Abdominal pain as a presenting feature of spinal tuberculosis in a child

To the Editor: The characteristic clinical features of tuberculous spondylitis were first described by Sir Percivall Pott in 1779.1 More than 200 years after his description, this serious infection can still present diagnostic dilemmas in clinical practice. Atypical presentations of spinal tuberculosis (TB) mimicking malignancy have been described.2,3

We report on a child with abdominal pain as a presenting symptom of spinal tuberculosis.

A four-year-old girl presented with chronic intermittent abdominal pain, low grade fever and weight loss for three months. During episodes of pain she used to cry and hold her lower abdomen and bilateral inguinal region. There were no bowel/bladder complaints, vomiting or worm infestation. The father was on antituberculous therapy for pulmonary tuberculosis. Complete blood count, serum electrolytes, serum calcium, serum amylase, blood culture, ultrasonography of the abdomen, the Widal test, liver and renal function tests, stool and urine examination done in private were normal. She received antibiotics, antacids, antipyretics, antispasmodics and antihelminthic without any relief. On admission, she was hemodynamically stable. Her weight was 10.2 kg and height was 89 cm (both below the 5th percentile). No obvious swelling or spinal deformity was present. However, tenderness was present in the lumbar spine. Power was normal in all four limbs. Tone was increased in the lower limbs. Deep tendon reflexes in both knee and ankle joints were brisk. She had extensor plantar response bilaterally with well sustained clonus. The rest of the examination was normal. Her investigations revealed a normal hemogram and chest X-ray. The erythrocyte sedimentation rate was 78 mm at 1 hr. Her Mantoux test was positive (28 mm) and HIV serology was negative. Magnetic resonance imaging of the spine showed Koch spondylodiscitis involving the L1 and L2 vertebrae (Figure 1). A diagnosis of tuberculous spine with referred pain to the abdomen was made. Conservative management was planned after consultation with orthopaedic surgeons. Anti-tuberculous therapy with isoniazid, rifampicin, ethambutol and pyrazinamide was started. On follow up after six months she was asymptomatic without any focal neurological deficit.

Tuberculous of the spine has the potential for serious morbidity, including permanent neurologic deficits and severe deformity. Although any part of the spine can be involved in children, there is a predilection for the lower thoracic and upper lumbar vertebrae.4 In spinal tuberculosis, onset of symptoms is usually insidious and disease progression slow. The usual presentation includes low grade fever, irritability, weight loss, back pain, kyphosis, abnormal positioning of gait and paraplegia.5,6 Our patient had abdominal pain as an unusual presenting symptom of spinal tuberculosis. Such unusual symptoms may prompt an initial extensive workup for other disease processes. This can lead to serious consequences of a late or missed diagnosis particularly one that is accompanied by irreversible neurological sequelae including paraplegia. Spinal tuberculosis causing referred pain to the abdomen is not considered in our patient, leading to a delay in the diagnosis. Three theories have been put forward to explain the phenomenon of spinal referred pain: the axon reflex theory, the convergence theory and the hyperexcitability theory. The ‘axon reflex theory’ suggests that certain primary sensory neurons have bifurcating axons innervating both somatic and visceral targets, leading to confusion as to the source of afferent activity.7 The ‘convergence theory’ suggests that the afferent nerve fibers from one region converge in the spinal cord with afferent nerve fibres from an-
had the typical somatic referred pain due to tuberculous involvement of the first two lumbar vertebrae.

Through this case we wish to highlight this unusual presentation of spinal tuberculosis. Also, spinal tuberculosis should be considered in the differential diagnosis and a complete neurological examination including spine should be done in children presenting with chronic abdominal pain.

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