Case 1191

Vertebral haemangioma with epidural extension and cord compression
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Patient: 66 years, male

Clinical History:

3-weeks history of leg weakness, numbness and falls in a previously healthy adult male. Imaging showed an extradural tumour with cord compression and invasion of a vertebral body. The patient was operated and made a good recovery.

Imaging Findings:

The patient presented with a 3-week history of increasing bilateral leg weakness and numbness. He had fallen a few times. Examination revealed a flaccid paraparesis with brisk lower limb reflexes. He had reduced sensation for pinprick and temperature below the level of T8. MRI of the thoracic spine was followed by a localised CT of the 6th vertebral body. There was an extradural soft tissue mass extending from T5 - T7 and into the left T6/7 intervertebral foramen. This mass was inseparable from an abnormal T6 vertebral body which also had an expanded pedicle with a thinned cortex. There was evidence of cord compression. A radiological diagnosis was made of an extradural tumour with invasion of the adjacent vertebral body of atypical appearance. The differential diagnosis given included metastasis from an unknown primary, multiple myeloma and lymphoma. It was felt that the anatomy of the lesion would allow safe decompression and laminectomies of T4 to T6 were performed. A soft, fleshy tumour was removed from the spinal canal and the vertebral body. Histologically this proved to be fibro-fatty tissue in which haemangioma was present. There was no evidence of malignancy. Postoperatively the patient made an uneventful recovery with progressive improvement and was able to walk with a stick at discharge.

Discussion:

Vertebral haemangiomas are a common and usually asymptomatic finding at imaging. They most frequently occur as a solitary lesion in the thoracic or upper lumbar spine. The slow-growing benign lesion rarely becomes symptomatic with localised pain and tenderness. Radiculopathy may ensue if nerve roots are impinged. Rarer even patients present with cord compression which can be caused by vertebral body collapse, haematoma or extradural extension of the tumour. Plain radiography may show vertebral enlargement and the characteristic "corduroy" appearance due to prominent vertical trabeculae. This might extend into the pedicles. On axial CT scanning the thickened primary trabeculae appear as punctate densities ("polka dot") surrounded by fatty tissue of low attenuation. On MR imaging [1] T1-weighting shows hyperintense fatty tissue interspersed between thickened bony trabeculae in the intraosseous part of the tumour whereas an extraosseous part often lacks fatty tissue and tends to return low signal. On T2-weighted images the entire tumour demonstrates relatively high signal intensity possibly representing the more cellular components. There is however considerable variation in the MR appearances [2]. It
has been suggested [3] that a relatively larger fat content of a lesion indicates a rather benign tumour. Conversely an increase in soft tissue content on CT and loss of high signal on T1-weighted images signifies a more active lesion, with potential for extension into the spinal canal and cord compression. The treatment options [4] for symptomatic lesions include catheter embolisation, excision, laminectomy or combinations thereof and radiotherapy may be employed postoperatively. Angiography may be useful to assess vascularity and possible preoperative embolisation. Vertebral haemangiomas are a rare cause of spinal cord compression and should be considered in the differential diagnosis of extradural cord compression.

**Differential Diagnosis List:** Vertebral haemangioma with cord compression

**Final Diagnosis:** Vertebral haemangioma with cord compression

**References:**

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Figure 1

Description: Unenhanced axial CT at T6 level showing mottled calcification in the postero-lateral aspect of the vertebral body, expansion of the pedicle with thinning of the cortex and a soft tissue mass within the spinal canal. Origin:
Description: T2-weighted midline sagittal MR image showing lobular, extradural mass extending from T5 - T7. Note abnormal high signal in the posterior third of the vertebral body and in the cord indicating compression. Origin:
**Description:** T1-weighted axial MRI showing low signal intensity in the intraosseous and high signal in the extraosseous component of the tumour which extends from the spinal canal into the intervertebral foramen characteristics of haemangioma. **Origin:**
Figure 4

Description: T1-weighted axial MRI post-gadolinium shows enhancement more marked in the extraosseous tumour compartment Origin: