LETTER TO THE EDITOR

The diagnosis of atypical skeletal tuberculosis is challenging

To the Editor,

Despite advances in diagnostic imaging methods, the diagnosis of atypical multifocal skeletal tuberculosis (TB) is challenging [1]. Herein, we describe a patient with atypical TB affecting multiple vertebrae and other bones.

A 24-year-old male presented with neck and back pain that was more severe in the morning and late at night and was alleviated by movement. His range of spinal activity was reduced. His skin appeared normal. Thoracic and lumbar radiography showed compression and flattening of the spinal body of T6 and abnormal radiolucency of the spinal bodies of T9–T11 and L1–L2, but his chest radiographs appeared normal. Computed tomography (CT) revealed multiple lytic lesions in the vertebral bodies of C7, T6, T9–T11, and L1–L2 and the left transverse processes of T10–T11 and L1. Magnetic resonance imaging (MRI) showed collapse and flattening of the T6 vertebral body and multiple lytic lesions in the vertebral bodies of C7, T1, T6–T12, and L1–L2 and the left vertebral arch of T10. An abnormal paravertebral signal was present adjacent to C1 and C7. Positron emission tomography (PET)/CT showed multiple skipped lytic lesions with increased metabolic activity (maximal standardized uptake value = 13.8) in the vertebral bodies of C1, C7, T6–T12, L1–L2, L5, and S1; the left transverse processes of T10, T11, and L1; the right eighth and left ninth ribs; the bilateral ilia; and the left acetabulum and femoral neck (Fig. 1). Radionuclide bone scanning showed multiple foci of increased tracer uptake in the thoracic vertebrae, lumbar vertebrae, pelvis, and ribs. The left transverse processes of T10 and T11 were biopsied percutaneously, and the pathologist diagnosed TB granuloma.

The ribs and cervical vertebrae are involved in 0–5% and 2–3%, respectively, of cases of osteoarticular TB [2,3]. Our case of skeletal TB was very unusual because of the involvement of multiple bones (the centers of the vertebral bodies, right eighth and left ninth ribs, C7, bilateral ilia, and left acetabulum and femoral neck), atypical location of spinal TB in the centers of multiple vertebral bodies, and normal chest radiographs.

Typical spinal TB is easily diagnosed from the specific radiological findings of disc space narrowing and paravertebral soft tissue involvement. The atypical features of spinal TB seen in this case included: (1) multiple lytic lesions of the centers of vertebral bodies with increased metabolic activity on fludeoxyglucose (FDG) PET; (2) no involvement of the intervertebral disc space; and (3) skipped lesions. Spinal TB is atypical in approximately 2.1% of cases [4]. These lesions are rare and difficult to differentiate clinically and radiographically from metastatic tumors or myeloma [5], sarcoidosis, and non-TB infectious conditions.

Multifocal skeletal TB should be considered a differential diagnosis in patients with multiple skeletal lytic lesions, and pathological examination is essential for the diagnosis of atypical multiple skeletal TB. FDG PET/CT is not useful for the differential diagnosis of atypical skeletal TB.
References


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