University Journal of Surgery and Surgical Specialties

ISSN 2455-2860 Volume 2 Issue 1 2016

Spinal Intramedullary Tubercular Abscess

SARAVANAN N
Department of Neuro Surgery,
MADRAS MEDICAL COLLEGE AND GOVERNMENT GENERAL HOSPITAL

Abstract :
Spinal intramedullary tubercular abscess are extremely rare. We present here a 3 yrs young boy, with subacute paraparesis following fever, and incontinence for one day. His MRI showed a contrast ring enhancing intramedullary SOL at D10-D12 with central T1 hypointense, T2 hyperintense core and cord expansion and a central syrinx above. He underwent laminectomy, evacuation of abscess, with ATT and steroids postoperatively. There was pus evacuated intraop, showed positive AFB bacilli, and the wall biopsy showed inflammatory cell infiltrate and no giant cell or granuloma formation. Child improved well and discharged well. Thus presenting worlds probably first case of a rare Intramedullary Spinal TB abscess satisfying all Whitener's criteria in the available literature.

Keyword :
Intramedullary abscess, Spinal, Tuberculous abscess, TB spine

Spinal Intramedullary Tubercular Absces:

CASE REPORT:

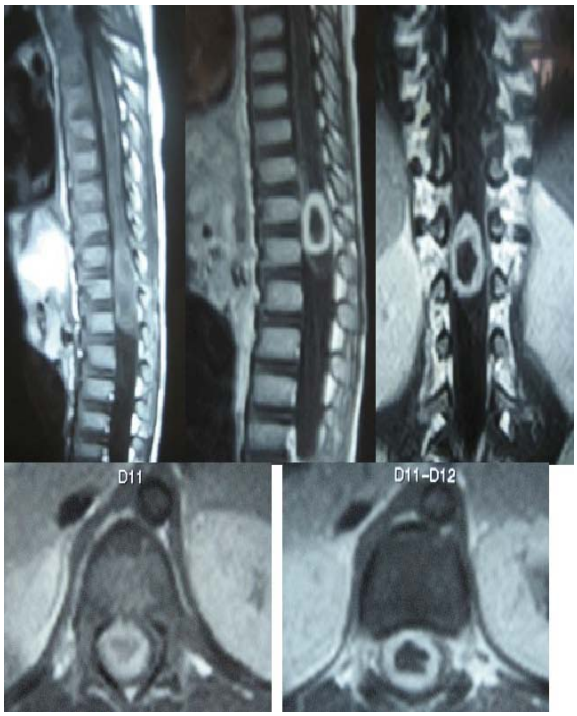
INTRODUCTION:

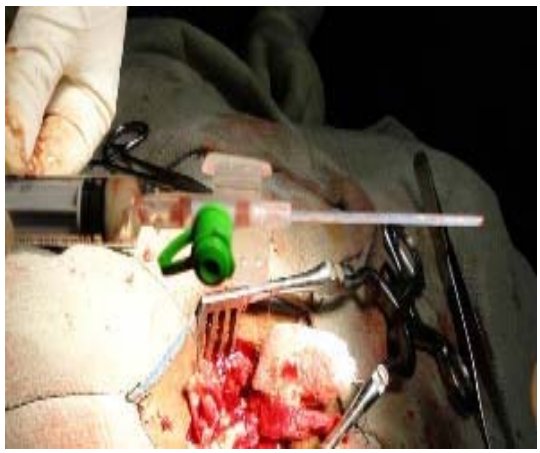
Intramedullary spinal abscesses are rare, and tubercular abscess is very rare. A total of only 77 cases of have been reported, since the original case documentation by Hart**.** Various organisms have been isolated but Mycobacterium tuberculosis has been demonstrated in only four cases till date worldwide[1-4]. We are describing a very rare case of spinal intramedullary Tuberculous abscess in a young boy who had a subacute paraparesis following fever and showed features of intramedullary Tuberculous abscess satisfying all of Whitener's Criteria[5]

Clinical record:

A 3 yrs old boy was admitted with fever for 20 days,and a vague poorly localised pain in both legs for 5 days, progressed slowly to flail weakness of both lower limbs for 3 days. He had urinary incontinence and dribbling for 1 day before admission. There was no history of trauma, no loss of weight or appetite. The general physical examination was normal. Neurologically, he had spastic paraparesis with weakness of 3/5 on right and 2/5 on left with extensor plantar and brisk reflexes bilaterally, sensory numbness below L1 and he was catheterized for dribbling of urine. There was no spinal tenderness and rest of physical examination showed no abnormality. The complete hemogram was normal including Erythrocyte Sedimentation Rate. Chest X Ray was negative for pulmonary lesion. Spine X Ray showed no abnormality. Mantoux was equivocal(6mmx9mm). HIV ELISA was negative. MRI spine showed a contrast ring enhancing intramedullary space occupying lesion at D10-D12 with central T1 hypointense, T2 hyperintense core with cord expansion and a central syrinx above. Provisional diagnosis of intramedullary abscess was made. He underwent D10-D12 laminectomy and after dural opening, a median myelotomy done. Thick creamy pus came out which was aspirated sent for analysis. There was no granulation or caseation. Biopsy was taken from the abscess wall.

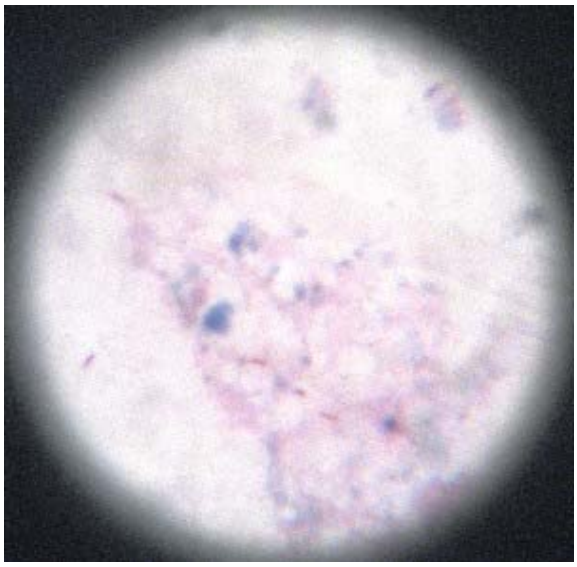
MRI showing intramedullary ring enhancing lesion at D11,12

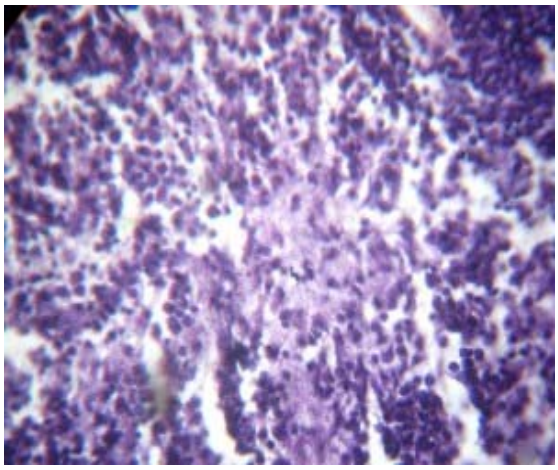




The pus showed Mycobacterium tuberculosis on AFB staining and culture was negative for pyogenic organisms. Culture for aerobic and anaerobic organisms was negative. The abscess wall confirmed necrotic foci with plenty of dense acute inflammatory cell infiltrates including neutrophils, lymphocytes, but no granuloma formation was seen.

Evacuation of yellow pus proven intraop





*Pus - AFB positive (106/24.2.10) Biopsy (68/10 NP) necrotic foci with inflammatory cell infiltrates including neutrophils, lymphocytes, plasma cells, but no granuloma*In the post operative period with treatment with ATT(RMP- 1000 mg, INH- 150 mg, PYZ- 350 mg, SM- 150 mg i.m.) and steroids (Dexamethasone 20 mg), his power showed a good improvement with good bladder control. In follow up for 4 months, he showed remarkable improvement to near normal motor power and sensory improvement.

,**Discussion:**

Spinal intramedullary abscesses are rare, and tubercular abscess is very rare. A total of only 77 cases of have been reportedso far, since the original case documented by *Hart. Various organisms have been isolated but mycobacterium tuberculosis has been demonstrated in only four cases and till date worldwide*[1-4]*. All these cases showed demonstration of AFB in the pus. Spinal intramedullary abscess is defined as an encapsulated collection of pus, containing tubercular bacilli without evidence of tubercular granulomatous reaction.*[6,7] *Whitner (1978) has proposed a set of criteria which all should be satisfied to define it a Tubercular Abscess,as follows*[5]

1.(i) Evidence of a true abscess formation, as confirmed during surgery or autopsy

2 (ii) Histological proof of presence of inflammatory cells in the abscess wall and absence of granuloma

(iii) Demonstration of AFB in the pus or abscess wall. Tb abscess walls are usually devoid of epitheloid and giant cells, which are characteristic of tuberculoma, but if present,they are not in the form of organized follicles. Tubercular abscess should be differentiated from cystic tuberculoma and in the latter the pus cyst contains yellowish fluid and cyst wall has typical tuberculous pathology[7,8]. Spinal tuberculous abscess are mostly secondary to pulmonary or systemic forms,especially in immune suppressed individuals and present as very rare cases. A high index of suspicion is needed in endemic areas or those with high risk history as well as clinical profile. They present

with less toxic manifestations, but mostly with subacute compressive neurologic manifestations. MRI is the investigation of choice. Surgery becomes necessary to relieve the pressure symptoms. ATT and steroids are treatment of choice..

Conclusion:

In the available literature,ours is the first case with AFB isolation and no granuloma in biopsy, thus satisfying all of Whitener's criteria and the fifth case worldwide to be reported as the spinal intramedullary tubercular abscess with AFB isolation alone.

References:

1.Tacconi L et al, intramedullary spinal abscess- a case report. Neurosurgery 1995, 37:817-819

2.Ditullio MV, intramedullary spinal abscess-a case report. Surg Neurol 1997,7:351-354

3.Indira Devi B, Chandra S, Mongia S, Chandramouli BA, Sastry KVR, Shankar SK, Spinal Intramedullary Tuberculoma and Abscess :A Rare Cause of Paraparesis. Neurology India, Vol. 50, No. 4, 2002, pp. 494-496

4 Hoda MF, Prasad R, Singh VP, Maurya P, Singh K, Sharma V; Spinal Intramedullary Tb Abscess, Indian J Tuberculosis 2005:52,211-214.

5 Whitner DR. Tuberculous brain abscess. Report of a case and review of the literature. Arch Neurol 1978; 35 : 148.

6.Kumar R, Pandey CK, Bose N, Sahay S. Tuberculous brain abscess: clinical presentation, pathophysiology and treatment in children.Child's Nerv Syst 2002; 18**:**118-23

7.Babu ML, Shavinder. Tubercular brain abscess. JK-Practitioner 2002; 9 (4) : 262-63 Tubercular Abscess - A Diagnostic Challenge

8. Sinh G, Pandeya SK, Dastur DK. Pathogenesis of the unusual intracranial tuberculomas and tuberculous space occupying lesions. J Neurosurg 1968; 29 : 149