Case Report

SPINAL SUBDURAL TUBERCULOUS GRANULOMA

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Summary. Subdural tuberculous granuloma of the spine is very rare. Five such cases are presented and features of interest in these cases have been discussed. The results of surgical excision and actituberculosis therapy are presented.

Introduction

Extra-osseous tuberculous granuloma in the spine may be extradural, intramedullary or subdural (intradural extramedullary). The last variety is the least frequent. The localised variety of subdural granuloma is amenable to surgical excision. Five cases of localised spinal subdural tuberculoma comprise this report. The clinical, radiological and surgical features of these are summarised in the case reports below.

Case Report

Case 1

A female, 32 years old had weakness of left leg followed by paralysis of both legs with retention of urine. She was being treated for tuberculous abdomen for 1 month. On examination, there was flaccid areflexic paraplegia with retention of urine and diminished sensations below D12. X-ray spine was normal, CSF proteins were 4.75 gm%. Cisternal myelography showed intradural total block at D5 level.

Laminectomy was done from D5 to D8 and a subdural extramedullary granuloma was removed. On histopathological examination, tuberculous granulation tissue with caseation was reported. Anti-tuberculosis chemotherapy was continued. Her condition improved and she became ambulant.

One year later, she developed total paraplegia following a fall. Cisternal myelography showed a total Block at C7. Surgical reexploration revealed arachnoiditis from C7 to D8. She remained disabled despite full antituberculosis treatment and physiotherapy.

Case 2

A male child 1/2. years old had low back pain with yellowish discharge coming through a dermal sinus at the back and minimal weakness of both legs.

X-ray of lumbar spine showed widening of lumbar canal and spina bifida of L5 and S1. The dermal sinus was entering a dense vascular intradural tumor which was infiltrating cauda equina. Tuberculous granulation tissue was found histopathologically. The child recovered fully after surgery and specific therapy.

Case 3

A male 28 years old had progressive weakness of legs of 40 days’ duration. He was treated 4 months back for tuberculous meningitis. On examination, there was spastic hyper-reflexic paraplegia with sensory loss below D10. Spine X-ray was normal. CSF proteins were 1 gm%, Cisternal myelogram showed a block at D4 lower border.

Laminectomy was done at D5 D6. A subdural granuloma was removed. Histopathologically, the mass was tuberculous granulation tissue.

Following anti-tuberculosis therapy the patient became ambulant with residual weakness in lower limbs. Late follow up showed complete recovery.

Case 4

A female 30 years old presented with progressive paraparesis and precipitancy of
micturition of 18 months duration. She had been treated for tuberculous meningitis 10 months ago with anti-tuberculosis drugs.

On examination, there was bilateral optic atrophy; spastic paraplegia (Gr. I power) with sensory at D5 level, with flexor spasms. The CSF protein was 3 gm %, X-ray of dorsal spine was normal. Cisternal & lumbar myelograms showed an intradural block from D2 to D10. (Figs. 1 & 2).

After laminectomy, a fleshy, tough granuloma with caseation on the dorsal aspect of the cord (D2 to D10) was removed. Histopathologically, the mass was tuberculous in nature.

The patient is improving in the immediate post operative period or anti-tuberculosis treatment.

Case 5

A female 30 years old presented with weakness of both lower limbs of 6 months’ and paraparesis of 3 months duration. There was just Gr. IV power in both lower limbs. Areflexia was present in both legs.

Fig. 1  Cisternal myelogram showing the upper limit of the intradural lesion at D2 (Case 4)

Fig. 2  Lumbar myelogram showing the lower limit of the lesion at lower border of D10 (Case 4)

Fig. 3  Spinal CT Scan of lumbar spine showing intradural isodense and mildly hyperdense lesion within the duramater (Case 5)
X-ray examination of spine & chest was normal; lumbar puncture was dry. The CT Scan showed an intradural SOL in the lumbar region. (Figure 3).
Laminectomy showed that duramater & epidural tissue were thickened and opaque. There was an intradural fleshy mass engulfing the nerve roots which proved tuberculous histopathologically.
Tuberculosis chemotherapy was begun and 4 months after surgery, considerable improvement was recorded

Discussion

Intraspinal non-osseous tuberculomas are about 40 times less frequent than intracranial ones.1-11 Dastur found localised subdural tuberculomas in 4 of 74 cases of spinal tuberculoma.5 Until 1984, about 15 cases of subdural tuberculous granuloma had been reported.4,8 In 1988, Mathuria et al reported another 4 cases.12 In the diffused type, the granuloma tends to surround the cord and extends over many segments.4,5,8 This entity has been described under titles such as tuberculoma of cord, tuberculous granuloma and leptomeningitis. The localised variety, on the other hand is very rare.1,3 Cases 3 and 4 of Mathuua et al were of the diffused type and 1 and 2 of localised type.
Tuberculosis of the spinal cord and its coverings usually results from hematogenous spread.12,14 Discrete lesions may be found in every conceivable anatomical plane.5 The lesion may be primary or secondary and healed or active meningitis. In the former type, a small tuberculous focus on the surface of the spinal cord flares up into a localised granuloma with variable involvement of arachnoid and piamater. In the latter, the proliferative lesion is a manifestation of localisation of the meningitic process.15 Cases 3 and 4 of our series are of this type. In Case 1, the patient was treated for tuberculous abdomen. In Case 2, there was no evidence of tuberculosis elsewhere. The congenital dermal sinus was thought to be the source of the disease which had localised intradurally.6
The noteworthy feature of Case 4 is the longitudinal extent of the lesion, from D2 to D10 (Figures 1 and 2). Though the mass was situated only on the dorsal aspect of the cord, was well demarcated, and was not encircling the cord like that of the diffused variety, it was extending over several segments, unlike the other cases of classical localised subdural granuloma. In Case 5, tuberculous histology was identified in the epidural tissue and in the duramater, in addition to the major intradural (subdural) mass. Simultaneous occurrence of lesions in both intra and extramural planes is very rare. Dastur found combined intra and extramural lesion only in one case.7
In contrast to the diffused type of subdural granuloma and arachnoiditis, in both of which the outlook is poor, in the localised variety of subdural tuberculoma the results of surgery are gratifying.5,12,15 Four of our five cases showed improvement. In one patient (Case 1), however, the result was poor due to the development of arachnoiditis at the site of the previous surgery.

References
12. Mathuraya S.N., Kbosla V.K. and Banerjee A.K.:

