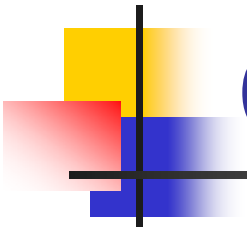


Case

- Age：24
- Gender：female

Chief complaints

- Left back pain and left distal extremity numbness for 5 months.

- Past history : denied
- Surgical history : denied
- Personal history :
  allergy – denied
- Family history : nil

Lab data

- WBC : 1.92 x10e3/μL
- RBC : 3.74 x10e6/μL
- HCT : 33.5%
- MCH : 34.5pg
- MCHC : 38.5g/dL
- MPV : 6.2fL

Impression

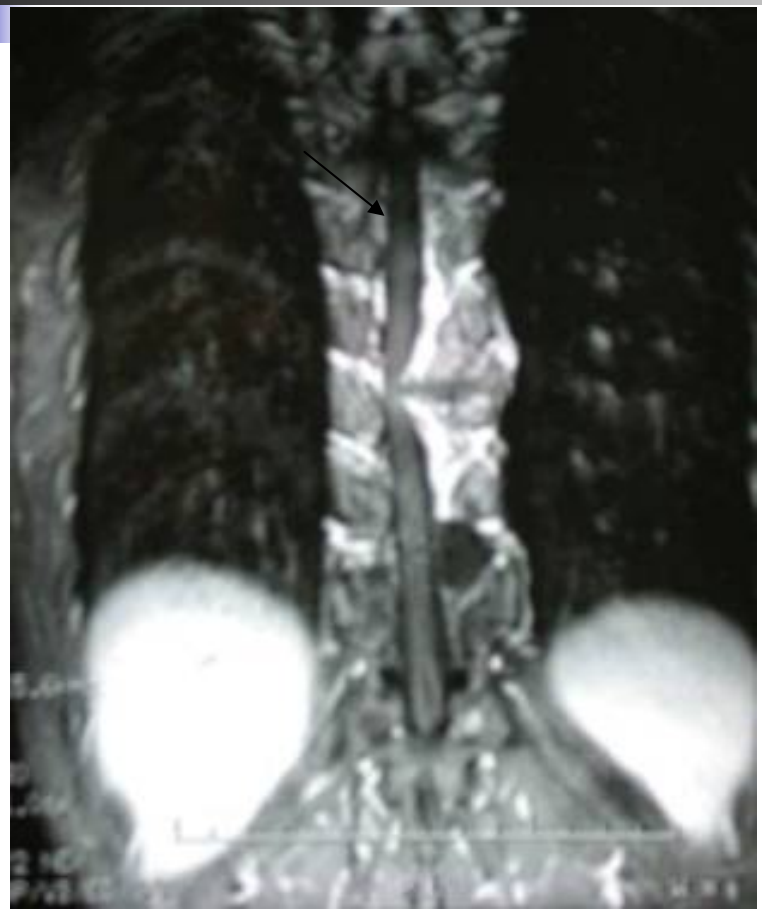
- R/O Spinal tumor of thoracic spine
- R/O metastasis

Image study

T1W1

T2W1

Coronal view

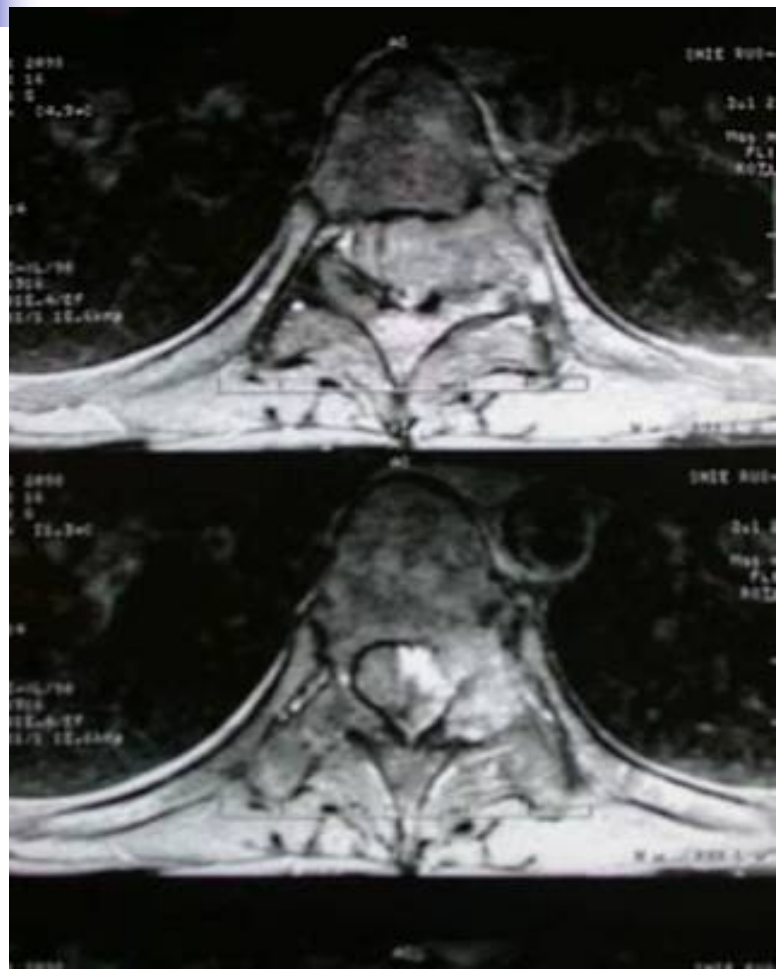


The cord is compressed and displaced to right side level of T8/T9.

Myelography

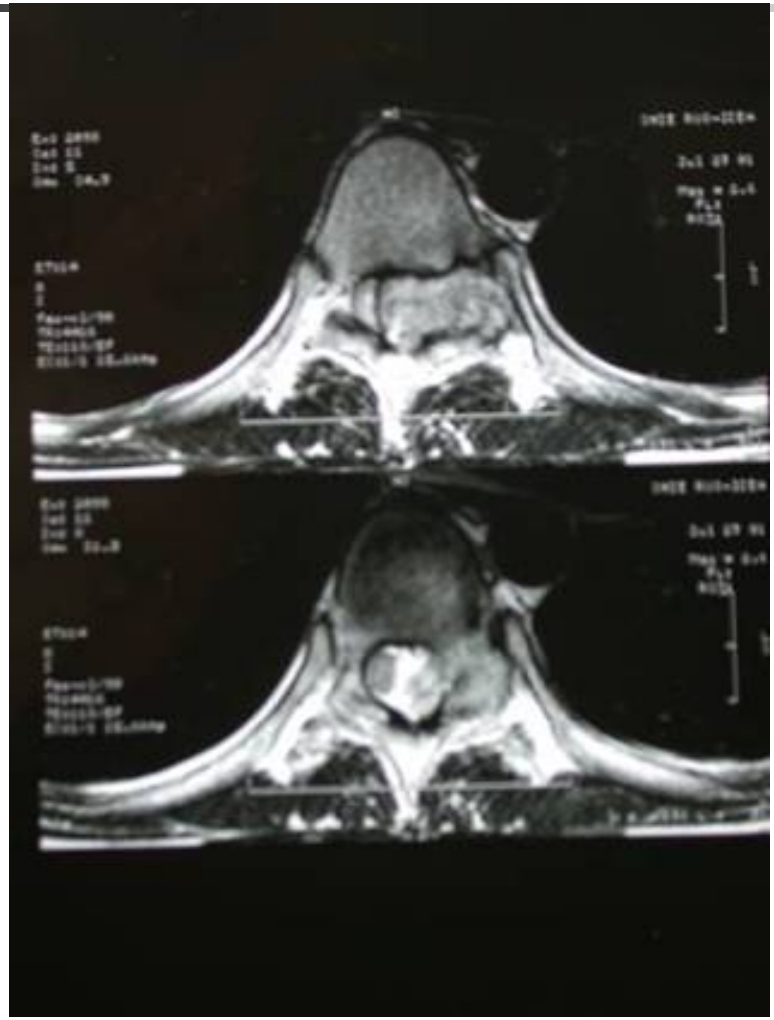
Spinal block at level of T8/T9

T1WI axial view



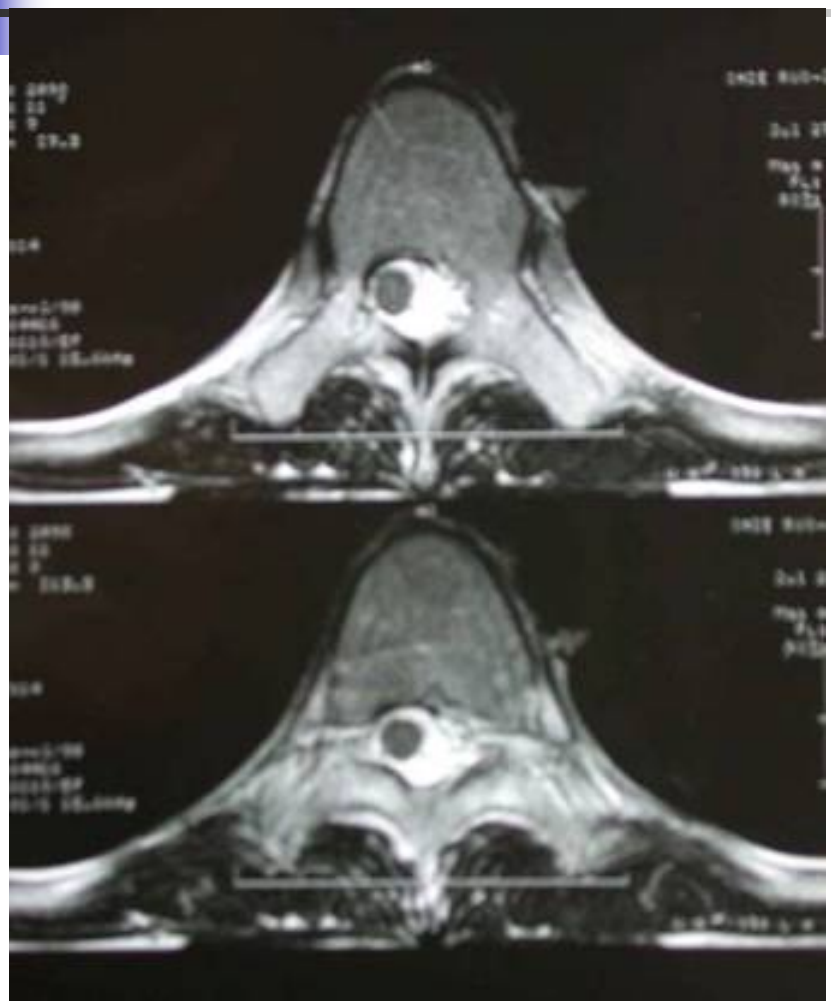
Dumbbell-shaped at T8/T9 level

T2WI axial view



Dumbbell-shaped, intradural,extra-medullary mass situated in the widened left neuroforamen at T8/T9 level.

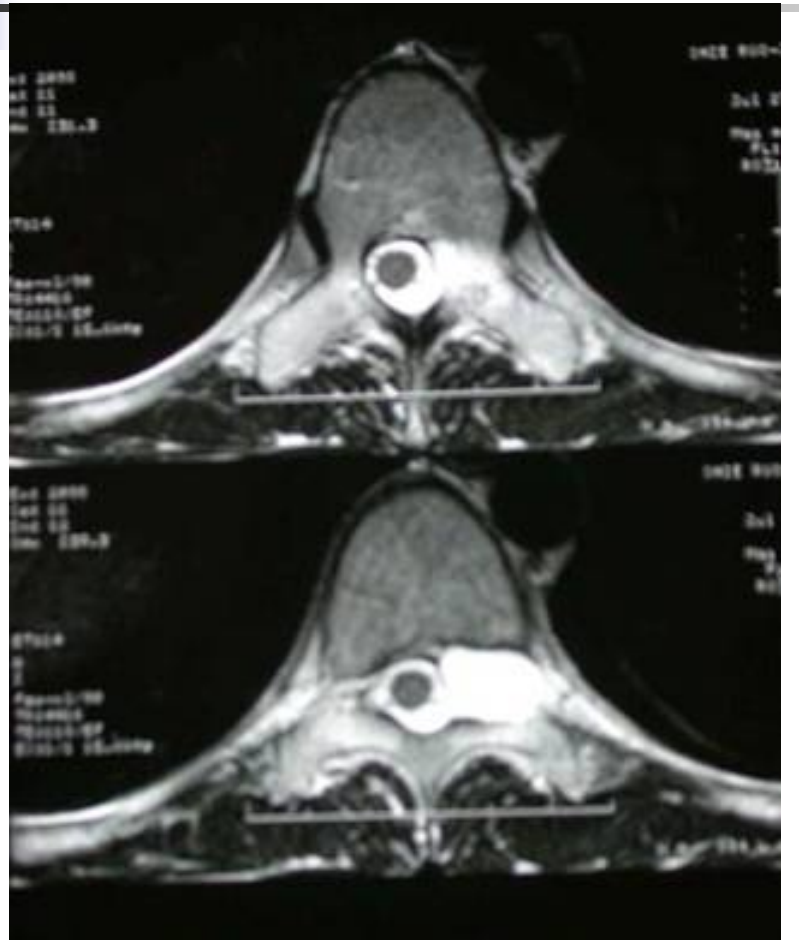
T2WI axial view



Widening of subarachnoid space .

CSF widening

T2WI axial view



Extradural dumbbell shape mass through neuroforamen at T10/T11 level

Radiological findings

- Intradural extramedullary ,dumbbell-shape mass with foramen widening at T8/T9 level
- Extradural dumbbell-shape mass at T10/T11 level

Bone scan

- Increased radiopharmaceutical uptake in the T8

Spinal tumor

- Rank :

1. Nerve sheath tumor(23%)
2. Meningiomas (22%)
3. Intramedullary glial tumors(13%)
4. Sarcomas(8%)

- Metastases were by far the most common group(50%)

Spinal tumor

- Pain is the most common presenting symptom, and it may help in localization.

Location of the lesion

- Intramedullary tumors
- Intradural extramedullary tumors
- Extradural tumors

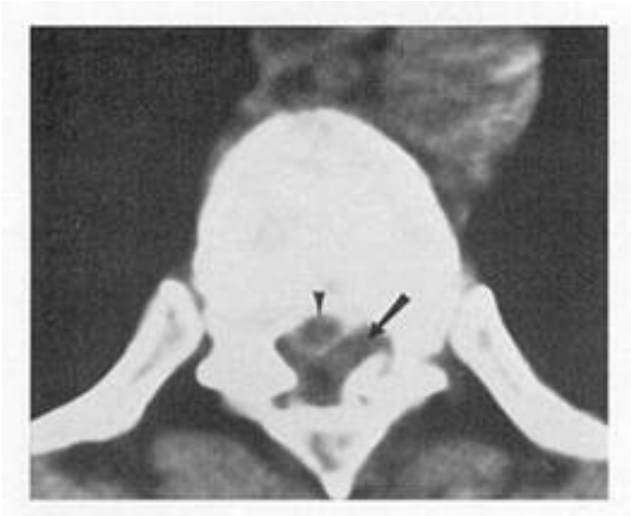
Intramedullary

- fusiform enlargement of the cord and circumferential narrowing of the adjacent subarachnoid space

Intradural extramedullary

- displace the cord away from the tumor, widening the ipsilateral subarachnoid space while narrowing the contralateral space

Extradural tumors



- Displacement or compression of the spinal cord, but they result in narrowing of both the ipsilateral and the contralateral subarachnoid spaces

Imaging of spinal tumor

- Myelography
- CT
- MRI

D/D of intradural-extramedullary tumor

- Nerve sheath tumors (schwannomas and neurofibromas)
- Meningioma
- Intradural metastasis
- Developmental tumors

Nerve sheath tumors

- Extradural component: dumbbell shape with bony remodeling of adjacent vertebral elements
- Hypointense on T1WI
- Hyperintense on T2WI

Schwannomas

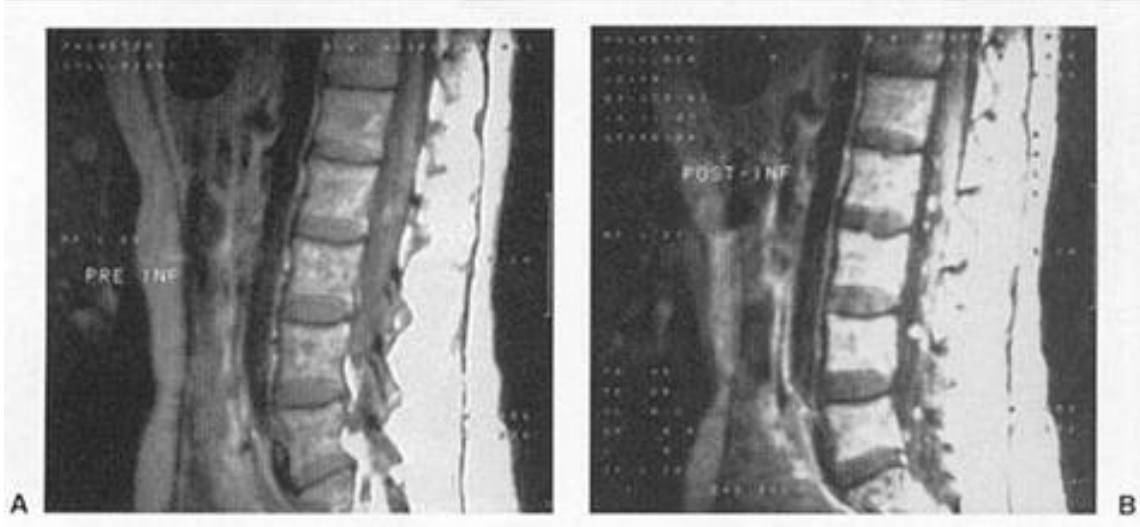
- Solitary
- Arise eccentrically from the nerve sheath

Neurofibromas

>Fusiform and multiple

>T1WI: slight hyperintense to muscle

>T2WI: hyperintense perhiphery + hypointense core



Meningioma

- Meningiomas are second only to neurofibromas in frequency and are the most common tumor encountered in the thoracic spine
- Sex :women- 80%
- Age:40-50

Meningioma

Plain film: 1. hyperostosis
2. calcification (psammoma bodies)

CT: 1. Sharp demarcated well-defined mass with attachment to the dura matter
2. isodense or hyperdense (calcification) in nonenhanced CT
3. intense uniform enhancement in enhanced CT

MR: 1. T1WI: hypo- to isointense

2. T2WI: iso- to hyperintense

3. homogeneous to heterogeneous texture

4. strong contrast enhancement

5. A broad-based attachment to the dura, common in meningiomas (dural-tail sign), may be helpful in differentiating them from nerve sheath tumors

Intradural metastasis

- hematogenous spread of systemic malignancies or so-called "drop metastases" seeding of the subarachnoid space by primary intracranial neoplasms
- medulloblastoma, primitive neuroectodermal tumors, ependymomas, and glioblastoma multiform

Drop metastases

- There is one large, rounded, intradural filling defect (*arrows*) as well as more subtle nodular enlargement of nerve roots in the cauda equina, caused by subarachnoid seeding of a cranial malignancy.

Development tumors

- Lipomas are by far the most common entity in the group
- dermoids, epidermoids, and teratomas
- Fatty tumors are bright on T1-weighted images and slightly bright on T2-weighted images

Impression

- Neurofibromas of thoracic spine