Case Report

Life-threatening disseminated tuberculosis masquerading as cervical spondylosis---Case report "Cervical TB v/s Cervical Spondylosis"

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Abstract

Tuberculosis (TB) is quite prevalent in developing countries, with an ever-rising incidence of extrapulmonary cases. TB of bones and joints is quite challenging to diagnose. Most spinal TB lesions localize at the thoracic and lumbar levels; cervical lesions are a rarity. Hence, most neck pains are labelled cervical spondylosis as the symptomatology of cervical spine tuberculosis (CTB) remains unclear. A 38-year-old male had long-standing neck pain for six months, not associated with any focal neurological deficit, nausea, vomiting, or blurred vision. After the initial evaluation by local practitioners, the pain was, as usual, attributed to cervical spondylosis and conservatively managed. However, his pain worsened, and he ultimately came to us with altered mental status. In reality, he had CTB, which later complicated to life-threatening disseminated TB with intracranial and pulmonary involvement, and he could only survive after prolonged ICU care. Even mild cervical pain should not be neglected and must undergo proper evaluation. We should consider CTB in the differential diagnosis of chronic neck pain, especially in countries where TB is endemic.

Keywords: Cervical cord, meningeal, miliary, neck pain, spinal, tuberculosis

Introduction

Tuberculosis (TB) is a prevalent problem in developing countries, with a rising number of extrapulmonary cases. Spinal TB mainly involves the thoracic and lumbar levels.[1] Cervical spine tuberculosis (CTB) is present in only 5% of cases.[2] It does not have any distinct associated symptoms. The incidence of neuro-deficits is also more.[3] Physicians often attribute neck pain to cervical spondylosis. We present a case of CTB, which was initially labeled as cervical spondylosis and conservatively managed. It later progressed to life-threatening disseminated tuberculosis with intracranial spread. The patient survived only after intensive care unit (ICU) care.

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Case Report

A 38-year-old male had intermittent neck pain for six months, gradual in onset and progressive, non-referred/radiating, without associated focal neurological deficit, nausea, or vomiting. His physicians prescribed some analgesics and movement exercises after considering it a case of cervical spondylosis. Before his admission, the patient's family started noticing irrelevant talking and slurring of speech. Gradually, he was not even able to recognize his family members. After 3 days, he was brought to our emergency room in an agitated state with intermittent bouts of drowsiness.

On examination, GCS was E4V1M4, blood pressure 110/70 mm Hg, pulse rate 120 beats per minute, and SpO2 99% at room air. He was shifted to the ICU as elective intubation was planned given his poor GCS, later deferred. Examination revealed bilateral sluggish pupillary reflex, muscle tone raised, and the

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patient moved all the limbs equally. Bilateral plantar reflex showed extensor response, neck rigidity was present, and Kernig's sign positive. Rest systemic examination was within normal limits.

Investigations

Blood routine investigations and NCCT head were normal. The toxicology screen also came out clean. His chest X-ray was suspicious of miliary tuberculosis pattern [Figure 1], whereas the cervical spine X-Ray was normal [Figure 2].

His CSF findings were consistent with tubercular etiology, with raised protein levels (288 mg/dl), low sugar (29 mg/dl, with a corresponding blood sugar 112 mg/dl), and high Adenosine De-aminase level (ADA 15·39 IU/L). Cytology of the fluid showed 100% monomorphic cells, although GeneXpert could not be done due to logistic issues. MRI of the brain and spine showed acute infarct involving left putamen and caudate nucleus (likely vasculitic) and altered signal intensities at C1,2; C6; T1-5 vertebral bodies with peripherally enhancing collection in the pre-vertebral and paravertebral region along the T1-5. There was a left paramedian disc bulge at C3-4 with posterior disc bulge at C4-6 [Figure 3], perineural cyst at the C6-7, and a posteromedian disc bulge at L5-S1 level. CT thorax showed multiple nodules in bilateral lung fields and miliary mottling, indicative of tubercular etiology.

Differential diagnosis

Our first suspicion was meningoencephalitis due to the sudden onset of a dip in the sensorium level. Other possibilities included suicidal or accidental poisoning or a cerebrovascular accident. The toxicology report and CT scan of the head ruled out both. With the only significant history of neck pain for about six months, even we did not suspect CTB as it is pretty rare and presentation in the form of neck pain is relatively unheard of. The presence of neck rigidity and sluggish pupillary reflexes prompted us to look for meningitis, and when the findings were suggestive of tubercular meningitis, the diagnosis became clearer. It was a case of disseminated TB with intracranial, pulmonary, and spinal involvement.

Treatment

He was started on anti-tubercular treatment (ATT) according to the national guidelines and intravenous corticosteroid therapy.

Outcome and follow-up

He improved dramatically after treatment initiation. After two days, the patient became fully oriented and recognized each family member. He was followed up for two months and did not report any similar episode of altered sensorium.

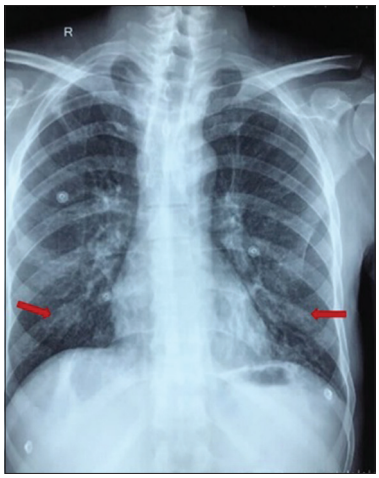

Figure 1: X-Ray Chest PA View showing miliary pattern

Figure 2: X-ray cervical spine (AP/LATERAL): Normal Study

Figure 3: MRI spine showing cervical cord changes (posterior disc bulge)

Discussion

The patient had neck pain for six months, initially neglected by him and later falsely labelled as cervical spondylosis. In reality, it was CTB, CTB with disseminated TB in the form of tubercular meningitis, vasculitic infarcts, and pulmonary TB. Neck pain as a presenting complaint of TB is relatively unheard of as TB of the cervical spine remains pretty rare. Hsu and Leong reported 1,100 Pott's spine cases, out of which only 46 (4%) had cervical spine disease.[2] In another study by Turgut M involving 674 patients,

72% of the lesions were seen in the thoracolumbar region, with only 4% in the cervical spine.[4] The diagnosis of CTB requires very strong clinical suspicion. Diagnosis is commonly delayed by 3--12 months from symptom onset,[2,5] with only 50% of chest X-rays showing abnormalities consistent with TB.[6] The patients may deteriorate, as evident from the case reported here, with TB dissemination if not managed early. Practitioners must recognize that persistent symptoms (neck/back pain) should be thoroughly investigated, and TB should be considered in the differential diagnosis, especially in high TB burden settings like India. This is especially important to catch hold of TB in the early stage itself so that timely management of the patient may prevent him/her from landing up later with life-threatening complications.

Learning points/take home messages

- Chronic cervical pain can be a sign of cervical spinal tuberculosis (CTB); it must not be neglected or always labeled as cervical spondylosis
- Neglected TB can lead to life-threatening complications
- Early diagnosis and treatment by physicians can prevent severe disseminated disease.
- CTB, although rare, must be considered in the differential diagnosis of chronic neck pain, especially in endemic countries.

Research quality and ethics statement

The authors of this manuscript declare that this scientific work complies with reporting quality, formatting, and reproducibility guidelines set forth by the EQUATOR Network. The authors also attest that this clinical investigation was determined not to require Institutional Review Board/Ethics Committee review, and the corresponding protocol/approval number is not applicable. Informed consent was taken for case publication.

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Conflicts of interest

There are no conflicts of interest.

References

1. Rajasekaran S, Soundararajan DC, Shetty AP, Kanna RM. Spinal tuberculosis: Current concepts. Glob Spine J 2018;8 (4_suppl):96S-108S.
2. Hsu LC, Leong JC. Tuberculosis of the lower cervical spine (C2 to C7). A report on 40 cases. J Bone Jt Surg-Ser B 1984;66:1-5. doi: 10.1302/0301-620X.66B1.6693464.
3. Shetty AP, Viswanathan VK, Rajasekaran S. Cervical spine TB – Current concepts in management. J Orthop Surg 2021;29 (1_suppl). doi: 101177/23094990211006936.
4. Turgut M. Spinal tuberculosis (Pott's disease): Its clinical presentation, surgical management, and outcome. A survey study on 694 patients. Neurosurg Rev 2001;24:8-13.
5. Hodgson AR, Stock FE. Anterior spinal fusion a preliminary communication on the radical treatment of pott's disease and pott's paraplegia. Br J Surg 1956;44:266-75.
6. Roy TM, Giles C, Mendieta J, Ossorio MA. Pott's disease in Kentucky: Diagnosis and treatment. J Ky Med Assoc 1988;86:499-502.