Case Report

Extradural Cavernous Hemangioma of Thoracic Spine-
A Case Report

Kaisar Haroon¹, Tania Taher², Moklasur Rahman³, Sk. Sader Hossain⁴

Abstract:

We present a rare case of extradural mass with differential diagnosis.

A 55-year-old woman presented with progressive weakness and diminished sensation in both lower limbs. MRI demonstrated a pure extradural mass with no bony invasion. Histopathology of the lesion revealed a typical cavernous haemangioma.

The patient showed significant improvement after surgery. Radiological presentation could be confusing in a purely epidural cavernous haemangioma. Awareness of the characteristics of the lesion will facilitate diagnosis and treatment of the lesion.

Keywords: Cavernous haemangioma; epidural space; magnetic resonance imaging, paraplegia.


Introduction:

Cavernous hemangioma of the central nervous system is a vascular malformation which is a developmental hamartoma, also known as cavernoma or cavernous malformation or venous angiomatous. Cavernous haemangiomas presenting as a purely epidural lesion are very rare with only 10 cases based on MR studies having been reported so far. They represent approximately 5% to 12% of the vascular lesions of the spine. Epidural cavernous hemangiomas are particularly rare. They constitute approximately 4% of all epidural tumors and represent approximately 5% to 12% of all vascular lesions of the spine. They usually develop at the thoracic or lumbar level and the most common site is the posterior part of the epidural space. A cervical location for an extradural cavernous hemangioma is less common. 80% of the reported cases were in the thoracic spine, with posterior location within the spinal canal in 93% of cases. In Li’s study there were 9 males and 5 females with an average age of 51.64 years. We report on a case of thoracic extradural cavernous hemangioma, with emphasis on the clinical aspects.

Case Report:

A 55-years-old non-diabetic hypertensive female patient was admitted to our department with the complaints of weakness of both lower limbs and inability to walk for 3 months. She also complained of pain and burning sensation of both lower limbs for same duration. The symptoms were more in the left side. She was a diagnosed case of thyroid goiter. On general examination she was anxious looking with a thyroid swelling. Her psychic function and speech was normal. She was unable to walk without support and was wheelchair bound. Her cranial nerves were intact. On motor examination her upper limbs were normal. Her lower limbs muscle strength were 3/5 bilaterally in all groups of muscles. Tone was increased in both lower limbs. Muscle bulk was normal. Both ankle and knee jerks were increased in the lower limbs. Ankle clonus was present. Plantar response was bilaterally extensor. On sensory examination there was a sensory level at D5 level in the chest. Other sensory modalities were intact. She had no signs of cerebellar dysfunction and meningeal irritation.

Her Plain X-ray of Dorsal spine showed no significant lesion. An MRI of dorsolumbar spine showed an epidural space-occupying lesion involving the D6 spinal canal levels and extending to the D6 left intervertebral foramen, with an intense and homogeneous contrast enhancement (Figure 1a-c). The patient was submitted to a laminectomy of D5-D6, including a D6 left foraminotomy and a partial laminectomy D7. A posterior placed soft, non-suckable and reddish epidural mass with a good cleavage plane and was completely removed. The foraminal portion was also removed. Her post operative period was uneventful. Her stitches were removed after ten days. The patient evolved with partial improvement of sensibility in both lower limbs and strength. She was discharged on the fifteenth day with advice for Physiotherapy. After a few weeks she could walk with support. After one and half months she came to the OPD on her own with complaints of persistence of some weakness in both her lower limbs. Her MRI showed no recurrence or residual tumour (Fig 2 a-c).
Histological examination revealed thin-walled blood vessels lined with a single layer of endothelial cells, surrounded by connective tissue. The microscopic appearance was compatible with cavernous hemangioma.

**Discussion:**
Cavernous hemangiomas were first reported in 1929 by Globus and Doshay, and are defined as benign vascular structures developed between the neural tissues occurring in the central nervous system, consisting of dilated vascular bed. The differential diagnosis for spinal epidural hemangiomas before surgical resection included schwannoma, lymphoma, meningioma, angiolipoma, disk herniation, synovial cysts, granulomatous infection, pure epidural hematoma, and extramedullary hematopoiesis. MRI is the most useful method of diagnosing a cavernous hemangioma. It usually shows an isointense T1-WI and a hyperintense T2-WI. It often shows irregular or lobulated enhancement, and this needs to be differentiated from other diseases like intervertebral disc herniation, schwannoma, neurofibroma, angiolipoma, osteochondroma, synovial cyst, lymphoma, chordoma, and Ewing's sarcoma. The signal intensity may be helpful to differentiate between meningioma and hemangioma, but the presence of the dural tail sign appears to be not useful for the differentiation between these two, when the hemangioma arises from the inner surface of the dura matter. A review of literature shows that the diagnosis is almost always missed on preoperative imaging. Therefore, although the lesion is rare and a high index of suspicion is required for the diagnosis based on preoperative imaging, cavernous hemangioma should be included in the differential diagnosis of purely extradural soft tissue lesions of the spine has been suggested. This also true for our patients.

The cavernous angiomas occur throughout the brain, spinal cord and meninges. About 80% of the cavernous angiomas are supratentorial, 15%
infratentorial and 5% are located in the spine. The cavernous angiomas occur in two forms: sporadic and familial. Ten per cent of all cavernomas are familial forms, most of the rest are sporadic.\textsuperscript{10}

**Conclusion:**
Though the lesion is rare, cavernous hemangioma should be included in the differential diagnosis of purely extradural soft tissue lesions of the spine as early and accurate diagnosis followed by complete excision of the lesion before any possible episodes of massive intralesional bleeding is related to a favorable outcome.

**References:**