Pyomyositis masquerading as suprapubic mass: An unusual presentation of melioidosis

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(Index words: melioidosis, Burkholderia pseudomallei, pyomyositis, obturator externus, adductor muscle)

Introduction

Melioidosis, an infection caused by the Gram-negative bacterium *Burkholderia pseudomallei* is associated with a broad spectrum of clinical manifestations involving different organ systems [1]. Musculoskeletal melioidosis is an uncommon but well-recognized manifestation of the disease [2,3]. Here, we report a case of pyomyositis with abscesses in the obturator externus and adductor muscles. The patient underwent surgical drainage in which *B. pseudomallei* was cultured from the pus. He received antimicrobial therapy consisting of intravenous ceftazidime and oral trimethoprim-sulfamethoxazole which eventually led to resolution of the abscesses.

Case report

A 65-year-old man, previously well, presented at Hospital Sultanah Aminah, Johor, Malaysia with suprapubic swelling for 1 week. He denied any fever, altered bowel habit, urinary tract symptoms, or family history of malignancy. He works as a school bus driver and enjoys gardening during his free time.

On physical examination, he was afebrile and not toxic-looking. His blood pressure was 110/60 mmHg, pulse rate was 88 beats per minute, and oxygen saturation as measured by pulse oximetry was 99% while breathing ambient air. There was a non-fluctuant swelling noted at the suprapubic region, measuring 5 × 4 cm (Figure 1). The swelling was firm in consistency, tender upon palpation, and cough impulse was negative. The remainder of the physical examination was unremarkable.

Haematological analysis revealed a haemoglobin of 8 g/dL with normal white blood cell and platelet counts; $6.4 \times 10^3/\mu L$ and $231 \times 10^3/\mu L$, respectively. The renal and liver function tests and tumour markers (AFP, CA19-9, CEA and PSA) were within normal limits. Multiple blood cultures were negative and so were the hepatitis B, C, and HIV tests. The chest radiograph was normal. Contrast-enhanced CT of abdomen and pelvis was done, and showed an irregular, hypodense, rim-enhancing collection extending inferiorly from just anterior to the symphysis pubis to the base of penis, involving the left obturator externus and proximal left adductor muscles, measuring 3.1 × 7.7 × 5.2 cm (Figure 2). The spleen was enlarged with multiple splenic abscesses within it, and the prostate was normal.

Incision and drainage were performed in which 100 cc of purulent material was drained. The culture of the purulent material yielded *B. pseudomallei*, which was later confirmed by real-time PCR assay. Acid-fast staining and culture for mycobacteria of the purulent material were negative. The *B. pseudomallei* isolate was susceptible to imipenem, amoxicillin-clavulanate, ceftazidime, and trimethoprim-sulfamethoxazole. As a result, he was started on intravenous ceftazidime 2 gram every 6 hours and oral trimethoprim-sulfamethoxazole (80/400 mg) 4 tablets twice daily. The patient remained well and afebrile throughout the hospital stay, and the suprapubic swelling gradually reduced in size. He received intravenous ceftazidime for a total of 6 weeks and trimethoprim-sulfamethoxazole as eradication phase therapy for 6 months. CT of the abdomen and pelvis upon completion of treatment at 6-month intervals showed resolution of muscular and splenic abscesses. During subsequent follow-up review, he remained well and showed no signs of disease recurrence.

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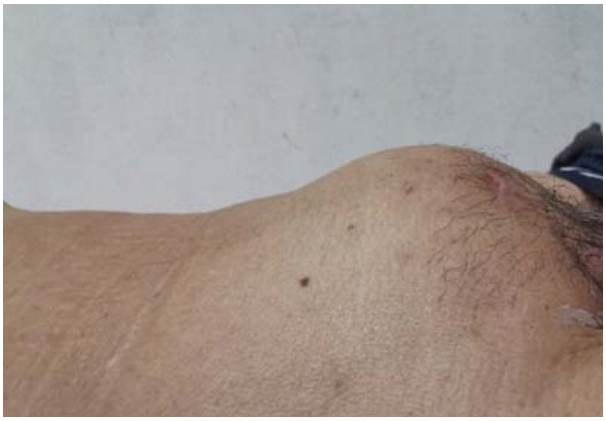

Figure 1. **Swelling at the suprapubic region.**

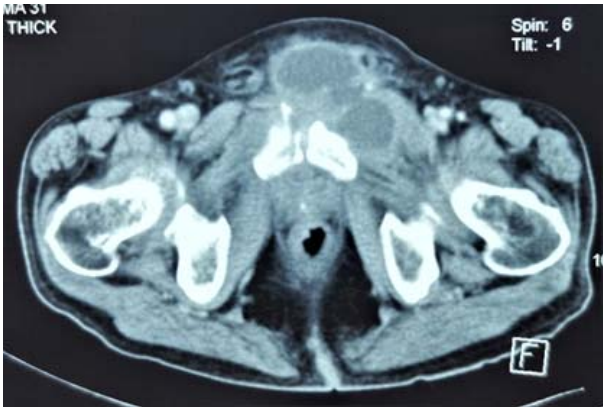

Figure 2.**CT of abdomen and pelvis showed a localized collection involving the left obturator externus and proximal left adductor muscles.**

Discussion

Melioidosis is an infection caused by the Gram-negative bacterium *B. pseudomallei*, and is endemic in southeast Asia and northern Australia. Melioidosis can present with a broad spectrum of clinical manifestations, including pneumonia, genitourinary infection, skin and soft tissue infection, visceral abscesses, neurological melioidosis, musculoskeletal melioidosis, and fulminant sepsis without evident focus [1].

Musculoskeletal melioidosis may present as osteomyelitis, septic arthritis or soft tissue abscesses. *B. pseudomallei* is a relatively rare causative organism in musculoskeletal infections, which can either present as primary infection or secondary to primary melioidosis elsewhere [2,3]. Based on a study from northern Australia, the incidence of bone and joint involvement in melioidosis was reported to be 7.6% (41/536), in which septic arthritis and osteomyelitis occurred in 27 and 14 melioidosis patients respectively [2]. In another study by Perumal *et al* the rate of musculoskeletal involvement in melioidosis was reported as 9.2% (37/342). Among 37 patients with musculoskeletal melioidosis, there were 15 cases of osteomyelitis, 10 cases of septic arthritis, and one case of soft tissue abscess [3].

In this present case, the patient was diagnosed with intramuscular abscess at unusual sites, namely the left obturator externus and proximal left adductor muscles. Muscle abscesses at these sites are commonly associated with hip pain and limping, and the diagnosis is often delayed due to the disease rarity and vagaries of its clinical presentation [4]. Interestingly, our patient did not complain of hip pain or difficulty in ambulation. Instead, he presented with a suprapubic mass, which was an unusual manifestation of melioidosis. This case was another good illustration of why surgical drainage of the abscess was important in the diagnosis of melioidosis [5].

Conclusion

Melioidosis can present with localized abscess formation in various organs in the body. The diagnosis of melioidosis relies on demonstration of abscess by appropriate imaging, drainage of abscess, and confirmation of *B. pseudomallei* by culture.

Authors' contributions

The author confirms sole responsibility for the following: study conception and design, data collection, analysis and interpretation of results, and manuscript preparation.

Conflicts of interest

The author declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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Patient consent

Written informed consent was obtained from the patient.

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