

### Melioidosis associated with chronic osteomyelitis and visceral organ abscesses

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#### Introduction

Melioidosis, caused by the soil saprophyte, *Burkholderia pseudomallei*, and acquired after exposure to soil or water, may involve multiple systems and has a variety of clinical manifestations ranging from acute sepsis, pneumonia, single or multiple abscesses to chronic granulomatous inflammation. Melioidosis is probably under-diagnosed in Sri Lanka. We present a case of a patient with chronic osteomyelitis and multiple visceral and subcutaneous abscesses attributable to melioidosis.

#### Case report

A 56-year old farmer from Kegalle, a diabetic for more than 10 years, was admitted with a history of recurrent multiple abscesses in the right arm, axilla and neck over 6 years and aspiration of a right paranephric abscess one year previously. Two months prior to admission the patient had been treated for culture negative septicaemia in the intensive care unit. He had painful swelling of the right arm and low grade fever. He was anaemic (Hb 6.5 g/dl) with neutrophil leucocytosis (WBC 14x10<sup>3</sup>), raised ESR (130mm) and raised CRP (77 mg/dl). An ultrasound scan of the right arm revealed deep seated, multiple, intercommunicating abscesses which were treated by multiple needle aspirations and open drainage (Fig 1). X-ray showed chronic osteomyelitis of the shaft of the humerus (Fig 2). Ultrasound imaging of abdomen revealed multiple focal lesions in the spleen shown by CECT to be abscesses (Fig 3). Wound swabs and blood cultures failed to isolate the pathogen. The indirect haemagglutination test (IHA) test for antibodies to *B.*



Figure 1. Incisions for drainage of multiple intercommunicating abscesses



Figure 2. X-ray Rt. humerus showing bone destruction

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Figure 3. CT scan abdomen showing splenic abscesses

pseudomallei was positive at a titre of 1:2560. Although we failed to isolate the organism (probably due to prior antibiotic therapy) a diagnosis of melioidosis was made, based on the highly suggestive clinical picture and the high titre of antibodies to *B. pseudomallei*. The patient was treated with ceftazidime and oral co-trimoxazole for two weeks, with dramatic clinical improvement, and discharged on co-trimoxazole and doxycycline as maintenance therapy for three months.

## Discussion

Melioidosis is endemic in Southeast Asia and Northern Australia (1). *B. pseudomallei* is found in soil and surface water. Spread is via direct inoculation through skin, ingestion or inhalation. Risk factors include diabetes, kidney disease and heavy alcohol consumption. Musculoskeletal infection, including septic arthritis, osteomyelitis, pyomyositis and soft tissue abscesses, is usually seen as a part of multi organ involvement (2). The imaging features of melioidosis in long bones include soft tissue swelling, increased

marrow density and bone destruction, which were evident in the X-ray of this patient (2).

Sri Lanka is not considered endemic for the disease (1). However, increasing number of cases are being reported (3). Melioidosis was suspected in our patient based on the clinical picture of recurrent episodes of multiple superficial and visceral abscesses in a diabetic with occupational exposure to soil and water. Although a definitive diagnosis, by culture, could not be established, serological evidence was supportive of the diagnosis.

We recommend the consideration of melioidosis in the differential diagnosis of patients with recurrent admissions for deep seated or superficial collections of pus. Late recognition may lead to complications (such as chronic osteomyelitis as seen in this case) or fatal septicaemia. First line antibiotics for community acquired pyogenic infections are not effective in melioidosis. Therefore early diagnosis is necessary to institute specific therapy and avoid case fatality. Aspirated pus should be sent for culture to maximise the opportunity to obtain a definitive diagnosis.

## References:

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## Key points:

- Melioidosis should be considered in the differential diagnosis of patients with recurrent admissions for deep seated or superficial collections of pus as late recognition may lead to complications or fatal septicaemia.
- First line antibiotics for community acquired pyogenic infections are not effective in melioidosis.
- Aspirated pus and blood should be sent for culture to enable definitive diagnosis by isolation of *Burkholderia pseudomallei*.