

Post-traumatic untreated chronic osteomyelitis: an extreme presentation with severe complications

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DESCRIPTION

An 89-year-old man presented to the hospital complaining of several episodes of lipotimia and non-specific malaise. Comorbidities included a right lower limb chronic osteomyelitis, as consequence of a trauma at the age of 12 years, with occasional bleeding, and which has never been medical or surgically treated before. He was haemodynamically stable with normal cardiac and pulmonary auscultation during the physical examination. The right lower limb revealed an extensive extremely putrefied and suppurative wound with bone exposition in which fragments could easily be removed (figure 1A,B). Considering the patient's complaints, a 12-lead ECG was performed and showed normal sinus rhythm with 2:1

atrioventricular block, ST-segment elevation in the inferior leads and V6 and ST-segment depression in V1, V2, aVL and aVR. Patient denied chest pain. The laboratory investigation revealed a microcytic and hypochromic anaemia with an Hb of 4.2 g/dL (reference range 13.5–17.0 g/dL) and reticulocytes of 2.6% (reference range 0.2%–2%). The electrocardiographic changes were interpreted as a transient episode of myocardial ischaemia in context of severe anaemia (hypoperfusion of haemodynamic cause), despite the fact that the first hypothesis was of an acute myocardial infarction. There was no significant increase in the myocardial necrosis markers. After red blood cell transfusions, haemoglobin subsequently increased and electrocardiographic changes in ST segment disappeared. During



Figure 1 (A) and (B) Extensive putrefied and suppurative wound of the right lower limb with bone exposition secondary to a chronic untreated osteomyelitis.



Figure 2 (A) and (B) Radiograph of the right lower limb demonstrating bone destruction of the distal third of the tibial diaphysis with proximal and medial third sclerosis, normal peroneum, tibiotarsal arthrosis and osteoporosis of the calcaneus and tarsus.



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Learning points

- ▶ Osteomyelitis is an inflammatory disorder of the bone.² The diagnosis can be difficult and often delayed.¹ Some acute osteomyelitis cases progress to chronic disease causing persistent morbidity, as they are characterised by frequent relapses.^{1,2}
- ▶ The infection control, the pain reduction and the reestablishment of the lost function are the primary goals of the treatment.¹
- ▶ The post-traumatic osteomyelitis is one of the most frequent forms of bone infection.¹ The treatment should be managed by a multidisciplinary team, in order to ensure an optimal outcome.²

hospitalisation, the infected wound of the right lower limb had a permanent active bleeding and additional blood transfusion units were required. Right leg X-ray showed bone destruction of the distal third of the tibial diaphysis with proximal and medial third sclerosis, normal peronium, tibiotarsal arthrosis and osteoporosis of the calcaneus and tarsus (figure 2A,B). The microbiological study of the wound pus revealed a *Pseudomonas aeruginosa* multisensible agent. The patient was first treated with daily dressings and ceftazidime antibiotic and then proposed for amputation. The surgery was successfully performed. This case demonstrates a severe, chronic and extremely exuberant presentation of an osteomyelitis, which led to serious complications. Untreated presentations, like the one we found in this case, are becoming less common, especially in industrialised countries. The post-traumatic and postsurgical osteomyelitis are

the most frequent causes of bone infection found in developed countries.¹ About 10%–30% of acute osteomyelitis progress to severe chronic disease that is difficult to treat and is characterised by recurrent relapses.^{1,2} Diagnosis requires an accurate medical history and clinical examination, laboratory analysis and X-rays.¹ The radiological presentation commonly shows osteolysis and destruction of the bone, with sclerotic zones and periosteal bone appositions.¹ There are no evidence-based guidelines about the treatment of chronic osteomyelitis; therefore, a decision should be made among a curative or a palliative approach taking into account the patient comorbidities.¹ It is important to keep in mind that in post-traumatic osteomyelitis surgical treatment is crucial for a favourable outcome.¹ The treatment goal is to control the infection, reduce pain and re-establish the affected function.¹

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