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CASE REPORT

UNUSUAL PRESENTATION OF COMMON DISEASE IS NOT UNCOMMON

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Abstract:

The commonest site of osseous tuberculosis is the spine. Most vertebral lesions are contiguous. Current research indicates the incidence of multiple level noncontiguous vertebral tuberculosis is 1.1% to 16%[1]. Here, we describe a case with noncontiguous multisegmental spinal TB with no intervertebral disc involvement. Presentation of noncontiguous multisegmental spinal TB without the involvement of intervertebral disc resembles that of a neoplasm or other spinal infection. Differentiation requires the presence of a combination of general symptoms, laboratory test results, appropriate radiological results, and the physician's experience.

Key words: *Unusual presentation, common disease, spinal tuberculosis.*

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Introduction:

Spinal tuberculosis (TB), also known as Pott disease, was first reported by Percival Pott in 1779.[1] One of the most common extrapulmonary forms of TB, spinal TB, accounts for 1% of all TB cases, and 50% to 60% of osteoarticular TB.[2,3] The onset of spinal TB is insidious, usually manifesting first as back pain and local tenderness as well as some systematic symptoms associated with TB.

Atypical spinal TB may present a diagnostic dilemma for physicians. Atypical forms of spinal TB are uncommonly reported, mostly in case reports.[6–8] Because of insufficient emphasis and descriptions in the literature, diagnosing atypical spinal TB continues to be difficult, which could lead to delay and inappropriate treatment.

Case Report:

A 20 yr-old female presented with pain and weakness of the left upper limb. She was relatively well 3 months back, then she developed neck pain. Despite conservative management, neck pain was gradually increasing and

she started to develop weakness and numbness in the left upper limb. Few days later patient developed back pain with stiffness which used to persist

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throughout the day. She admitted initial low grade followed by high grade continued fever, night sweats and 10kg weight loss but denied having a cough.At her presentation to our hospital, she was bed bound due to neck and back pain and weakness of the left upper limbs. On examination, she was toxic, ill-looking, temperature was 103°F.There was no lymphadenopathy and organomegaly. Neurological examination revealed wasting, diminished muscle power of hand and impaired sensation of hand. lower limb examination revealed diminished power, increased tone, exaggerated jerks and extensor planter.it was progressive. Initially there was no sensory impairment but later she developed sensory impairment at different level: T2, T3,T7,T8,L4.

laboratory test showed raised ESR (80mm in 1sthr) and CRP (70 mg/l).Chest Xray was normal. Radiography of her cervical and dorso-lumbar spine showed normal cervical spine but wedge collapse of D8 and L2 vertebral body. Renal, liver was normal. Urine samples, blood cultures were negative.

Fevers, sweats, weight loss and and neurological manifestation were considered atypical for a spondylo-arthritis. Malignancy or indolent spinal infection were important differential diagnosis.

MRI of whole spine revealed: In Cervical spine: Bilateral paracentral protrusion of C5-6 disc and mild compression on C6 bilateral exiting nerve roots. In Dorsal and Lumber spine showed Multiple destructive dorsal and lumbosacral vertebrae and bilateral iliac bones with associated paravertebral and epidural soft tissue showing peripheral enhancement and central necrosis with mild to moderate cord compression at D2-3 level and radicular impingement at multiple levels and dristriction of body L5 vertebra (figure 1).

Non-contiguous vertebral involvement raised the suspicion of malignancy. So FNAC from thoracic spine was done and feature was suggestive of plasmacytoma/non-Hodgkin lymphoma. USG of whole abdomen, CT-chest and abdomen and tumour marker all were unremarkable. Core biopsy from the lytic lesion of thoracic spine was done and again it showed plasmacytoma.

Serum protein electrophoresis showed polyclonal gammopathy and Immunoglobin electrophoresis showed no band suggestive of no abnormal accumulation of Ig molecule or free chain in the serum. B2-microglobulin was 5.7mg/l. Bone marrow biopsy showed normal active marrow with myeloid hyperplasia. Immunophenotyping of bone marrow showed plasma cell in the marrow(1%).Typical myeloma cells were not seen.

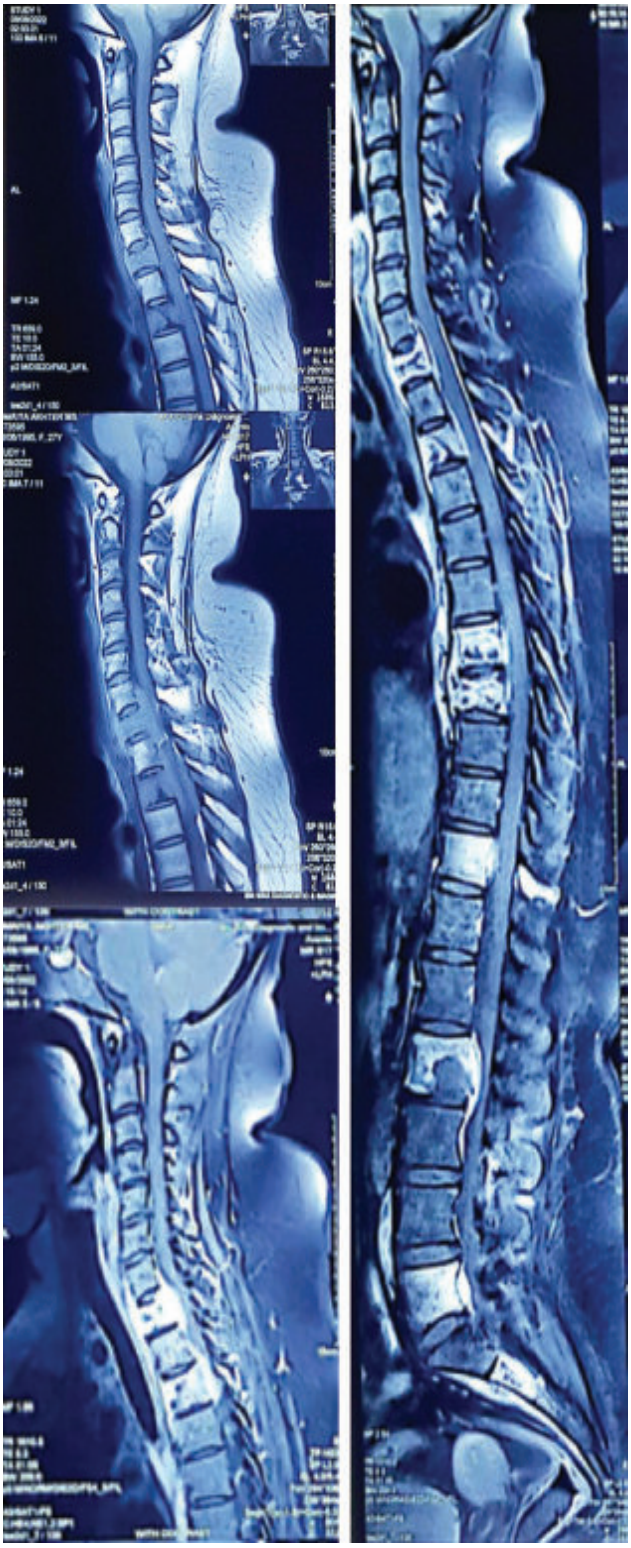
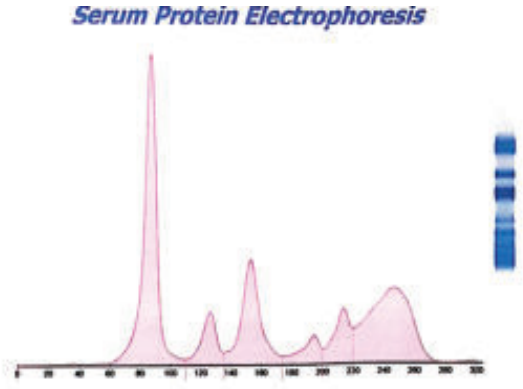


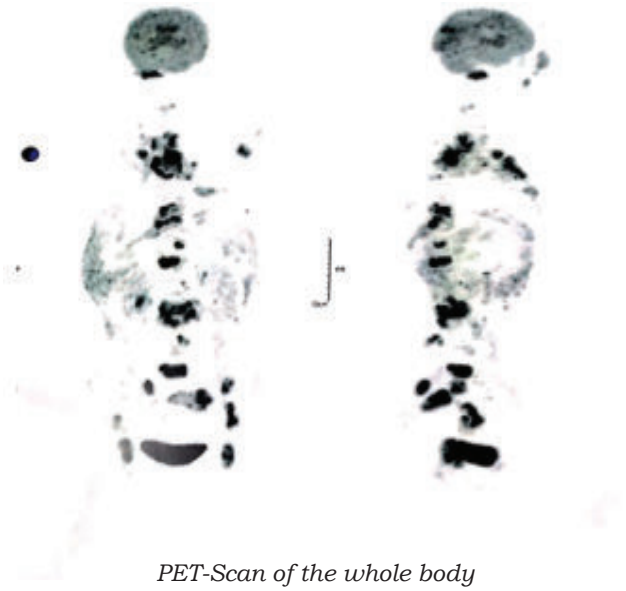
Fig.-1: *MRI of whole spine*



T.P.: 76 g/L A/G Ratio: 0.56

Fractions	%		Ref. %	g/l	Ref. g/l
Albumin	3.6	<	55.8-66.1	27.4	40.2 - 47.6
Alpha 1	7.0	>	2.9 - 4.9	5.3	2.1 - 3.5
Alpha 2	17.0	>	7.1 - 11.8	12.9	5.1 - 8.5
Beta 1	4.6	<	4.7 - 7.2	3.5	3.4 - 5.2
Beta 2	7.8	>	3.2 - 6.5	5.9	2.3 - 4.7
Gamma	27.6	>	11.1 - 18.8	21.0	8.0 - 13.5

Comments: Serum protein electrophoresis shows elevated gamma fraction which most likely represent polyclonal hypergammaglobulinemia. No underlying monoclonal band is noted. Clinical correlation recommended.



PET-Scan of the whole body

PET-scan showed metabolically active lymph nodes (cervical, supraclavicular, mediastinal) and multiple skeletal sites and impression was either infection or metastasis. So again, we did CT guided biopsy from lytic lesion of D3 vertebrae. MTB complex detected in low load and histopathological examination showed Necrotizing Granulomatous Inflammation. Anti-TB drug was started.1 month after treatment, during follow up we found that patient was afebrile, her pain and weakness was improving.

Discussion:

Tuberculosis remains the most common cause of death by infectious diseases worldwide [1]. The spinal form is the most common bone joint localization. It occurs at an average age of between 30 and 40 years.[1] The risk factors for this localization are, in particular, the presence of a chronic disease such as diabetes or chronic kidney failure, a long-term corticosteroid therapy, or HIV infection.[1,4]

Usually, spine involvement happens through the diffusion of blood from an active primary site (in general, pulmonary site) or a latent site such as lung or lymph node. It can occur by contiguity from a pleural or lymph location. The involvement often concerns two or more adjacent vertebrae. This adjacency is explained by the presence of a single intervertebral artery that supplies two adjacent vertebrae. In our case we have found non-contiguous involvement of spine and core biopsy from the lytic lesion showed plasmacytoma. But meticulous investigation could not prove her as a case of plasmacytoma. Repeat core Biopsy showed necrotizing granulomatous disease and MTB was detected.

Noncontiguous multi-tiered spinal involvement is very rare in the literature.[5] It is described especially among children under 7 years due to the persistence of intervertebral disc vascularization.[6]

A case report of three foci spinal TB in "British Journal Neurosurgery 2001" was described as the first such report in English language literature.[7, 8] Turgut reported 1 out of 694 cases, Rezai et al. 1/20, Nussbaum 1/ 29, and a nuclear medicine study from Saudi Arabia 3/63.[9]

With noncontiguous TB, it is probable that the venous system is involved in the pathological process. Once the first TB focus is established in the spine by arterial/venous/ lymphatic inoculation, there will be shedding of bacilli into the valveless venous plexus, which allows retrograde flow with changes in abdominal pressure. This would allow the bacilli to travel to new vertebrae without being filtered through the lungs or lymphatic system and thus establish "skip lesions", much like that done by sarcomas in the venous sinusoids of long bones. This would explain how a patient may present with the involvement of multiple, isolated spinal levels and no other obvious pulmonary/visceral/bony involvement. The alternative would have to be multiple hematogenous arterial seedings, preferentially targeting different spinal areas, which is less likely.

Cold abscesses are common in spinal tuberculosis (50%). Hence, we should search for them systematically. Surgical draining of these collections is recommended; it accelerates healing and reduces the duration of anti-bacillary chemotherapy.[6.]

Medical treatment is generally effective. A combination of rifampicin, isoniazid, ethambutol, and pyrazinamide for 2 months followed by combination of rifampicin and isoniazid for a total period of 6, 9, 12, or 18 months is the most frequent protocol used for treatment of spinal TB.[10]

Conclusion:

To avoid the delay of diagnosis, especially in our endemic context, tuberculosis should be in our list of suspicion. This will improve the prognosis of our patients.

Conflict of Interest:

The author stated that there is no conflict of interest in this study

Funding:

No specific funding was received for this study**.**

Ethical consideration:

The study was conducted after approval from the ethical review committee. The confidentiality and anonymity of the study participants were maintained

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