Images in Clinical Tropical Medicine

Mediastinal Mass Causing Spinal Cord Compression

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Abstract. A 4-year-old Cambodian male presented to the emergency room with 2 weeks of gradually increasing leg weakness until he could no longer stand. He was also reported to have a deformity on his back, intermittent fevers and cough. His physical exam was notable for a 2 cm × 1 cm bony protrusion at his T4 vertebrae, and 2/5 strength and positive Babinski reflexes in his lower extremities. A chest x-ray showed a 3.2 cm × 2.9 cm mass in the middle mediastinum extending to the posterior mediastinum. A purified protein derivative test was positive. A computed tomography scan showed findings consistent with pulmonary tuberculosis and a paravertebral mass with amorphous calcifications, which involved destruction of the T4-T5 vertebrae and evidence of cord compression. These findings were all consistent with tuberculous spondylitis (Pott's disease).

A 4-year-old male presented to a Cambodian emergency department with gradually increasing leg weakness for 2 weeks until he could no longer stand. He was also reported to have a deformity on his back for the past 2 months, and intermittent fevers and cough for several months. He retained control of his bowel and bladder function. On physical exam he was mildly tachypneic. His skin exam revealed a 2 cm × 1 cm bony protrusion at his T4 vertebrae (Figure 1). His neurological exam was significant for 2/5 strength, and positive Babinski reflexes in his lower extremities. He had normal sensation.

Workup included anteroposterior (Figure 2) and lateral chest x-rays, which showed a 3.2 cm × 2.9 cm mass in the middle mediastinum extending to the posterior mediastinum. The patient was promptly started on anti-tuberculosis (TB) treatment. A purified protein derivative test was positive. Three sputum samples were analyzed with the Xpert *Mycobacterium tuberculosis*/rifampin resistance (MTB/RIF) test and were all negative. A computed tomography scan done at an outside facility showed findings consistent with pulmonary tuberculosis as well as a paravertebral mass with amorphous calcifications, which involved destruction of the T4-T5 vertebrae and evidence of cord compression. These findings were all consistent with tuberculous spondylitis (Pott's disease). After 1 month of treatment with anti-tuberculosis medication in conjunction with physical therapy, the patient had significantly improved. He remained afebrile, his cough had decreased in frequency, and he was able to stand with support.

Despite significant progress to reverse the TB epidemic, it was estimated that there were 500,000 cases of TB in the pediatric population and 64,000 deaths in 2011.¹ Tuberculosis can spread hematogenously to vertebral bodies, causing pain and eventual bony destruction.² A Gibbus deformity is a late finding in Pott's disease³ and clinicians should keep TB high on the differential when presented with this finding in any TB-endemic area. Although microbiological confirmation is preferred, TB can be very difficult to isolate in children in the developing world due to lack of effective diagnostic tools, paucibacillary samples, and the difficulty of obtaining high-quality specimens from children. Even the new Xpert MTB/

RIF test has only been shown to have 79.5% sensitivity for detection of confirmed TB from sputum, gastric, cerebrospinal fluid, and pleural fluid samples in a pediatric population from Vietnam.⁴

FIGURE 1. Gibbus deformity representing wedged vertebrae as a result of vertebral body collapse.

FIGURE 2. Anteroposterior chest x-ray demonstrating a mediastinal mass.

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Current management always includes medical management and can also include surgical management for patients with acute neurological deterioration.⁵ In a resource-limited setting without a neurosurgeon, it is important to promptly initiate TB treatment without waiting for the results of diagnostic studies, advanced imaging, or biopsy.

Received June 26, 2013. Accepted for publication July 15, 2013.

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