesophageal or purulent pleurisy [13,14]. Pain is at the forefront of clinical symptomatology at the onset of fever, followed by signs of sepsis and skin lesions with hypoesthesia [7]. Anti-biotherapy supplements the surgery. Its aim is to limit the progression of the infection, but it is insufficient because of the vascular thromboses responsible for deep tissue necrosis [5]. We used a triple antibiotic initially: Ceftriaxone, Gentamycin and Metronidazole then adapt the antibiotic to the result of the antibiogram. We performed a large and dilapidated surgery. It consisted of an excision of all the necrotic tissues: the skin, the aponeurosis, and the muscles to the healthy tissues well vascularized in order to avoid a resumption of the infection leading to one of the iterative interventions (Figure 3). Restorative surgery was considered after disappearance of the infectious signs and wound budding at D30 (Figure 4). A cutaneous autograft was performed with an anterior cut of the thigh (Figure 5). The operative sequences were simple (Figure 6). The prognosis of DHBN-FN depends on two factors: early diagnosis and initial management. A diagnosis delay is associated with a mortality of 36% to 70% [5].

Conclusion

Necrotizing dermohypodermatitis with necrotizing fasciitis is a serious infection. Management is multidisciplinary. Early diagnosis and timely and appropriate treatment can reduce mortality.

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