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Necrotizing Fascitis of the Neck: Rare Case Report

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Abstract **Case Report**

Introduction: necrotizing fasciitis corresponds to a bacterial infection of soft tissues, characterized by diffuse and rapidly progressive necrosis of the subcutaneous cellular tissue and musculoaponeurotic system, accompanied by marked systemic septic involvement. ***Clinical case:*** the case of a 63-year-old patient, former smoker, pack year 10, clinical picture of approximately 4 days is presented, characterized by generalized facial edema without improvement with pharmacological treatment, accompanied by unquantified thermal increases, intense pain. neck, general condition assessment and appearance of signs of phlogosis and ampullary lesions in zone 3 and 4 of the right neck. The diagnosis of necrotizing fasciitis of the neck with no apparent cause was established. A necrectomy was performed and the patient was admitted. ***Discussion:*** in this particular case, the unusual location of necrotizing fasciitis in the anterior region of the neck is striking; it generally occurs in people with diabetes mellitus and immunocompromised people and in this case it occurs without apparent cause. ***Conclusion:*** necrotizing fasciitis of the anterior region of the neck without apparent cause, rare infection, rapidly progressive and difficult to diagnose in the early stage.

Keywords: Cervical necrotizing fasciitis, Skin and soft tissue infections, Debridement.

INTRODUCTION

Necrotizing fasciitis (NF) is a rare progressive infection with high lethality that can affect any part of the body, but is more common in the extremities, especially the legs, mostly caused by a polymicrobial infection and is characterized by affecting the superficial fascia, subcutaneous cellular tissue with nerves, arteries, veins and deep fascia. Other predilection sites are the abdominal wall, perianal and inguinal areas, and post-surgical wounds [1,2].

Necrotizing fasciitis corresponds to a bacterial infection of soft tissues, characterized by diffuse and rapidly progressive necrosis of the subcutaneous cellular tissue and muscular aponeurotic system, accompanied by marked systemic septic involvement. It is usually an acute process, but rarely follows a progressive subacute course [3].

Necrotizing fasciitis can affect any part of the body, but it is most common in the extremities, especially the legs. Other places of predilection are the abdominal wall, perianal and inguinal areas, and post-surgical wounds. It rarely occurs in the neck region. The condition is caused by aerobic species such as Streptococcus, especially β-hemolytic Streptococcus group A (GASB), and Staphylococcus aureus, these are considered primary pathogens. However, in most cases there is a polymicrobial infection that includes the participation of anaerobic microorganisms [4].

In this work we present an unusual case of necrotizing fasciitis of the anterior region of the neck without apparent cause [5].

CLINICAL CASE

The case of a 63-year-old male patient with a clinical history, high blood pressure, contact dermatitis, former smoker, year 10 pack, was presented for a clinical presentation of approximately 4 days characterized by generalized facial edema treated with diphenhydramine and cetirizine without improvement, accompanied by

unquantified thermal increases, intense neck pain, general condition deterioration and appearance of signs of phlogosis and ampullary lesions in zones 3 and 4 of the right neck.

Figure 1: Right laterocervical region

Physical Exam

Edema is evident in the right anterolateral region of the neck with suprasternal and supraclavicular extension, it is palpable hard and painful, it does not crackle and leaves a pit.

Figure 2: Right laterocervical region

NFL without positive findings.

In paraclinics, elevated acute phase reactants, leukocytosis with shift to the left, normal kidney and liver function, blood glucose within normal parameters. Computed Axial Tomography of the Head, Neck and Thorax is performed.

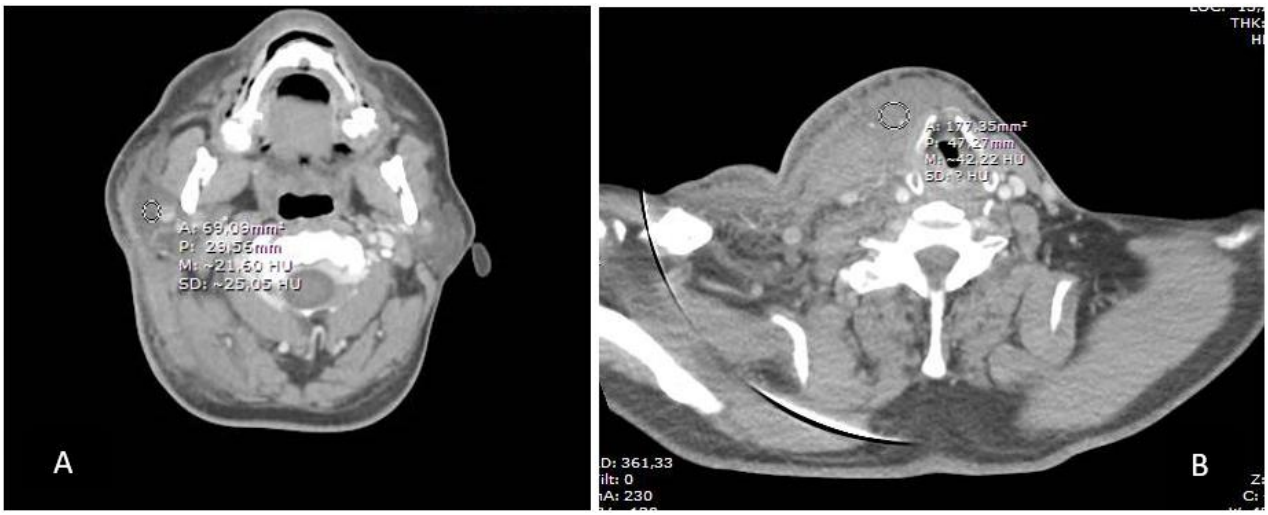

Figure 3: Computed Axial Tomography of the Head, Neck and Chest

Figure 3: Axial Computed Tomography of the Head, Neck and Chest, axial section shows increased right lateropharyngeal volume accompanied by lymph node conglomerate with heterogeneous density and increased thickness of the subcutaneous cellular tissue. In figure b. a slight displacement of the tracheal lumen to the contralateral side can be visualized.

Figure 4: Computed Tomography of the Head, Neck and Chest, coronal section

Figure 4: Axial Computed Tomography of the Head, Neck and Chest, axial section, an increase in right lateropharyngeal volume is observed accompanied by lymph node conglomerate with heterogeneous density and increased thickness of the subcutaneous cellular tissue.

RESULTS

Considering a diagnosis of necrotizing fasciitis, the studies recommend acting within the first hours once the clinical picture begins to reduce the risk of necrosis and complications, which is why an extended cervicotomy was performed. Intraoperatively, purulent and caseous material was evident in the right sternocleidomastoid. and friable infrahyoid muscles, washing with Polish solution is performed and tubular drainage is left. Patient came to ICU conscious, afebrile with IOT/ARM in fair general condition, physical examination: surgical wound treated with undamaged sutures with tubular drain, no signs of phlogosis, washing with Polish solution, flat dressing and gauze left flu type with compressive cervical bandage.

Culture of Secretions: Streptococcus pyogenes.

DISCUSSION

Although necrotizing fasciitis predominantly affects the abdominal wall, perineum, or extremities, case reports involving the craniocervical region are rare. What motivated me to make this publication. Since 1980, an increase in the incidence of necrotizing fasciitis has been described in all locations, including the head and neck [1].

Necrotizing fasciitis is a rare, rapidly progressive infection that is difficult to diagnose in the early stage. It affects the skin, subcutaneous cellular tissue, superficial and sometimes deep fascia. It produces thrombosis of the subcutaneous microcirculation and tissue necrosis with severe systemic toxicity. It has a fulminant course and a mortality rate that ranges between 33-60%. [2].

In the United States it has an incidence of 1,000 cases per year. It can affect any anatomical region of the body, but it is more common in the extremities (almost always unilateral), in dirty and fractured wounds and in areas contaminated by fecal flora such as the perineum, gluteal region and abdominal wall. It is seen more frequently in men. Half of the patients report a previous skin injury and 70% have one or more chronic diseases [3,5].

According to the literature, it is less common in the head and neck area due to the high vascularization of the cervical region, which is why its development in this area could constitute a fatal risk. The most frequent entry point is infections in the tonsils, pharynx and dental infectious foci [4].

It is usually polymicrobial, although sometimes it can be monomicrobial. In these cases, the most frequently isolated germ is Streptococcus pyogenes. Aerobic and anaerobic bacteria can usually be isolated and their synergistic action is postulated that explains the fulminant course [5].

Three microbiological forms are described: [6,7].
Type I: Polymicrobial infection by aerobic and anaerobic bacteria, which frequently affects immunocompromised patients and usually debuts in the trunk and abdomen.

Type II: Caused by group A streptococci and Staphylococcus aureus, it is less common than the previous group and more likely affects young and immunocompetent individuals; It is located, above all, in the extremities.

Type III: Caused by Vibrio vulnificus. It is associated with injuries caused by handling raw seafood; and, although this is the least common form, it is associated with multiorgan failure in the first 24 hours.

The most notable lesions are severe and extensive necrosis of the facial surface and subcutaneous cellular tissue, with destruction and liquefaction of fat. In its initial phase it does not involve the overlying skin or underlying muscles [8].

Diabetes mellitus, pressure ulcers, drug addicts, alcoholics, immunocompromised patients or a previous wound infection are considered predisposing factors. The portal of entry can be secondary to trauma, it can also develop from an intra-abdominal septic process [9].

The clinical symptoms, in addition to the lesions, are fever, which is a consistent clinical finding, and may be associated with a high leukocytosis with left deviation, although in some cases there may be leukopenia, due to immunosuppression. The predominant symptom is pain, often disproportionate to the appearance of the skin infection, accompanied by edema that extends beyond the area of erythema [9].

The treatment consists of extensive debridement of the affected tissues, associated with broad-spectrum antibiotic treatment to cover potential pathogens, which can continue for prolonged periods according to the antibiogram [8,10].

Necrotizing fasciitis of the anterior region of the neck at the starting point of a laryngeal neoplasia is a rare, rapidly progressive infection that is difficult to diagnose in the early stage [9].

Taking into account that necrotizing fasciitis can be progressive and lead to fatal complications, if the initial signs and symptoms are detected in time, its mortality rate could be reduced; therefore, it is necessary to establish a good differential diagnosis to timely implement treatment. Interdisciplinary [10].

CONCLUSION

It should be noted that as a rescue measure evaluating the patient's risk and benefit, fibrinolysis with ateplase can be performed. It is essential to establish an early diagnosis that allows timely therapeutics to be instituted and positively impact the prognosis of these individuals, since they have a high morbidity and mortality rate.

Interest Conflict

We, the authors, declare that we have no personal, financial, intellectual, economic, and corporate conflicts of interest.

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