
MELIOIDOSIS: VERTEBRAL OSTEOMYELITIS: CASE REPORT

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INTRODUCTION

Melioidosis is caused by a free-living gram negative, aerobic bacillus *Burkholderia Pseudomallei* that is widespread in southeast Asia and northern Australia. It is characterized by abscess formation in the lung, liver, spleen and skeletal muscle with the lung being the most commonly involved organ. The clinical features are variable from rapidly progressing septicemia to chronic debilitating abscess-forming disease. Osteomyelitis, especially vertebral osteomyelitis, is a relatively rare manifestation of melioidosis. We report a case of melioidosis presenting as vertebral osteomyelitis.

CASE REPORT

A 70 year-old woman, who is a farmer, lived in Noanboonnag district, Nakon-Ratchasima province, with type 2 diabetes mellitus, complained of Low back pain with radiated to both thighs and low grade fever for 3 months. She visited and was admitted in the hospital for several times where spinal stenosis was diagnosed and she was treated conservatively. She had associated malaise and weight loss of 6 kg over three months and fever which was worse during the night. There were no respiratory symptoms. On physical examination: Motor power: upper limbs grade V/V, lower limbs III/V, motor weakness involved proximal and distal group equally. The others are unremarkable.

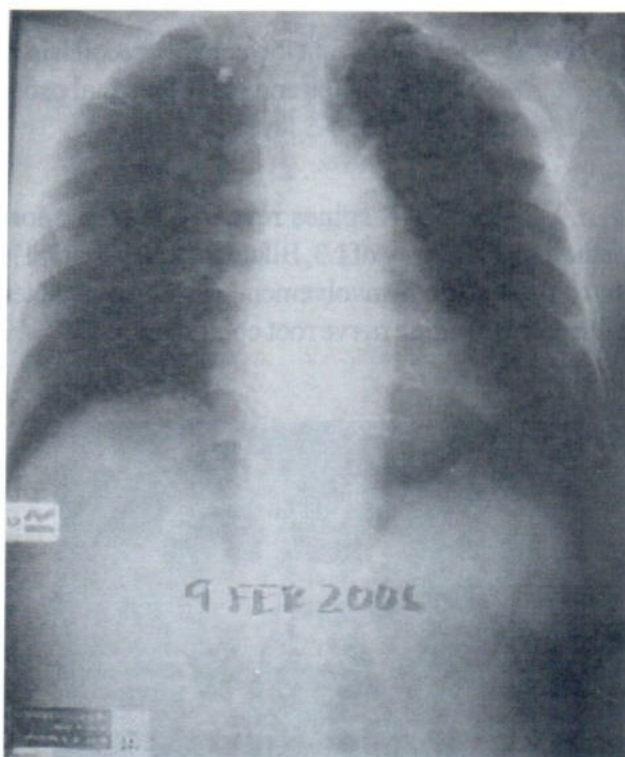


Fig. 1 Initial CXR showed few small RUL nodules and larger one at LLL.

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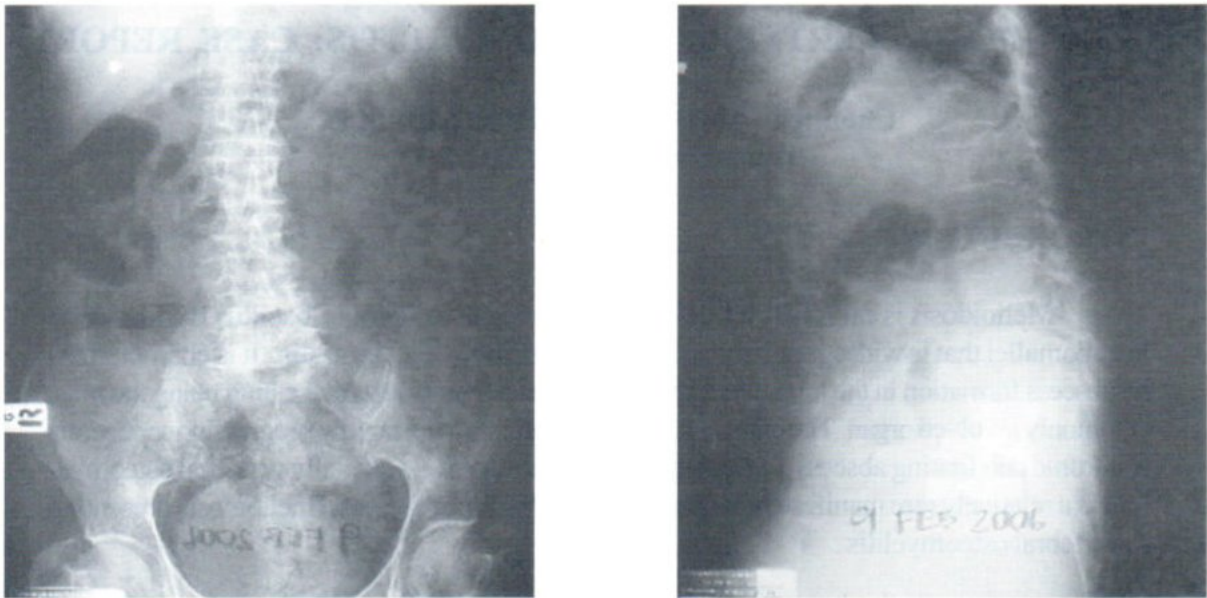


Fig. 2 L-S film: Right lower lumbar scoliosis,irregular endplates with vacuum phenomenon of L 4-5, intact pedicles and loss of normal psoas shadows. All lumbar disc space narrowings,most severe at L 4-5 level.

MRI of L-S spines revealed lumbar spondylosis, L3-S1 Herniated Disc, most severe at L4-5, pathological fracture of L3, Bilateral para-vertebral lesions, Rt. > Lt. , with extension to right ilio-psoas muscle and ilio-sacral bony involvement. Also seen small lesion at T11 body. Extra-dural lesion at L2-3 & L3-4 levels with corresponding nerve root compression.

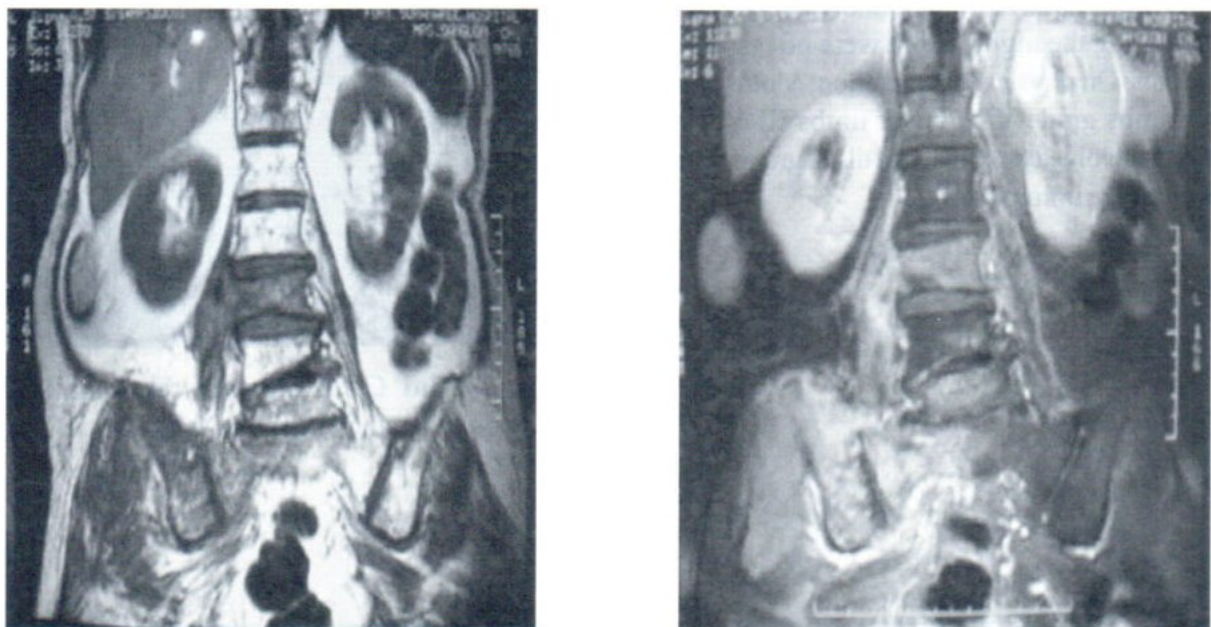


Fig.3 Coronal Sequence Imaging T1W without and with gadolinium

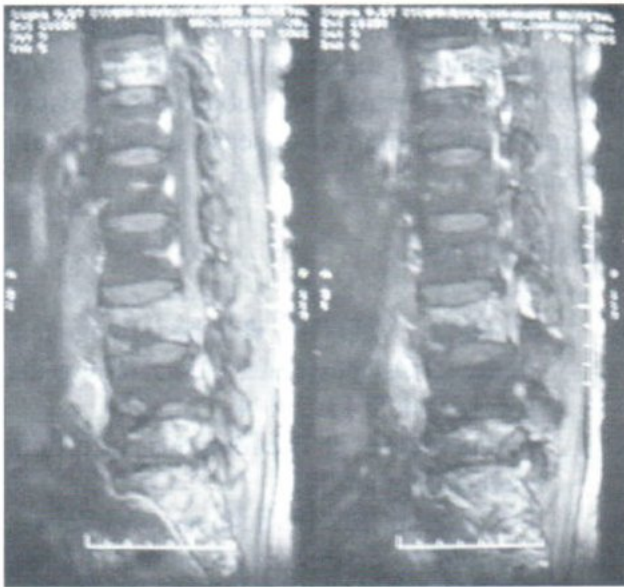


Fig. 4 Sagittal / Axial Sequence Imaging T1W with gadolinium.



Fig. 5 Ultrasonography of upper abdomen:
Normal.

Laboratory finding : WBC count of 10900/ul,
Hb = 9.2g/dL. Liver Function Test & Renal
Function were normal.

The initial diagnosis was tuberculosis of spines and anti-tuberculous agents and antibiotic drugs for septicemia. She had still suffered, then laminectomy + Pedicular Plate Screwing + Posterior Larmina Fixation + Dissectomy were done. Intra-operatively, subperiosteal collection was found at the vertebral body with extension into the bones. Histology of friable tissue revealed acute and chronic inflammatory cell infiltration, multi-nucleated giant cell and noncaseating granuloma. The special stain of acid fast showed negative result, but Gram stain demonstrated rare Gram negative bacilli. No malignant cells were seen.

The tissue culture grew *Burkholderia pseudomallei*. The patient was treated with IV metropenem for 6 weeks and followed by cotrimoxazole. Her fever settled after operation and with this post-operative treatment, her appetite improved markedly. The patient recovered well and was discharged with oral co-trimoxazole to be taken at home.

DISCUSSION

Burkholderia pseudomallei is a saprophyte organism found mainly in soil and water from endemic area such as in northeastern Thailand. The risk factors commonly associated with melioidosis include diabetes mellitus, alcohol abuse, chronic lung disease and chronic kidney disease. It has a wide spectrum of presentations, ranging from chronic constitutional symptoms to acute fulminating septicemia. The patient can be classified into four clinical groups; **disseminated septicemic melioidosis** is defined as positive blood culture and more than one organ involved, **non-disseminated septicemic melioidosis** is defined as positive blood culture and only one focus or no apparent focus of infection, **localised melioidosis** is defined as only single focus of infection whereas negative blood culture and **multifocal localised melioidosis** is defined as multiple organs involvement but negative blood culture.

The most common clinical presentation is septicemia with or without pneumonia. Melioidotic osteomyelitis is rare. It can affect long bone of the extremities, rib, multifocal osteomyelitis and vertebra. A literature search revealed that only 5 cases of melioidotic vertebral osteomyelitis were reported during 1995-2005. Four of five patients were male and the mean age was 55 years. Most of them had back pain. Subhadrabandhu et al had reported 4 cases of melioidotic vertebral osteomyelitis. All showed plain radiograph of destruction of the vertebral bodies, scalloping of the anterior vertebral margins with varying degrees of collapse same as out patient but no MRI result had been reported.

Melioidotic osseous lesions usually involve the metaphyseal of long bone and the vertebral bodies, in which the radiograph appearance can not be differentiated from that of tuberculous lesion. Diagnostic confusion with tuberculosis can occur, especially in the area with a high incidence of both disease, such as in northeastern region of Thailand. The histopathology of the granuloma in our case was indistinguishable from that induced by tuberculosis, and therefore bacteriological study is the mainstay of diagnosis.

Extensive debridement of the infected bone and appropriate antibiotic therapy are essential for

successful treatment. In tuberculosis endemic areas, it is important to understand melioidosis and differentiate this disease from tuberculosis because the treatment of the two disease is completely different.

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