

中文題目：一脊椎體骨結核病人其影像學特性類似病理性壓迫性骨折--一病例報告與文獻回顧

英文題目：The radiographic images of a patient with vertebral body TB spine mimicking pathological compression fracture: a case report and review of literature

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**Introduction:** Bone and joint infection may account for 10 to 35 percent of cases of extrapulmonary tuberculosis and, overall, for almost 2 percent of all cases of TB. Musculoskeletal tuberculosis involves the spine in approximately one-half of patients. In this report, we present an interesting case of vertebral body TB spine whose radiographic images mimicking metastatic pathological compression fracture. The diagnosis, therapeutic management, and outcomes are discussed. Besides, the literature was also reviewed.

**Case report:** This 37-year-old man was admitted due to progressive lower back pain for 6 months. He had been to Taipei MKMH for help where MRI of the lumbar spine failed to show any significant abnormal finding. The pain was partially relieved by analgesics only, so he asked Nantou hospital for help again. Chest computed tomography showed left lower lobe mediobasal tumor with adjacent T-spine involvement. He was transferred to our hospital under his mother's request. CT-guided biopsy of the LLL mass was done and the pathology revealed chronic granulomatous inflammation without evidence of malignancy. Bone scan revealed multiple abnormal hot spots in right 2<sup>nd</sup> and 3<sup>rd</sup> ribs, T9 & T10 vertebral body, favor bony metastasis. MRI of T-L spine also demonstrated metastatic T10 vertebral body collapse, compatible pathological fracture. The neuro-surgeon was consulted for laminectomy of T8,T9; removal of tumor, PL fusion with instrumentation. The resected T9 necrotizing tumor pathology confirmed tuberculosis with positive acid fast stain and presence of epithelioid cells and Langhans' giant cells. As a result, anti-TB drugs were prescribed for pulmonary TB and vertebral body TB spine. He is now still on treatment. No more lower back pain was complained.

**Discussion:**

Spinal TB (Pott's disease) most often affects the lumbar and lower thoracic region; upper thoracic and cervical disease is less common but potentially more disabling. Vertebral bodies are especially vulnerable to bacilleemia seeding due to high blood flow even in adulthood. In spinal TB, infection usually starts in the anteroinferior aspect of the cancellous vertebral body with inflammatory bone destruction and

caseating necrosis. Once the process is established, active infection spreads down behind the anterior ligament to involve the adjacent vertebral body. Local destruction often produces collapse of bony structures and herniation of the disk into the vertebral bodies. Vertebral collapse can produce spinal instability with gibbous deformity (or “step” kyphosis); this may, in turn, distort the anatomy of the canal to the point of spinal cord compression.

The indolent nature of tuberculous bone and joint disease often leads to delayed or missed diagnosis, sometimes with devastating consequences for the patient.

There are no skeletal radiographic characteristics pathognomonic of TB. In early infection, there may be radiographic evidence of local soft tissue swelling, osteopenia, and bone destruction with relative preservation of cartilage space or disc space. Later features include structural collapse, sclerotic changes, and soft tissue calcification.

Spinal TB rarely occurs at more than one level but involvement of contiguous vertebrae is not uncommon. However, in some patients, spinal TB presents with pure osteolytic lesions without disc space involvement. These lesions may even occur at multiple sites. In our case, the only T9 vertebral body involvement with positive bone scan is real easily misdiagnosed as metastatic compression fracture. Therefore, needle aspiration and biopsy are recommended, especially for confirming spinal disease.