

## Spinal Tuberculosis

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### Dear Editor

Spinal tuberculosis (TB) or Pott's disease is one of the oldest human specific infections. It has been found in ancient Egyptian mummies and was first described by Percival Pott in 1779 [1,2]. Skeletal involvement in TB is uncommon. It was reported in 1-5% of all TB cases. The most common form of musculo-skeletal TB is spinal TB and accounts for approximately 50% [3,4].

The incidence of spinal TB has been reported to have augmented. This could be explained by old age of the population, easy access to the diagnostic methods especially magnetic resonance imaging (MRI) and an increase in the prevalence of immunosuppression [5]. Many conditions and factors predispose for spinal TB. They include; poverty, malnutrition, chronic peritoneal dialysis, alcoholism, drug abuse, diabetes mellitus, immunosuppressive treatment, previous TB infection and HIV infection [3].

Spinal TB is caused by *Mycobacterium tuberculosis* bacteria, which spreads the cancellous bone of the vertebral bodies via the bloodstream. The infection spreads to the adjacent vertebral bodies under the longitudinal ligaments. The primary infection site could be pulmonary or extrapulmonary, such as lymph nodes, gastrointestinal, or any other viscera [3].

The lower thoracic and lumbar spine are most commonly involved, but many levels may be affected. The vertebral destruction leads to a collapse of vertebral body consequences in a gibbous deformity. The extension of infective process into the iliopsoas muscle is classical and lead to an abscess formation [1,6].

Pott's disease has varied manifestations. The initial symptoms are relatively nonspecific and common to any tubercular infection such as; low-grade fever with an evening rise, malaise, night sweats, anorexia and weight loss. Characteristic symptoms of Pott's spine consist of back pain, vertebral tenderness. In extreme cases, neurological symptoms (para or quadriplegia, hemiplegia or monoplegia, paraparesis) and spinal deformity (acute kyphotic angulation) are shown [1,7].

Laboratory data such as an elevated erythrocyte sedimentation rate ESR, CRP and positive tuberculin skin test provide some information, but they can't confirm the diagnosis [7].

Confirmation of the diagnosis is obtained by microbiological culture and/or histological analysis. DNA amplification techniques (polymerase chain reaction (PCR)) may also facilitate the diagnosis. PCR allows early detection of the TB infection and earlier initiation of treatment.

However, even today these tests are not routinely used for TB management and the FDA only recommends respiratory specimens for TB PCR [5].

Radiological findings provide more useful information and they generally occur late. Plain radiography of spinal TB shows signs that suggest a vertebral body disease with intervertebral disc involvement (spondylodiscitis) such as disc space narrowing, irregularity and erosion of the adjacent vertebral endplates, bone sequestrae and paravertebral masses [6]. These radiological finding suggest also a pyogenic spondylitis, and computed tomography (CT) and MRI provide a great help in the differential diagnosis.

CT visualizes sclerosis and destruction within the vertebral bodies and it can be used to guide percutaneous biopsy of bone lesions or infected soft tissue [6]. MRI is the appropriate imaging exam in TB spondylitis due to its superior soft tissue resolution and multiplanar images. This exam can detect vertebral changes and the end-plate irregularity earlier than plain radiography and bone scintiscan [6]. MRI is more useful to demonstrate paravertebral abscess clearly and to detect spinal cord infiltration.

The objectives of spinal TB treatment are to attain a bacteriological heal of the lesion treat spinal compression and deformity, and its sequelae [8].

TB chemotherapy plays a main role in TB treatment if the lesions are without complications and limited to the vertebrae [2,3]. The aim of the surgical treatment is to achieve an abscess debridement, spinal cord decompression, spinal stabilization, and preventing or correcting deformity [2].

Medical therapy is the treatment of choice in patients without neurologic deficit and surgical intervention may be needed in relatively few cases. In patients with neurologic complications, medical therapy is the first choice, but surgical treatments can be associated when indicated and yield the best results [3].

The outcome of spinal TB has improved significantly by effective medical and surgical management even in the presence of neurologic deficits and spinal deformities [3].

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