

## Primary tuberculomas of the thoracal spinal cord. Case report

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### Abstract

The authors present an unusual case of intramedullary tuberculoma in a HIV-negative patient from the southeast part of Romania who demonstrated no other signs of tuberculous infection. Clinical exam: extreme spastic paraparesis in triple flexion, dorsal pain and bladder and bowel incontinence. Gd enhanced MRI revealed ring enhancing lesion with central hypointensity, suggesting granulomatous pathology. Surgical excision of the intramedullary lesions was carried out followed by anti-tuberculous chemotherapy and Baclofen tablets. 10 days postoperative MRI showed total resolution of the lesion. Two years follow up showed progressive resolution of spasticity. Following surgical excision, the patient improved significantly sensitive and modest the motility and spasticity. The management of this rare lesion is discussed and the literature reviewed.

**Keywords:** spinal cord, tuberculosis, primary tuberculomas

Intramedullary tuberculomas rest a lesion extremely rare (2 of 100 000 cases of tuberculosis and 2 of 1000 cases of CNS tuberculosis). Lin and McDonnell (11, 12) found only 148 cases of intramedullary tuberculomas mentioned in the literature. Ratliff (15) present one case of primitive

intramedullary tuberculoma. We present the case of an unusual case of intramedullary tuberculoma in a HIV-negative patient from the southeast part of Romania who demonstrated no other signs of tuberculous infection and presents no sign of involvement of the bony spinal canal.

### Case report

*Presentation:* This 20 years old young peasant male was referred to our department for evaluation of his progressively (one year and a half) extreme spastic paraparesis in triple flexion, dorsal pain, bladder and bowel incontinence. There was no history of tuberculosis and he was HIV seronegative.

*Examination:* On examination the patient accused an severe spastic paraparesis in triple flexion and the right leg more profoundly affected than the left. Patellar and achille reflexes was increased. Babinsky sign was positive. Sensory deficit to pinprick and light touch revealed a T4 level right, T5 level left. Chest X-Ray films revealed no abnormalities.

Dorsal MRI scan including Gd-DTPA MRI revealed ring enhancing lesion with central hypointensity, suggesting granulomatous pathology from T4 to T5 levels.

### Treatment

**Operation** T4-T5 laminectomy, median mielotomy, microsurgical total resection of a well circumscribed yellow-grey mass located cortically and intramedullary. The lesion was very carefully dissected and totally resected along a definable plane by use of the operating microscope.

The gross pathological specimen was an encapsulated, yellow-grey firm mass.

### Pathological findings

Pathological examination of the lesion revealed multiple epithelioid cell granulomas with Langerhan's and foreign body type of giant cells. Large areas of caseous necrosis were seen and necrotic material.

**Photomicrograph.:** Photomicrograph demonstrating epithelioid areas of caseating granulomas with Langhans type giant cells. Van Gieson coloration.

### Postoperative course

**Medical treatment:** antituberculous chemotherapy for 52 weeks or more consist of four chemotherapeutic agents to overcome drug resistance: INH 300mg/day, rifampin 600 mg/day, etambutol 1200 mg/day and pyrazinamide 2000 mg/day and antispastic agents (Baclofen tablets). Ten days postoperative MRI showed total resolution of the lesion.

The patients improved significantly sensitivity and modest the motility and spasticity. Follow up period: 2 years.



Figure 1

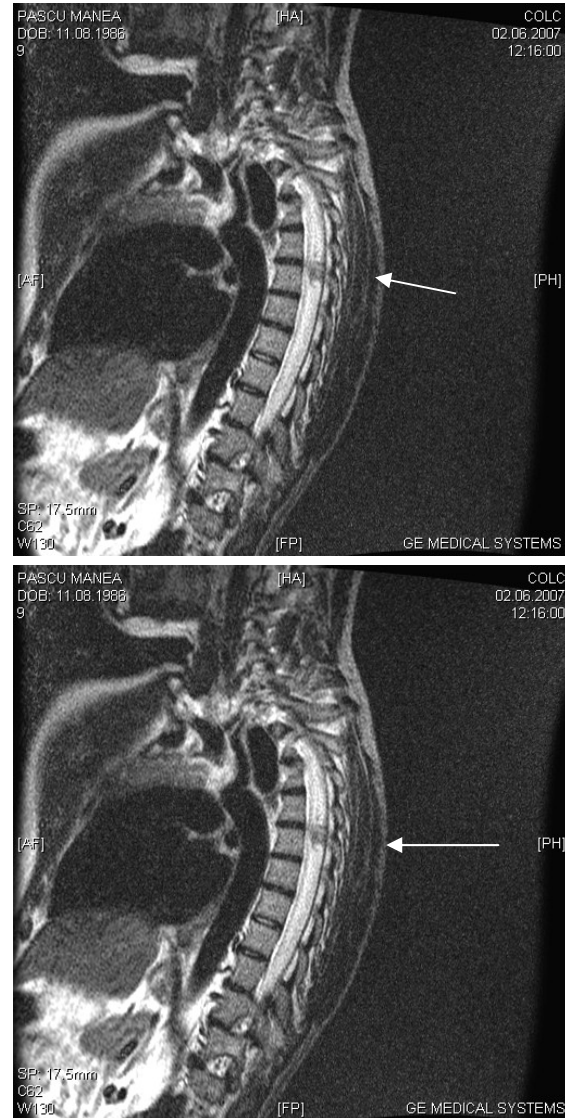


Figure 2

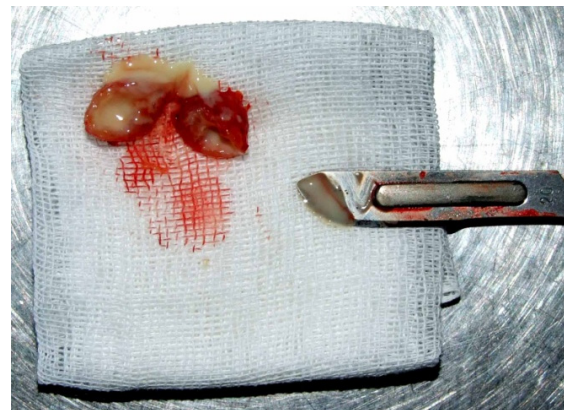
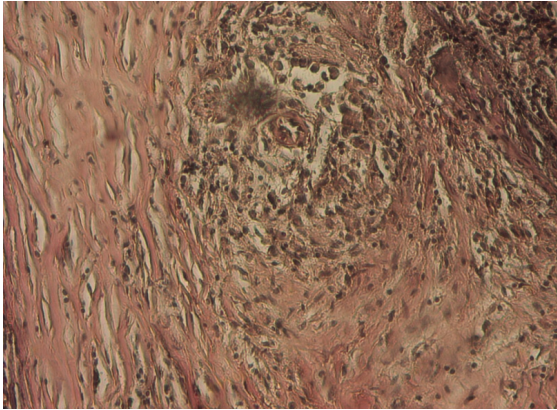


Figure 3



**Figure 4**



**Figure 5**

**Discussion**

Tuberculosis is a chronic bacterial infection produced by *Mycobacterium tuberculosis*. Tuberculosis of the central nervous system is a rare entity, affecting 0,5-2% of patients with systemic tuberculosis (14, 3, 15). Intramedullary tuberculomas is a lesion extremely rare seen only 2 of 100 000 cases of tuberculosis and 2 of 1000 cases of tuberculosis of central nervous systems disease. It is specifically for the young patients in the developing countries and is associated usually with pulmonay disease, in 69% of

cases (11, 12). The first report of intramedullary tuberculoma was by Abercrombie in 1828 (1). The commonest symptoms were progressive lower limbs weakness, paresthesia, and bladder and bowel dysfunction. The major physical findings were paraplegia, either spastic or flaccid. The majority of patients had thoracic sensory level.

The MRI characteristics have been described by Jena et al (10) as low intensity rings with or without central hyperintensity on T2 images and low to isointense rings on T1 images. Caseation results in the “target sign” appearance.

The choice of treatment is an important consideration. Microsurgical total excision and antituberculous agents are widely used in the treatment of intramedullary tuberculoma. MacDonnel has reported 65% recovery after surgical treatment.

**Conclusion**

- Intramedullary tuberculoma, is a very rare entity.
- Microsurgical total excission and antituberculous chemotherapy consisting of three agents was mandatory for the healing this very large intramedullary lesion.
- Motor recovery of this patient is difficult considering the extreme spastic paraparesis in triple flexion and the evolution of the illness of one and a half year.
- Will be necessary in time orthopedic procedures for the treatment of spasticity and recovery.

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