



ISSN: 0975-8585

Research Journal of Pharmaceutical, Biological and Chemical Sciences

Tuberculosis of Cervical Spine - A Case Report.

Prasad KM, HS Bhardwaj, BL Bhardwaj*, and DI Singh.

Department of Medicine, Government Medical College, Patiala - 147001, Punjab, India.

ABSTRACT

Tuberculosis of spine commonly affects thoracic and lumbar (spine) region. Cervical spinal tuberculosis is a rare variant of extra pulmonary tuberculosis. Only few such cases have been reported in literature. This case report describes a patient with tuberculosis of cervical spine who was managed conservatively.

Keywords: Extra pulmonary tuberculosis, Spinal tuberculosis.

**Corresponding author*



INTRODUCTION

Tuberculosis (TB) is a major global health problem. It is a communicable disease caused by *Mycobacterium tuberculosis* or *mycobacterium bovis* including attenuated BCG strain. Every year 8 million new cases are detected and about 3 million cases die from this disease world wide. Extra pulmonary tuberculosis may involve any organ and clinical symptoms are non-specific.

Spinal tuberculosis is a rare variant of TB comprising less than 3% of cases. Spinal tuberculosis is most common form of skeletal involvement accounting for 50%. Lumbar and thoracic regions are often involved; where as TB of cervical spine is uncommon.

We here in report a case of cervical spine TB in 25 year old young male patient, who presented with history of neck pain, stiffness and weakness of the upper and lower limbs.

Case Report

A 25 year male patient was admitted complaining of weakness of both arms and legs. 1 year back he began to have intermittent pain in the neck, evening rise of temperature, loss of appetite and weight loss. Pain in the neck was intensified and was associated with progressive weakness of both arms, 2 months prior to admission his legs began to weaken. Patient came to outpatient department complaining that he was too weak to perform his work/ job of a laborer.

On examination, his temperature was 101.2⁰F. Patient was conscious, co-operative and oriented, pulse- 84/pm. BP-104/70 mm of Hg. No pallor, icterus, clubbing, cyanosis or significant lymphadenopathy. Cardiovascular, respiratory system was normal. The abdomen was soft & no organomegaly. Neurological examination there was no sign of raised ICT or any cranial nerve involvement. Bilateral severe C₅, C₆ & C₇ radiculopathies were present with total loss of antigravity strength of deltoid, biceps and brachioradialis muscles. Tone was increased in both lower limbs and gait was spastic. Ankle & Patellar Clonus were present bilaterally. Position sense and vibration sense were absent in lower limbs and upper limbs. Sensation was diminished to pinprick below C-5 level. Plantars were extensors bilaterally.

A complete blood count revealed WBC of 6050/cumm Hb-11.2g%, ESR was elevated at 70mm at 1st hour. Serum electrolytes, Blood urea Nitrogen & creatinine levels were within normal limits and urine analysis was unremarkable. Results of Liver function test were as follows, bilirubin- 0.8, SGOT-30 U/L, SGPT - 49 U/L, ALP -155 U/L. Chest X-Ray was normal. USG abdomen showed normal study. X-Ray cervical spine revealed disc space narrowing between C₅-C₆ & C₆-C₇.

MRI scan of cervical vertebrae showed, evidence of marrow signal alteration involving C₆ and part of C₅ vertebrae bodies with destruction of C₇ and partly of C₆ vertebrae with pre and bilateral paravertebral collection and ventral epidural collection causing significant compression on spinal cord(Fig 1).

Figure 1: MRI Scan of Cervical Vertebrae showing destruction of C₇ and partly of C₆ with pre and bilateral paravertebral collection and ventral epidural collection causing significant compression on spinal cord.



PCR for Tuberculosis - Positive

ELISA for Tuberculosis – Positive

Treatment was started with Antitubercular drugs 2HRZE/7HR

CAT-I

Isoniazid	300mg
Rifampicin	450mg
Pyrazinamide	1.5g
Ethambutol	750mg

Cervical spine was immobilized with cervical collar.

T. Prednisolone 40 mg once daily

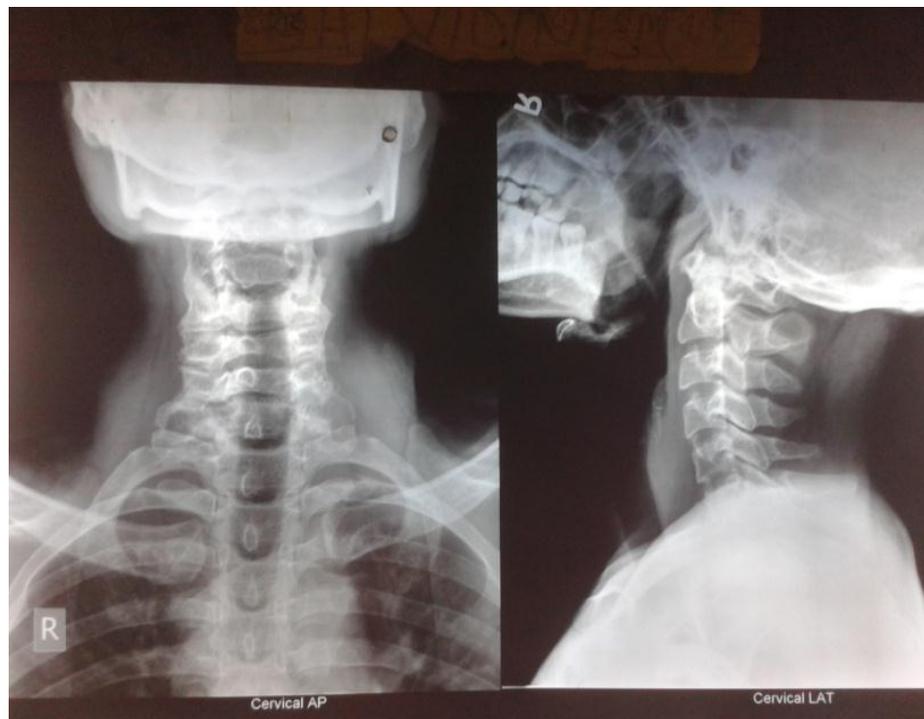
T. Tramadol twice daily

Patient was discharged 12 days after admission

At a follow up clinical visit 2 months after discharge, neurological function significantly improved; power was 4/5 on both lower limbs and gait improved. In upper limb

power was 5/5 on left side, 4/5 on right side. Sensation of pin prick was normal throughout. The ESR was 30 mm/hr and Cervical Spine X-ray films showed minimal disc space narrowing at C₅ C₆ level(Fig 2).

Figure 2: X-ray Cervical Spine AP and lateral view after two months of chemotherapy



DISCUSSION

Evidence of osteoarticular tuberculosis has been found in prehistoric humans [1]. Skeletal TB occurs due to haematogenous spread through Batson's Plexus in spine [2]. It is most commonly due to primary foci in the wings, lymphnodes or abdomen, bacillema develops and organisms reach spine through Batson's Plexus [2]. In spinal tuberculosis lower thoracic & upper lumbar vertebrae are most common sites. Involvement of cervical vertebrae is rare [4]. Infection begins in cancellous area of vertebral body, commonly in epiphyseal location and less commonly in the central and anterior area of vertebral body [1]. Usually two contiguous vertebrae are involved embryological development explains the reason for this. Lower half of one vertebrae and upper half of adjacent vertebrae with the intervening disc all develop from one sclerotome which has a common source of blood supply. Hence bacillema involves this embryological section more often [2].

The infection spreads and destroys the epiphyseal cortex, the intervertebral disc & adjacent vertebrae. The vertebrae body becomes compressed and collapse [1].

The majority of patients are under 30 yrs of age (our patient is 25 years old) at the time of diagnosis [1], constitutional symptoms such as evening rise of temperature, weakness, loss of appetite and night sweats occurs before symptoms of spine manifest, which were present in our case also.



Involved spine will be stiff and painful on movement with localized tenderness [5]. Localized pain over the site of involvement is the most common symptom. Clumsiness in walking due to muscle weakness and spasticity are the earliest signs. This progress to paraplegia in extension, subsequently paraplegia in flexion, sensory loss and loss of sphincter control [1]. In our case all these symptoms were present except for paraplegia in flexion, sensory loss and loss of sphincter tone.

Patients of spinal tuberculosis can be treated non surgically with anti-tubercular drugs, steroids and immobilization [3-4]. Our patient also improved with same therapy without any surgical intervention. Decompression of spinal cord is performed in those who cannot show progressive recovery after a fair trial of conservative treatment.

CONCLUSIONS

- Tuberculosis of cervical spine is uncommon and can present with paraplegia / quadriplegia.
- Conservative treatment with antitubercular drugs and steroids should be tried, before any surgical intervention.

REFERENCES

- [1] Sharma SK. Textbook of Tuberculosis. Jaypee Publishers, 2009;2:342-44.
- [2] Ebnezer J. Textbook of Orthopaedics. Jaypee Publishers, 2002;2:309.
- [3] Tuli SM. Tuberculosis of Cervical Spine. NIMHANS J 1998;6:79-83.
- [4] Lang IM, Hughes DG, Tenkins JP, Forbe NSC, Mckenna F. Clin Radiol 1995;50(7):460-71.
- [5] Bhardwaj BL. Int J Tub 1997;44:36.