

## Utilizing MTB Gene Xpert PCR in Early Diagnosing Inconclusive Spinous Tuberculosis Case

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### INTRODUCTION:

Tuberculosis is known as a great mimicker for malignancy and other infections. The gold standard of investigation is tuberculous culture. However, it takes a minimum of two to six weeks, and its sensitivity is only up to 50% (1). Studies of pulmonary and extrapulmonary tuberculosis have indicated that Polymerase chain reaction (PCR) is more specific and sensitive than other diagnostic methods (2).

### REPORT:

A 69-year-old lady presented to emergency department with three months history of lower back pain preceded with a trivial fall. It was associated with generalized body weakness, poor oral intake, and significant weight loss. Clinically, there was a tenderness over lower cervical and mid-thoracic region with reduced power of Grade 4 from C5-T1 and Grade 0 from L2-S1.

Blood investigation showed raised ESR level, whilst other tuberculosis screening yielded no significant findings. The MRI of the whole spine showed pathological fractures of C5, T2, T7, and T8 vertebrae (Figure 1). At C4 (Figure 2) and T7 (Figure 3) levels, the soft tissue lesion caused cord compression and cord edema. There was another lesion soft tissue lesion anterior to the sternum. There was a delay in diagnosis since our initial diagnosis was malignancy.

Spinal biopsy yield no significant finding. A histopathology examination of the sternal lesion detected granulomatous infection with no Ziehl-Nielsen-stained organism detected. The only positive result was Mycobacterium genome detection from bronchoalveolar lavage. A diagnosis of tuberculosis infection was established and she was started on anti-tuberculosis treatment. At 6 months anti-TB

treatment, her condition improved and she is now ambulating independently with wheelchair.



Figure 1

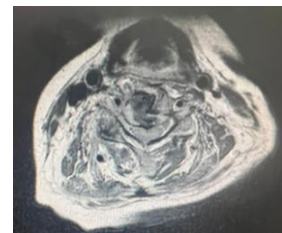


Figure 2

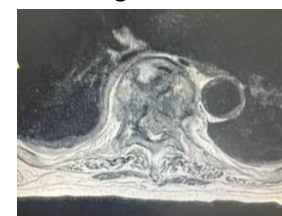


Figure 3

Figure 1: Sagittal view of MRI T2 Whole spine

Figure 2: Axial view of MRI T2 C4

Figure 3: Axial view of MRI T2 C7

### CONCLUSION:

Early detection for spinal TB infection is important since if delayed, it may lead to serious neurological impairment. MTB PCR is highly sensitive and specific, result can be as fast as 2 hours, it is highly advantageous in TB diagnosis and management.

### REFERENCES:

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2. Magana AD et al. Low-cost in-house PCR for the routine diagnosis of extra-pulmonary tuberculosis. *Inter J Tuberc Lung Dis* 2008; 12(3): 275-80.