Leg pain following *Staphylococcus aureus* bacteraemia

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DESCRIPTION

Presentation

A 47-year-old Indian immigrant with a medical history significant for diabetes presented with severe sepsis due to complicated methicillin susceptible *Staphylococcus aureus* (MSSA) bacteraemia. His transoesophageal echocardiogram was negative. His condition improved markedly on intravenous nafcillin and his follow-up blood cultures were negative. In spite of the above, he continued to complain of throbbing pain in different muscle groups in his lower limbs (LL).

Physical examination showed tender and swollen thighs and left calf. Overlying skin was normal. CT of the LL in the second week of illness was negative but a follow-up CT scan with intravenous contrast in the third week of illness showed multiple pockets of pus in the LL muscle groups (figure 1) consistent with pyomyositis. He underwent CT-guided drainage, which grew MSSA. Subsequently, he completed 4 weeks of intravenous antibiotic therapy with complete resolution.

Discussion

Pyomyositis is a suppurative infection of the skeletal muscles that results from haematogenous bacterial seeding. *S aureus* is the implicated organism in about 80% of cases.¹ It is common in the tropical regions but rarely reported in temperate climates. It has a predilection to involve large muscle groups of the pelvis and LL. Predisposing factors include diabetes, trauma, HIV infection, malignancy and other immunosuppressive states.² Diagnosis is based on a high index of suspicion coupled with appropriate imaging studies. MRI is the diagnostic modality of choice but CT scan with

Figure 1 (A–D) CT of the lower limbs showing fluid collections in the different muscle groups of thighs and left calf.

Learning points

- ▶ Pyomyositis is an acute bacterial infection of the skeletal muscles that is most commonly caused by *Staphylococcus aureus*. It has three stages: invasive stage that is often overlooked, suppurative stage that develops 2–3 weeks into illness and a third stage during which local and systemic manifestation of infection is apparent.
- ▶ The differential diagnosis of pyomyositis includes deep venous thrombosis, necrotising fasciitis, osteomyelitis, deep hematoma and muscle rupture.
- ▶ Undiagnosed pyomyositis can be complicated by compartment syndrome, osteomyelitis of the adjacent bone, sepsis and muscle scarring with significant impairment.

contrast or a dedicated musculoskeletal ultrasound might be of help. Definite diagnosis requires aspirating purulent material and obtaining a positive culture. Successful treatment hinges on early diagnosis combined with drainage and appropriate antibiotic therapy.³ Empiric antimicrobial therapy should include antibiotics with reliable activity against methicillin resistant *S aureus* such as vancomycin and daptomycin. Once bacterial susceptibility is available, the antibiotic regimen can be de-escalated accordingly. Parenteral therapy is prudent earlier in the course of illness, but oral therapy can be substituted later on if there was no complicating bacteraemia or endocarditis.

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