Case Report

Pulmonary Tuberculosis Presenting Acutely as Paraplegia: An Unusual Presentation

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Abstract

Extrapulmonary tuberculosis most commonly involves the bones and the spine. The present case is that of a young boy who presented with acute onset paraplegia without any pre-existant complaints of cough with sputum, fever, night sweats or weight loss.

Keywords: Extrapulmonary, night sweats, paraplegia

Introduction

The most common symptom of pulmonary tuberculosis (TB) is a productive cough for more than 2 weeks,[1] which may be accompanied by other respiratory symptoms (shortness of breath, chest pains, hemoptysis) and/or constitutional symptoms (loss of appetite, weight loss, fever, night sweats and fatigue).[2] Extrapulmonary TB involves the infection outside the lung. It can include virtually any organ system in the body such as the brain and spine, bones and joints, abdomen and genital. In bone and joint disease, pathogenesis is related to reactivation of hematogenous foci or to spread from adjacent paravertebral lymph nodes. Weight-bearing joints (the spine in 40% of cases, the hips in 13% and knees in 10%) are most commonly affected. Spinal TB (Pott's disease or tuberculous spondylitis) often involves two or more adjacent vertebral bodies. Although the upper thoracic spine is the most common site of spinal TB in children, the lower thoracic and upper lumbar vertebrae are usually affected in adults.[3] As TB is very common in our country and most of the focus is on pulmonary TB, this case report in an endeavor to widen the spectrum of knowledge of our primary care physicians about the presentation of TB.

Case Report

A 19-year-old male patient presented with the complaint of acute onset paraplegia since 4 days. He reported to have slept normally at night and noticed that he could not move both his lower limbs when he woke-up the next morning. On examination, he was fully conscious, had a blood pressure of 128/80 mm of Hg, pulse rate of 78 beats/min, respiratory rate of 22/min and a temperature of 98.4°F. A neurological examination revealed flaccid areflexic paraplegia with sensory loss along with bowel and bladder involvement. On respiratory examination, there were occasional expiratory crepitations in the right infrascapular area. The cardiovascular and abdominal examinations were, however, normal. Patient had no history of cough with sputum, fever, night sweats, weight loss, trauma or vaccination in the recent past. A magnetic resonance imaging (MRI) spine was performed, which revealed a paravertebral abscess extending from T7 to L2 vertebra [Figure 1]. A computed tomography chest revealed bronchiectatic changes in the right lower lobe [Figure 2]. The sputum was positive for acid fast bacilli.

Discussion

MRI allows the diagnosis of a tuberculous lesion, with a sensitivity of 100% and specificity of 88%, well before deformity develops. Neurological deficit and deformity are the worst complications of spinal TB. TB of the spine is a medical disease, which is not primarily treated surgically, but the operation is required to prevent and treat the complications. Late-onset paraplegia is best prevented rather than treated. The awareness and suspicion of an atypical presentation of spinal TB should be high in order to obtain a good outcome. Therapeutically refractory cases of TB of the spine are increasing in association with the presence of human immunodeficiency virus (HIV) and multidrug-resistant TB.[4] Patient in the present case was however, seronegative for

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Quick Response Code:

Website: www.jfmpc.com

DOI: 10.4103/2249-4863.120771

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Figure 1: A magnetic resonance imaging spine showing a paravertebral abscess extending from T7 to L2 vertebra

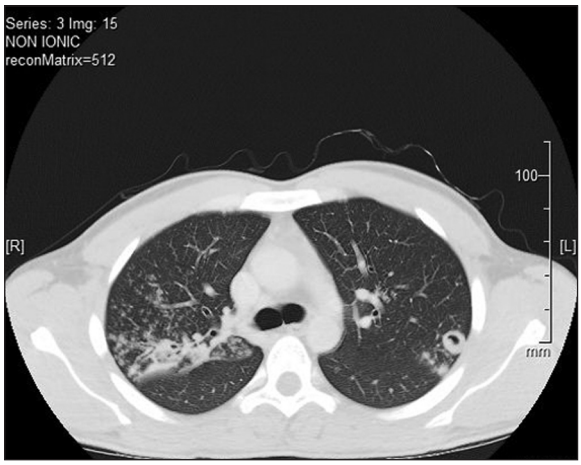

Figure 2: A CT scan of chest showing bronchiectatic changes in the right lower lobe

HIV. A good outcome is expected if the diagnosis is made in the early stages before the appearance of spinal deformity and neurologic deficits.[5]

Instances of paraplegia due to Pott's spine have frequently been reported in the Indian literature because of the high prevalence of active TB in the country.[6] A common cause of myelopathy in developing countries where TB is prevalent is Pott's disease, caused by spinal cord compression due to abscess, granulomatous tissue or bony displacement.[7] Several authors agree that the neurologic deficiency is secondary to medullary and radicular inflammation; only exceptionally is there compression by an abscess or a tuberculoma. Two other forms of myelopathy secondary to TB that are less common and different from Pott's paraplegia include tuberculomas within the spinal cord as well as in intra- and extra-dural locations[6,7] and encasing granulomatous arachnoiditis (radiculomyelopathy) with cord compression and vasculitis of spinal cord vessels. Wadia and Dastur[8] described four major mechanisms that lead to the spinal cord involvement: (1) edema of border zones of the cord secondary to venous obstruction due to pressure associated with meningitis, (2) ischemic myelomalacia resulting from vasculitis or post-thrombotic occlusion of meningeal vessels, (3) infrequent infarction of the cord from vascular occlusion and (4) formation of intramedullary tuberculomas with pericentral necrosis.[9,10]

In the present case, patient had developed myelitis due to compression of the spine from the large paravertebral abscess and would have had respiratory exacerbations, which had gone unnoticed in the past. The acute onset of paraplegia, which resulted from the compression of spine, is quite unusual as most of the patients have a pre-existing diagnosed disease manifesting in the earlier stages. In most of the cases, onset of paraplegia is subacute to chronic or occurs following trauma.

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How to cite this article: Pande A. Pulmonary tuberculosis presenting acutely as paraplegia: An unusual presentation. J Fam Med Primary Care 2013;2:294-5.

Source of Support: Nil. **Conflict of Interest:** None declared.