Case Report

THORACIC SPINAL EPIDURAL MIXED CAPILLARY-CAVERNOUS HAEMANGIOMA: Case report and review of literature

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SUMMARY:
We describe a case of a patient with a thoracic spinal mixed capillary/cavernous haemangioma, who was operated for decompression. The literature regarding spinal haemangiomas is reviewed and the symptomatology, neuro-radiology, pathology, management and prognosis of these lesions are discussed. The need to include cavernomas in the differential diagnosis of various spinal conditions is emphasized.

KEY WORDS: Cavernous Haemangiomas.

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INTRODUCTION

Cavernous haemangiomas are uncommon vascular malformations that usually effect central nervous system. They occur in both sporadic and familial form. They are usually located intracerebral or in the brain stem but can occur in any part of neuraxis including the spine1,2 and may be associated with hemorrhages, focal deficits and fits3-7. In the spine, most of the vascular lesions are the secondary extensions of vertebral haemangiomas.8 Epidural haemangiomas represent 4% of spinal epidural tumors and 12% of all intraspinal haemangiomas.4,6,9

CASE REPORT

Presentation and examination: Seventy Two years old lady presented to A&E with severe back pain, progressive weakness with dysesthesia in both lower limbs for last four weeks and now unable to walk. There was history of difficulty in opening bowels, however there was no problem with bladder. There was no history of trauma.

Neurological examination on current presentation revealed decreased sensation of pain, position and touch below T6, power in lower limbs was Grade 4, reflexes were normal and Babinski’s reflexes were negative. X-rays did not show any abnormality. Routine blood investigations including Myeloma screen were normal. In view of her symptoms a suspicion of thoracic spinal cord lesion was raised and thoraco-lumber MRI scan was requested. MRI
scan showed a mass compressing onto the cord extending from the posterior element of T4 and T5 (Fig 1 & 2). There was mixed signal characteristics in this vertebral body and adjacent bony structures with low signal on T1 (Fig-1), high on T2 (Fig-2) and evidence of some enhancement following Gadolinium on T1 sequences. Next day she developed urinary retention and her Babinski’s reflexes were positive.

Operation and recovery: She was shifted to local spinal unit, where she had decompression on spinal cord at T4 and T5 level along with extirpation of brown lesion which was displacing the spinal cord anteriorly. The patient had good recovery in both motor strength and sensations, bowel and bladder functions recovered and could easily walk without support.

Histology: The lesion was highly vascular replacing paraspinal soft tissue and bone. It was composed of conglomerate of blood vessels lined by single layer of plump endothelial cells on fibromyxoid stroma. Some of these were filled with blood. Some vessels were more in keeping with cavernous spaces in appearance. There was no evidence of atypia or neoplastic change. A diagnosis of mixed capillary / cavernous haemangioma was made.

Fig. 1: Sagittal section, T1-weighted image showing isointense signal epidural mass compressing spinal cord anteriorly.

Fig. 2: Sagittal section, T2-weighted image showing hyperintense signal epidural mass.
DISCUSSION

Epidural cavernous haemangiomas are extremely rare benign lesion. The majority of these represent extension from vertebral haemangiomas into spinal canal. They constitute approximately 4% of all epidural tumors and 12% of all intraspinal haemangiomas. Any part of spine may be effected but they usually develop at the thoracic or lumbar level. Cervical lesions are rare. Laredo et al., classified vertebral haemangiomas into three categories on the basis of clinical presentation.

1. A common inactive lesion, not requiring treatment;
2. Uncommon symptomatic haemangiomas with intermediate aggressiveness with possible neurological compression and requiring treatment;
3. A rare active compressive lesion which needs urgent and aggressive treatment.

The most frequent clinical picture of epidural cavernous haemangioma is progressive compressive myelopathy associated with back and/or radicular pain preceding the onset of neurological deficits. Sphincter disturbances are late manifestation. The sudden onset of symptoms might occur due to hemorrhage or thrombosis with in the haemangioma. In our case, the symptoms were gradual but progressive in nature.

MRI more accurately characterizes and demonstrates the location and extent of compression on the spinal canal. From our review of literature and MRI finding in present case, these lesions are isointense with spinal cord on T1-weighted images and hyper intense on T2-weighted images and showed homogenous strong enhancement in all patients. The differential diagnosis of epidural cavernous haemangiomas include neurogenic tumors, lymphomas, metastasis and rarely meningiomas. The above mentioned characteristics help to distinguish cavernous haemangiomas from the other pathologies of spinal cord. An epidural mass with extension to intervertebral neural foramen can be seen in neurogenic tumors. These tumors however have smooth contour instead of lobulated contour and frequent cystic changes could be the clue to the differential diagnosis with cavernous haemangioma. According to Mascalchi, lymphomas frequent isointense signal intensity on T2-weighted images, and less frequent paravertebral extension and intervertebral neural foraminal widening could be the clues to differential diagnosis with cavernous haemangiomas. Rarely, meningiomas can present with dumbbell or extradural location. However the isointense signal with spinal cord with frequent broad dural attachment (tails sign) favors the diagnosis of meningiomas.

Surgical resection is the treatment of choice. Severe intraoperative hemorrhage and intrathoracic extension are the main factors limiting tumor removal.

CONCLUSIONS

Spinal epidural cavernous haemangiomas are benign lesions, with characteristic finding on the MRI and should be considered for differential diagnosis of epidural mass. Surgical treatment has a good out come (as in our case) and should be performed, before patient’s neurological deficit becomes irreversible.

REFERENCES


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