Antibiotic Coated Tibia Nail: A Promising Option For Treatment Of Meliodotic Osteomyelitis

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INTRODUCTION:
Meliodotic osteomyelitis is an uncommon but well recognised presentation of meliodosis. We reported a case of ankle septic arthritis and tibia osteomyelitis secondary to meliodosis treated with debridement and antibiotic coated tibia nailing.

CASE REPORT:
A 39 years old gentleman was treated for meliodosis with splenic abscess and right ankle septic arthritis. He completed treatment which includes prolong antimicrobial therapy and arthrotonmy washout. However, 2 months after completing the antimicrobial therapy he presented again with signs and symptoms of right ankle septic arthritis. Radiological imaging revealed osteomyelitic changes of the distal tibia. He was treated for right ankle septic arthritis with osteomyelitis of distal tibia. He underwent incision and drainage, arthrotonmy washout and distal tibia bone drilling. All intra-operative cultures were positive for Burkholderia pseudomallei. Subsequently, he had another 3 episodes of debridement and arthropotmy washout all of which were due to persistent pus discharge from the ankle. MRI of the right tibia was carried out and showed chronic osteomyelitis changes with intraosseous and intramuscular collections from middle third tibia to distal tibia. He then underwent debridement and antibiotic coated tibia nailing.

RESULTS:
After the antibiotic nail inserted, patient’s clinical conditions improved. Inflammatory parameters were reducing and radiological findings showed improvement. The wound was healing well and he was able to ambulate with crutches. He is still under our monitoring and on oral antimicrobial therapy. Overall, he is satisfied with his clinical improvements.

DISCUSSION:
Meliodosis is caused by Burkholderia pseudomallei. It commonly presents as pulmonary disease but septic arthritis and osteomyelitis is a recognised presentation. The incidence of septic arthritis and osteomyelitis varies from 4-8% (Li, J & et al, 2012). The treatment includes 2 - 4 weeks of systemic antimicrobial therapy and vigorous washout and debridement. It is followed by oral maintenance therapy for a minimum of 12 weeks. The prolong antimicrobial therapy is to prevent relapsed to which is estimated to be 30% if antimicrobial therapy is less than 8 weeks (N.S. Raja & C. Scarsbrook, 2016). In our case, despite adequate therapy, the patient develop relapse. Due to poor response to systemic antimicrobial and multiple debridement, we felt that high local concentration was essential. We opted for nail because of the presence of intraosseous collection and reaming will remove the collection. The antibiotic cement were gentamicin containing in which Burkholderia Pseudomallei isolated were susceptible to.

Figure 1: MRI of the tibia showing intraosseous and intramuscular collection from middle to distal tibia

Figure 2: X ray image of right tibia prior to antibiotic nail (left) and after (right) showing improvement in the osteomyelitic changes.