

# Multifocal melioidosis with femoral osteomyelitis in a healthy 25-year-old traveller

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## DESCRIPTION

A 25-year-old woman presented with a 3-week history of fever and weight loss on return from a trip to Thailand. Clinical examination revealed inflammatory tumefaction of the right knee and of the right wrist. Positive blood cultures identified *Burkholderia pseudomallei*. MRI confirmed right

palmar tenosynovitis and osteoarthritis of the carpus (figure 1A, B) as well as osteomyelitis of the right femur's lower extremity (figure 1C, D). In addition, a positron emission tomography CT (PET-CT) scan (figure 1E) showed multifocal melioidosis involving the liver, lung, lymph nodes and multiple cutaneous and muscular nodules.



**Figure 1** Multifocal melioidosis with osteoarthritis and palmar tenosynovitis of the right hand evidenced by T1-weighted MRI (without (A) and with (B) gadolinium), osteomyelitis of the right femur's lower extremity evidenced by T1-weighted MRI (without (C) and with (D) gadolinium), liver, lung and lymph node involvement, multiple cutaneous and muscular nodules as featured by positron emission tomography-CT (E).



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Intravenous ceftazidime and oral cotrimoxazole were started. Her general condition improved but surgical procedures were required for the bone and joint foci: (1) palmar tenosynovitis on month 2; (2) aggressive sequential femoral intramedullary lytic 'Brodie-like' abscess curettage on months 2 and 3 on account of persistent productive fistula. Ceftazidime was switched to oral levofloxacin on month 5. A PET-CT scan on month 7 demonstrated significant decline in hypermetabolism of the right femur's lower extremity and resolution of other hypermetabolic foci. Levofloxacin–cotrimoxazole was switched to doxycycline on month 10. Antimicrobial therapy was stopped on month 12 as the PET-CT scan showed that the patient had normalised. The patient was followed up for 2 years without evidence of relapse.

Melioidosis, an endemic disease in Southeast Asia, is increasingly reported in travellers. Typical presentation includes pneumonia and recurrent abscesses, with or without bacteraemia. Bone and joint involvement has been exceptionally reported in travellers without comorbidities. In a prospective study, the incidence of osteomyelitis and/or septic arthritis during melioidosis in endemic areas was 7.6%.<sup>1</sup> In our case, osteotomy and several

femoral curettages were required to improve femoral infection, which has never been described. Otherwise, a PET-CT scan has been suggested to evaluate dissemination at diagnosis and follow-up, which greatly facilitates the diagnosis of secondary location (figure 1, panel E).<sup>2</sup> Treatment of osteomyelitis during melioidosis relies on repeated surgical debridement of collections and prolonged intravenous antimicrobial therapy by ceftazidime or carbapenem for  $\geq 6$  weeks, followed by oral cotrimoxazole for  $\geq 6$  months.<sup>3</sup>

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## REFERENCES

- 1 Morse LP, Smith J, Mehta J, *et al*. Osteomyelitis and septic arthritis from infection with *Burkholderia pseudomallei*: a 20-year prospective melioidosis study from northern Australia. *J Orthop* 2013;10:86–91.
- 2 Subran B, Ackermann F, Watin-Augouard L, *et al*. Melioidosis in a European traveler without comorbidities: a case report and literature review. *Int J Infect Dis* 2013;17: e781–783.
- 3 Shetty RP, Mathew M, Smith J, *et al*. Management of melioidosis osteomyelitis and septic arthritis. *Bone Jt J* 2015;97–B:277–82.

## Learning points

- ▶ *Burkholderia pseudomallei* should be considered as a possible aetiological agent of sepsis and bone and joint infections in travellers returning from endemic regions.
- ▶ Treatment of osteomyelitis consists of antimicrobial therapy for  $\geq 6$  months and surgical drainage of bone collections.
- ▶ Positron emission tomography-CT is a valuable tool for initial evaluation of dissemination of melioidosis and follow-up under appropriate treatment.

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