Pyomyositis in a non-tropical area. 12 years of cased-based experience

Pyomiositis en un entorno no tropical. Casuística de 12 años

Dear Editor:

Pyomyositis is a bacterial infection of skeletal muscle characterised by the formation of intramuscular abscesses. Although it is an entity that originated in tropical regions, there has been an increase in its incidence in regions with a temperate climate in recent years. It occurs more frequently in adult patients with chronic conditions, so its diagnosis in the paediatric population requires a high index of suspicion.1-5

Our aim was to describe the characteristics of pyomyositis in the paediatric population. To do so, we conducted a retrospective descriptive study of patients aged less than 15 years that received a diagnosis of pyomyositis in our hospital over a period of 12 years (2004–2015). We reviewed medical records for the purpose of analysing clinical, epidemiological, diagnostic and treatment data, which we did using the software Microsoft Excel® 2010.

We included a total of 15 patients, 8 girls and 7 boys, with a median age of 4.5 years (interquartile range [IQR], 1.3–7 years). All were of Spanish descent and had acquired the infection in Spain; none of the cases were imported. Furthermore, none of the patients were immunosuppressed or had chronic disease. Thirteen patients (87%) had primary pyomyositis, of whom 7 (54%) reported previous trauma in the involved region. Two patients had pyomyositis secondary to sacciilitis and contiguous skin infection. The muscles involved most frequently were those in the lower extremities (10 children, 67%), mainly the quadriceps femoris (5 patients) and the iliopsoas (2 patients). The rest of the cases involved the upper extremities and the cervical musculature (2 patients each). There was 1 case with infection in multiple locations, with involvement of both quadriceps, the left calf and the right adductor magnus, soleus, biceps brachii and pronator teres. The most frequent presenting symptoms at diagnosis were pain (93%), fever (80%), swelling (60%), warmth (33%) and local erythema (20%).

Laboratory tests found leukocytosis with more than 15,000 cells/mm² in 11 children (73%) at the time of diagnosis. Leukopaenia was only detected in the patient with multiple muscle involvement and bacteraemia. The mean level of C-reactive protein (CRP) was 146.5 ± 119.1 mg/L, and 10 patients (67%) had levels exceeding 40 mg/L. The most frequently used imaging test was ultrasound, which was performed in 12 patients (80%) and diagnostic in 7 (58%). Magnetic resonance imaging (MRI) was performed in 8 patients (53%) and was diagnostic in all. Blood culture was performed in 9 patients (60%) and a culture of a drainage specimen in the 6 patients that underwent drainage. The only identified bacterium was Staphylococcus aureus, isolated in 8 patients (53%), with a meticillin-resistant strain in one case. The yield of blood culture was 33% (3/9) and the yield of culture of a drainage specimen was 83% (5/6).

Antibiotherapy was administered intravenously at initiation until symptoms improved, and the most frequently used combination was cloxacillin with clindamycin. Subsequently, the administration of antibiotics continued by the oral route, most frequently with amoxicillin–clavulanic acid for a mean total duration of 30.8 ± 18.6 days. Only 40% of patients required surgical drainage of abscesses. The median length of stay was 12 days (IQR, 9–24 days). All patients had favourable outcomes without sequelae.

In Spain, the diagnosis of pyomyositis should be considered in previously healthy children presenting with fever and severe pain in an extremity, especially if there is a previous history of trauma.1-2,4-5 There may be swelling, but local inflammatory signs such as warmth or erythema are less frequent. The microbiological technique that offers the highest diagnostic yield is culture of a drainage specimen,2 although blood culture has a high yield compared to other infections and should be performed in all patients. As for imaging studies, ultrasound is diagnostic in more than half of the patients, and should be the first test performed. If the ultrasound examination is normal, and especially in cases of suspected involvement of deep muscles, MRI is the gold standard on account of its greater sensitivity.2-5 The most frequent aetiological agent is S. aureus,2-5 which in Spain is usually sensitive to meticillin, so that cloxacillin


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continues to be the first-line empiric treatment. Clindamycin may be added to improve coverage against anaerobes and to cover the possibility of meticillin-resistant strains. In our series, more than half of the cases had favourable outcomes with antibiotherapy alone, in contrast with the classic therapeutic approach, which favours the combination of medical treatment and surgical drainage.\(^1\)

References


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