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SCIENTIFIC LETTERS

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

Piomiositis 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,[1] 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 conduced 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 sacroiliitis 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/mm^3 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 (CPR) 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 cefadroxil or 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 spcimen,[2] although blood culture has a higher 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*,[1–5] which in Spain is usually sensitive to meticillin, so that cloxacillin 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

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favourable outcomes with antibiotherapy alone, in contrast with the classic therapeutic approach, which favours the combination of medical treatment and surgical drainage.[1]

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Drug syrups: Errors in drug labels with possible consequences in patients with hereditary fructose intolerance☆

Jarabes de medicamentos: errores en ficha técnica con posibles consecuencias en pacientes con intolerancia hereditaria a la fructosa

Dear Editor:

Hereditary fructose intolerance (HFI, MIM #229600) is an autosomal recessive disease due to Aldolase B deficiency, enzyme responsible for fructose metabolism mainly in the liver. The consumption of fructose, sucrose, sorbitol or tagatose[1] for HFI patients causes severe symptoms which can lead to analytical, neurological, hepatic and renal alterations, hypoglycemia and even death.[2]

Oral liquid presentations of drugs are classically made with sucrose (simple syrup) but the use of other sweeteners is being increased, such as hydrogenated syrups (polyalcohols) or, in a lesser extent, glucose syrups. The polyalcohols (maltitol, sorbitol, lactitol, etc.) are obtained by sugars' catalytic hydrogenation leading to products with low caloric power. Otherwise, glucose syrups are more caloric, due to their lower sweeting power, although it can be increased with the transformation of a part of the glucose in fructose (isomerization). The food industry should indicate the amount of fructose in glucose in the definition of the ingredients if it is greater than 5%.[3] In the pharmaceutical industry, it is mandatory to put a warning for HFI patients in leaflet and the label if the product contains sweeteners contraindicated in HFI such as fructose, sucrose, inverted sugar, sorbitol, maltitol, isomalt and lactitol[4] (Table 1). We have detected errors in the denomination of glucose syrups in drug labels potentially harmful for HFI patients.

To establish the scope, we have revised the drug label of medicines with glucose syrup between May 2013 and July 2016 using the ''Prescription Nomenclator'' tool of the Spanish Medicines Agency (www.aemps.gob.es) and the information has been confirmed with each manufacturer laboratory.

We detected 42 presentations commercialized with glucose syrup. We excluded 4 topical and 27 presentations which were also containing sucrose, sorbitol, maltitol, isomalt or high fructose corn syrup (3 presentations did not have the alert for HFI (11%)). We analyzed 11 presentations: 9 with liquid glucose and 2 with hydrogenated glucose syrup.

In 2 presentations with liquid glucose and in 2 with hydrogenated glucose syrup, the laboratory confirms that they contain fructose and maltitol/sorbitol respectively. The formulation of these 4 presentations is syrup or oral solution; the others are tablets, capsules or vials. In one of them the laboratory indicates that the glucose syrup contains 40% of fructose. In 2 presentations from a same laboratory, we could not obtain the information of the liquid glucose composition and in another 3 (27.7%) the first response was imprecise or contained errors that required a second consultation (Fig. 1). In some cases the delay in the reply has been four months.

In conclusions, we detected very serious errors in the information about excipients in drugs labels that carry a

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