

Acute Osteomyelitis: It is Still Here

Sir,

A 14-year-old immunocompetent teenager presented with a 5-day history of high fever and persistent pain in his left knee. Clinical examination revealed small facial pustules and exquisite tenderness on palpation of the medial aspect of his left knee and distal thigh. A radiograph of the left lower limb was normal [Figure 1a], and the serum C-reactive protein (CRP) level was increased to 271 mg/L (normal level <5). Left femur magnetic resonance imaging (MRI) displayed a “rat bite-like” appearance which was most consistent with the diagnosis of acute osteomyelitis (AO) [Figure 1b]. Blood cultures were obtained, and he was started on intravenous cloxacillin. Although methicillin-susceptible *Staphylococcus aureus* grew from the blood cultures, surgical draining and biopsy of his left femur were performed on hospital day 9 because of unremitting pain and fever. Bone samples grew the same microorganism, and pathological study confirmed the diagnosis. Moreover, echocardiogram ruled out endocarditis. Postoperative course was uneventful, and there was steady but slow clinical improvement until discharge when antibiotic treatment was switched to oral clindamycin. The patient was discharged fully recovered and with normalized CRP level on day 30. At a follow-up visit 5 and 10 months after discharge, he remained symptomless.

The present case may serve to highlight some relevant features when dealing with AO. First, the fact that a normal plain radiography by no means rules out AO. Second, the striking differences that exist between plain radiograph and MRI in this setting. Third, the role of MRI as the best imaging method for the diagnosis and assessment of the extent of AO.^[1,2] In this regard, most MR images of femurs from children with AO do not show the type of picture we present, bone marrow edema being probably the most common finding. In contrast, using MRI to gauge, treatment duration/response is not advised in most circumstances of osteomyelitis. On the other hand, it is worth noting that the choice of an early empiric antibiotic agent for AO depends mainly on the local prevalence of community-associated methicillin-resistant *S. aureus* (MRSA): intravenous nafcillin/oxacillin or cefazolin if <10% of the community *S. aureus* isolates are methicillin-resistant (as in our area) and intravenous either vancomycin or clindamycin if $\geq 10\%$ of the community *S. aureus* isolates are methicillin-resistant.^[3-5] Then, how soon the switch from intravenous to oral medication may safely be achieved has not been definitely established. However, patients with uncomplicated not-MRSA disease can be switched to oral therapy after they have demonstrated clinical improvement and CRP decrease, which usually occurs within the first 10 days of intravenous treatment. Finally, this case reminds a disorder that unless is diagnosed promptly and treated appropriately may be a devastating



Figure 1: Radiographical assessment of acute osteomyelitis. Plain radiography of the left lower extremity reveals normal characteristics (a; lateral view of the knee). Magnetic resonance imaging study shows heterogeneous enhancement in the T1-weighted postcontrast sequence with fat suppression (b; white arrows, intraosseous abscesses; black arrows, subperiosteal abscess)

disease with a high rate of sequelae.^[1] Consequently, AO should be considered in any patient who presents with fever and a limp or painful area (limb, back, pelvis, etc.), inability to walk (mainly children), or redness and swelling around a long bone.^[1]

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

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Access this article online	
Quick Response Code: 	Website: www.jgid.org
	DOI: 10.4103/0974-777X.212578

How to cite this article: Carrascosa MF, Fernández-Ayala M, Salcines-Caviedes JR, Fernández-Sampedro M. Acute osteomyelitis: It is still here. *J Global Infect Dis* 2017;9:126-7.

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