

POTT'S SPINE PRESENTING AS SPINAL TUMOUR SYNDROME: A CASE REPORT

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ABSTRACT

Pott's spine may be associated with neurological deficit due to presence of inflammatory oedema, extradural abscess or sequestra. However, there may be unusual rare presentation of Pott's spine as extradural granuloma without involvement of bone which may present as spinal tumour syndrome.

MATERIALS AND METHODS

We present a case of paraparesis of two weeks' duration in a 13-year-old female. MRI showed extensive extradural SOL from C7 to D5 with mass effect over the cord with no abnormality of vertebrae. Excisional biopsy was done after D2 to D4 laminectomy, thereby relieving cord compression. Challenges in the case being skeletal immaturity, lesion being extensive, extent of laminectomy and the role of posterior fusion.

RESULT

Histopathology report diagnosed it to be tuberculous granuloma. ATT under DOTs, category 1, was started. Excellent functional recovery was noted.

CONCLUSION

In endemic country, granuloma must be kept as a possibility in case of spinal tumour syndrome. Though granuloma improves with ATT, decompression should be considered in case of neurological involvement.

KEYWORDS

Extradural Granuloma, Spinal Tumour Syndrome, Extradural Tuberculous Granuloma.

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INTRODUCTION: Pott's spine when associated with neurological deficit due to presence of inflammatory oedema, extradural abscess or sequestra in the background of osseous disease. Very rarely a small tuberculoma of the spinal cord or diffuse extradural granuloma of the cord may be responsible for neurological complication without any radiological evidence of tuberculous involvement of vertebrae. Such cases present as spinal tumour syndrome.¹ We present a case of extradural granuloma presenting as spinal tumour syndrome, diagnosed on histopathology, and its excellent neurological recovery following surgical decompression.

MATERIALS AND METHODS: A 13-year-old female presented with inability to walk and weakness of bilateral lower limbs for 14 days, associated with tingling. It occurred spontaneously and was not associated with fever or loose stool. Bladder and bowel were not involved. Appetite was reduced. Power in right lower limb was 3/5 and left lower limb was 4/5. Tone was increased and deep tendon reflexes were exacerbated in bilateral lower limbs. Plantar response was bilaterally extensor.

There was no sensory involvement. Routine blood investigations showed elevated ESR with leucocytosis. MRI showed segmental posterior extradural broad based oval shaped moderate homogeneously enhancing T₁ isointense, T₂ central hyper and peripheral isointense SOL from C₇ to D₅ exerting mass effect with anterior displacement of cord and myelopathy at D₂ to D₄, suggestive of dural metastasis or dural deposits of lymphoproliferative disease. Chest x-ray, ultrasonography of abdomen were normal. Peripheral blood smear showed leucocytosis with neutrophilia. To attain diagnosis and to relieve cord compression, decompression and excisional biopsy was planned. Under general anaesthesia, in right lateral position, using posterior approach, laminectomy from D₂ to D₄ was done and biopsy taken. Finding out the cleft between the mass and the cord was difficult. So we went for aspiration and dissection with the help of a needle. Extradural sheet of tissue which was thickly adherent to dura was removed partly in sheet and rest in piecemeal.

RESULTS: Histopathology showed epithelioid granuloma without giant cell and necrosis. Patient was diagnosed as a case of extradural tuberculous granuloma. Antitubercular treatment under DOTs category 1 was started. After second postoperative week, patient was able to stand without support and walk with support. At 1 month follow-up, power in right and left lower limbs were 4/5 and 5/5 respectively and appetite of the patient improved. Decrease in the level of ESR was noted.

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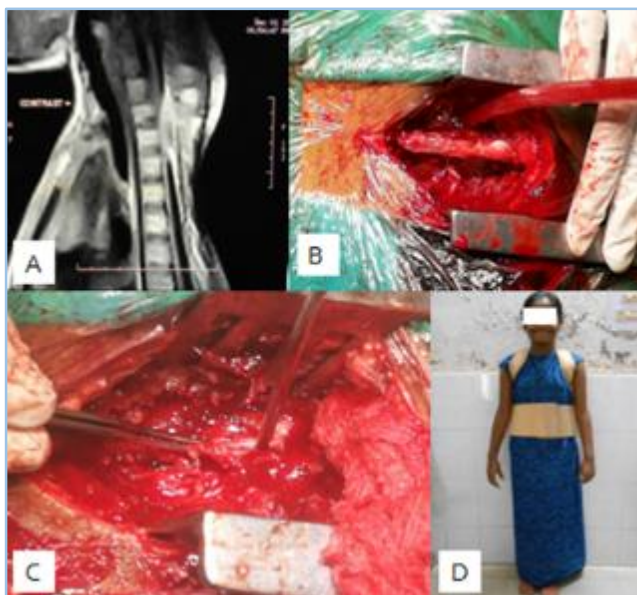


Figure A: MRI showing SOL exerting mass effect with anterior displacement of cord and myelopathy at D₂ to D₄; **Figure B:** Posterior midline exposure indicated only in case of extraosseous tuberculosis; **Figure C:** Extradural sheet of tissue tightly adherent to the cord; **Figure D:** Patient is able to stand without support at two weeks postop period.

DISCUSSION: The neurological manifestation of spinal tuberculosis is most often secondary to bone involvement but tuberculosis can also involve neural and perineural tissues i.e. epidural space, subdural space, meninges or cord tissue directly. A tuberculoma of epidural, intradural or intramedullary space with normal x-rays is liable to be misdiagnosed or mismanaged initially because of rarity of these lesions and unfamiliarity of the presenting clinical features.² If these cases are diagnosed early and treated adequately, they are likely to show excellent neural recovery.^{3,4} Choksey et al. (1989).⁵ Singh et al. (2005).⁶ and Kumar et al. (2007)⁷ mentioned that in developing countries granuloma must be kept as one of the possibilities in cases of spinal tumour syndrome.

According to Tuli et al. (2010), diffuse extradural granuloma may present as spinal tumour syndrome without any radiological evidence of tuberculous involvement of vertebrae.¹ Similarly, in our case, there was no radiological evidence of involvement of vertebrae. Spinal tuberculoma may occur at any level although it shows a predilection for the thoracic region. In the largest series of spinal tuberculoma (15 extradural, 2 intramedullary) by Jain et al., sixty percent of patients had involvement of the thoracic spine.⁸

Extradural granulomas when associated with significant neural sign should be treated by surgical decompression. Thick layer of granulation tissue need to be peeled off as sheet or in piecemeal.¹ In the series by Jain et al., of the 15 cases of extradural granuloma, the granulation tissue could be peeled off as a layer in 13 cases and removed piecemeal in two cases. In our case, granulation tissue during decompression was removed partly in sheet and rest in piecemeal.⁸

Finding out the cleft between the mass and the cord was difficult. So we went for aspiration and dissection with the help of a needle. Probably in this situation intraoperative USG is helpful. Since the lesion was extensive and patient was skeletally immature, it was difficult to decide on extent of laminectomy and increased amount of bone excision may lead to arrest of growth. So we limited our activity to the area of mass effect over spinal cord, i.e. D2-D4. Special angulated curette was used to curette out the mass without cutting the lamina above and below the level of D2-D4. We did not opt for posterior fusion as long segment posterior fusion would cause severe restriction of movement at dorsal spine.

Isolated extradural tuberculous granuloma, although a rare entity, should be considered in the differential diagnosis of the intraspinal mass, especially in patients with spinal cord compression and a history of tuberculosis. If there is a progressing neurological deficit, a combination of surgical and antituberculous treatment should be the optimal choice.⁹

CONCLUSION: In endemic country like India, granuloma must be kept as a possibility in case of spinal tumour syndrome. Diagnosis on MRI should be followed up with histopathology. Though granuloma improves with ATT, decompression should be considered in case of neurological involvement.

REFERENCES

1. Tuli SM. Tuberculosis of the skeletal system. 4th edn. Jaypee Brothers 2010.
2. Kak VK, Pani KC, Chopra JS. Epidural spinal tuberculoma presenting as spinal tumour syndrome. *Tubercle* 1972;53(2):139-142.
3. Compton JS, Dorsch NW. Intradural extramedullary tuberculoma of the cervical spine. *J Neurosurg* 1984;60(1):200-203.
4. Hamada J, Sato K, Seto H, et al. Epidural tuberculoma of the spine: a case report. *J Neurosurgery* 1991;28(1):161-163.
5. Choksey MS, Powell M, Gibb WR, et al. A conus tuberculoma mimicking an intramedullary tumour: a case report and review of the literature. *Br J Neurosurg* 1989;3(1):117-121.
6. Singh V, Kumar A, Patond KR. Extraosseous extradural spinal tuberculosis: a case report. *Indian J Orthop* 2005;39(1):62-63.
7. Kumar S, Jain AK, Dhammi IK, et al. *Clin Orthop* 2007;460:62-66.
8. Jain AK, Singh S, Sinha S, et al. Intraspinal tubercular granuloma an analysis of 17 cases. *Indian J Orthop* 2003;37(3):12.
9. Ding Q, Liu Z, Sun X, et al. Isolated extradural tuberculous granuloma of the cervical spine: a case report. *European Spine Journal* 2012;21(suppl 4):467-470.