CASE STUDY

Sternocleidomastoid Pyomyositis in an Immunocompetent Patient

Piomiositis del esternocleidomastoideo en un paciente inmunocompetente

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Clinical Case

We present the case of a 66-year-old man, ex-addict and active smoker, with high blood pressure and chronic obstructive pulmonary disease (COPD) as history of interest. He came to the emergency service with high fever, moderate-severe deterioration of his general condition and appearance of multiple erythematous masses in the right side of the neck, right hand and left knee.

From the analytic admission analyses, the only thing notable was elevated C-reactive protein (46.6), without leukocytosis or other haematological alterations. Immunological studies were performed on the patient, with normal results.

A cervical computed tomography (CT) evidenced the existence of an abscess that affected the entire length of the right sternocleidomastoid muscle, even affecting the major and minor pectoral muscles in their external insertion. Likewise, a collection was also observed in the infrayoid muscles (Fig. 1). In addition, a bone gammagraphy was performed with $^{67}$Ga, detecting intense deposits of radiotracer in the left gluteus area and in the right acromioclavicular joint, as well as the cervical region mentioned in the CT results (Fig. 2).

Considering the findings of the imaging tests and the antibiotic treatment, we decided to drain the cervical abscess surgically. This was carried out without any incidents. Culture was positive for Staphylococcus aureus (S. aureus).

The patient evolved favourably with antibiotic treatment, without the need for further surgical drainage.

Discussion

Pyomyositis is a bacterial infection that affects skeletal muscles, with an incidence in our country of 1 case per 2000 inhabitants. Affected patients are usually patients in immunosuppression or those with chronic affectionation, the most frequently associated condition being diabetes mellitus. A probable association with traumas has recently been described as well.

Pyomyositis can be a primary or secondary infection, from affectionation of the surrounding tissue (skin, bone and soft parts). Although it can affect any striated muscle in the organism, it tends to be located in the muscles of the lower limbs; abscesses are most frequently described in the quadriceps, bicep and psoas muscles. Cervical affectionation has been described in up to 0.5%-4% of the cases, with the most frequent origins being dental and tonsil infections and trauma in the area. Affectionation in various locations, such as in our case, is very rare. In spite of not being able to
determine the origin of the septic embolisms, it was considered as a secondary form of the disease. This, added to the fact that the patient did not have any immunological deterioration at all, makes our case an event very seldom described in the literature. That is why we consider it of special relevance.

The clinical course of pyomyositis (both primary and secondary) is generally subacute, which almost always causes it to be diagnosed once abscesses have started to form.

It is divided, based on clinical findings, into 3 stages: Stage 1 (invasive), with non-specific discomfort, erythema and fever; Stage 2 (suppurative), which involves high fever and abscess formation; and Stage 3 (late), with intense pain, high fever and sepsis.

The most frequent germ is S. aureus (responsible for up to 90% of the cases\(^1,4\)). However streptococci of Groups A, B, C and G, Escherichia coli, anaerobic microorganisms and fungi are also involved.\(^2,4\)

A high index of suspicion is needed for the diagnosis and carrying out imaging technique is recommended (the most requested technique are sonography, CT and NMR). However, it is also possible to use nuclear medicine techniques for the diagnosis in cases of atypical presentation, such as that of our patient. Globally, CT is considered as the method of choice for diagnosis, identifying the primary focus and follow-up.\(^5\) Given that it is most often associated with immunosupression or chronic affectations, the complications derived from a late diagnosis are potentially deadly.

For treatment intravenous antibiotic therapy is advised in all the stages, combined with surgical drainage if abscesses form. Antibiotic coverage should include treatment for infection by S. aureus, with cloxacillin monotherapy being the gold standard. In cases of immunosupression and serious forms of disease, drugs may be combined based on the culture results. A minimum of 10 days of intravenous treatment is advised, followed by another 5–6 weeks or oral treatment.\(^1,2,4\) Disease prognosis is generally good, with mortality ranging from 0.89% to 14%, depending on the stage in which treatment is begun and on the seriousness of patient comorbidity.

**Conflict of Interests**

The authors have no conflicts of interest to declare.

**References**