Colonization of breast tissue by Moraxella Catarrhalis associated with necrotizing fasciitis. A case report.

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Abstract

We admitted a 38 years old female patient with necrotizing fasciitis of breast. A series of debridement was performed from admission, as well as the use of VAC® therapy . Once the surgical bed of the wound was adequate and with negative culture, a partial skin graft was performed.

INTRODUCTION

Necrotizing fasciitis is a life-threatening soft tissue infection characterized by a rapidly spreading infection of the subcutaneous tissue and in particular of the fascia that is accompanied by significant systemic toxicity and high mortality[1]. Management of infected tissues require rapid diagnosis, immediate aggressive surgical management and prolonged debridement. In some cases, early amputations of affected tissues and maximum intensive care treatment are required, in case of sepsis.

The US Centers for Disease Control and Prevention estimates the incidence of necrotizing fasciitis are up to 500-1,000 cases per year in the United States, with an annual incidence rate of 0.4 cases per 100,000 population, while in most Occidental European countries is around one case per 100,000 inhabitants. This incidence has increased significantly in recent years, probably in relation to population aging and the presence of a greater number of immunosuppressed subjects.

It is more common in men, going from 50 to 60% of cases, the average age is 40 to 60 and the main affected site is the extremities.

Diagnosis is essentially clinical and in highly suspicious cases, surgical exploration should not be delayed, since its prognosis largely depends on early diagnosis and immediate aggressive treatment. Despite the better knowledge of its etiopathogenesis and the availability of more efficient therapeutic tools, its mortality has hardly changed in recent years, exceeding 25%. Treatment is based on hemodynamic support, early and extensive surgical treatment, and empirical antibiotic therapy[2-3].

Clinical case.

38-year-old female with history of arterial hypertension. One week prior to admission, she presented an abscess formation in the left cervical area, with drainage of purulent fluid, and subsequent development of blisters in both breasts, which are accompanied by 9/10 pain on the visual analog scale, at the time of the examination. A dermatosis is seen that affects the region of the thorax, on its anterior face, at the level of both breasts, symmetrical and localized; This dermatosis is made up of two ulcers of polygonal morphology which are 11x8cm (Left) and 9x8cm (Right) in their larger diameters, and are completely covered by hematic scab

and necrotic areas, which follow the anatomical contour of the breast surrounding the areola and partially affecting it in the periphery but not affecting the nipple, in the perilesional area there is erythema and a scale collar, defined edges, apparent acute / subacute evolution. (Fig. 1)

She received outpatient treatment with unspecified antimicrobial for 7 days without clinical improvement. She came to our institution where we performed surgical debridement of the devitalized tissue and taking a culture of the lesions (Fig. 2). In the surgical procedure, we observed necrosis of the fascia and subcutaneous tissue involvement. The histopathological study reported the ulcerated epidermis covered by fibrin, acute inflammation with abscesses and multifocal necrosis in the dermis and subcutaneous cellular tissue. Adipose tissue with coagulative necrosis and fibrinoid necrosis of capillaries. Colonies of Moraxella Catarrhalis grew in the culture of the debrided tissue. (Fig 3)

She received treatment with meropenem 1gr IV every 8 hours according to antibiogram sensivity resting and (VAC® therapy) with 3 replacements. Once the surgical bed was adequate and negative culture for microorganisms, application of partial thickness skin grafts was performed; presenting a genuine clinical improvement. (Fig. 4)

Follow up was performed in two months and the patient was satisfied with the results without presenting complications. (Fig. 5)

DISCUSSION

Gram-negative diplococcus Moraxella is part of the normal human flora of the upper respiratory tract. It evades the immune system by inhibiting the T-cell response, it has the ability to evade and survive the host's immune responses, a process that particularly helps its ability to resist the effects of human serum, leading to severe conditions. It is a life-threatening bacterial disease, involving soft tissue and muscle fascia. Patients with diabetes mellitus, immunosuppression, malnutrition and peripheral vascular disease are at higher risk.[4-5].

There are very few reports in the literature of soft tissue infection caused by Moraxella, mainly in the facial region, from orbital and pre-septal cellulitis to necrotizing fasciitis. [6-7].

The extremities, abdominal wall, and perineum are more frequently invaded. Its location in the chest wall is extremely rare and the cases registered have occurred after chest drainage, lung surgery or esophageal resection.

The diagnosis of this pathology is based on the clinical presentation, and by means of the surgical visualization of necrosis of the fascia. Septic shock syndrome is the most feared complication of the disease[8].

Clinicians should be guided by clinical response to antibiotic therapy. Follow-up is of the utmost importance. On average, treatment for most lesions requires 10 to 14 days of antibiotic therapy. It should be noted that following initiation of antibiotic treatment, if there this no response in five days, this should prompt a change in the antibiotic regimen or other investigations to verify the diagnosis[9].

Management with negative aspiration therapy offers several advantages compared to conventional debridement and drainage, resulting in an excellent therapeutic alternative. Its safe management has been seen in patients with head, neck and chest wall fasciitis[10]

In a systematic review of 25 cases of necrotizing breast fasciitis, one of the therapeutic options is a total mastectomy for adequate control of the infection. There are a wide variety of reconstruction options with split-thickness skin grafts being a common choice. Reconstruction of the defect can be completed within 2 weeks or once the patient is stable and free of infection[11]. Partial thickness skin grafts are indicated for large wounds and can survive in places with little vascularity such as breast tissue[12]. Autologous skin graft provided a reliable option in immediate breast reconstruction[13].

CONCLUSION

Necrotizing fasciitis is a serious condition that can lead to death. We present the case of a patient without relevant risk factors for the current pathology, with soft tissue involvement of the mammary glands and cervical area secondary to Moraxella Catarrhalis, which rapidly progressed in its depth until it affected fascia. Opportune identification of the pathology is essential to avoid complications, this is carried out with the adequate establishment of antibiotic therapy and acute surgical management.

At the moment there is no consensus on the graft of choice for this type of tissue, however the partial thickness skin graft showed adequate results in breast fat tissue in systematic reviews, as in our case.

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