A rare case of an epidural cavernous haemangioma of the spine

Case 12155

A 66-year-old woman, with a medical history of breast cancer, presented with right-sided neuralgia of the upper trunk for one month.

Imaging Findings:

A whole body Tc99m-M.D.P bone scan showed increased uptake in the T5 and T6 vertebral bodies on the right. CT scan depicted a lytic lesion with sclerotic borders, involving the right transverse process of T6. Contrast-enhanced MR revealed an extradural mass in the dorsal aspect of the epidural space, at the level of T5 to T7 vertebra, which extended through the T5-T6 intervertebral foramina into the right paraspinal space and caused significant compression of the spinal cord. The lesion was isointense on T1 and hyperintense on T2-weighted images and enhanced intensely following administration of gadolinium. On FNA, only abundant blood was aspirated. A subsequent MR angiography showed a hypervascular lesion during the early arterial phase, with large feeding branches anteriorly arising from intercostal arteries and smaller feeding branches posteriorly.

Discussion:

Cavernous haemangiomas are congenital vascular malformations of unknown aetiology [1]. Histologically they consist of large sinusoidal vascular spaces encapsulated within a fibrohyaline membrane [2]. Spinal axis cavernous malformations, constitute 12% of all spinal vascular anomalies, whereas less than 100 cases of solitary extraosseous epidural cavernous haemangiomas have been reported since 1929. A female preponderance is prominent (70%) [3]. They are usually seen in the thoracic spine located in the posterolateral epidural space and may extend to the neural foramina [1], as seen in our patient. Clinical course may be slow, or sudden onset para- or quadriplegia depending on their location, growth pattern and biological activity. Acute symptoms are usually the result of micro-haemorrhages within the lesion, or extradural haemorrhage and thrombotic occlusion that may cause sudden increase of the size of the lesion with compression of the dural sac and the spinal cord [3].

On unenhanced CT lytic lesions of the posterior elements may be seen in cases of large epidural haemangiomas, whereas a lobulated mass with foraminal extension and adjacent bone erosion has been described [1]. Before the application of MRI they were easily misdiagnosed. It is important to identify these tumours correctly and...
to differentiate them from other pathologies. Due to high vascularization of haemangiomas, preoperative misdiagnosis may lead to intraoperative haemorrhage and incomplete resection [4]. MR imaging with MR angiography is considered the most reliable diagnostic tool for the diagnosis of epidural haemangioma [3, 4]. On MR imaging an epidural cavernous haemangioma exhibits ovoid shape, hyperintense signal, slightly less than CSF on T2-weighted images and a homogenous isointense to muscle signal on T1-weighted images, whereas hyperintense foci on T1 may be seen in case of intralesional haemorrhage. On contrast-enhanced T1 images homogenous strong enhancement of the lesion is seen with large feeding vessels whereas a moderately to slightly irregular core has also been described ("wafting-silk" sign) [3]. Occasionally, a spinal epidural haemangioma may present as a cyst-like mass, with peripheral enhancement [5].

Complete surgical resection establishes the histological diagnosis and it is considered the most common treatment of epidural haemangioma; if untreated, continued growth may result in neurological deficit. Radiotherapy has been used as an adjuvant post-surgery therapy. Recently, stereotactic radiosurgery handling has been also advocated [4].

**Differential Diagnosis List:** Epidural haemangioma. Histology verified the MR diagnosis., Neurinoma and meningioma (homogenous enhancement may be more prominent in epidural hemangiomas, intervertebral neural foraminal widening, not a significant clue) [5], Schwannoma [6], Neurofibroma (heterogeneously enhanced), Dural based lymphoma, Metastasis, Spinal epidural angiolipoma, Spinal haemangiopericytoma [7]

**Final Diagnosis:** Epidural haemangioma. Histology verified the MR diagnosis.

**References:**


Description: Transverse CT image bone window: erosion of the right transverse process of T6 vertebra, with sclerotic margins. Origin: 2nd department of Radiology, General University of Athens \"Attikon\"
Figure 2

Description: T1, T2, contrast-enhanced T1 weighted, MR sagittal images. An epidural mass in the dorsal aspect of the spine, (Cc d~60mm), causes displacement of the dura, spinal canal narrowing and compression of the spinal cord. Origin: 2nd department of Radiology, General University Hospital "Attikon"
Description: A transverse contrast-enhanced T1-weighted MR image shows the extradural spinal mass that extends to the right paravertebral space through the ipsilateral T5-T6 intervertebral foramen (dumbbell configuration). Origin: 2nd department of Radiology, General University Hospital "Attikon"
Figure 4

Description: MRA MIP subtraction image: In the arterial phase, the hypervascular lesion with prominent feeding intercostal arteries are shown. Origin: 2nd department of Radiology, General University hospital "Attikon"