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# Neuroimaging Highlight

Editors: Richard Farb, David Pelz

## Vertebral Hemangioma Causing Spinal Cord Compression

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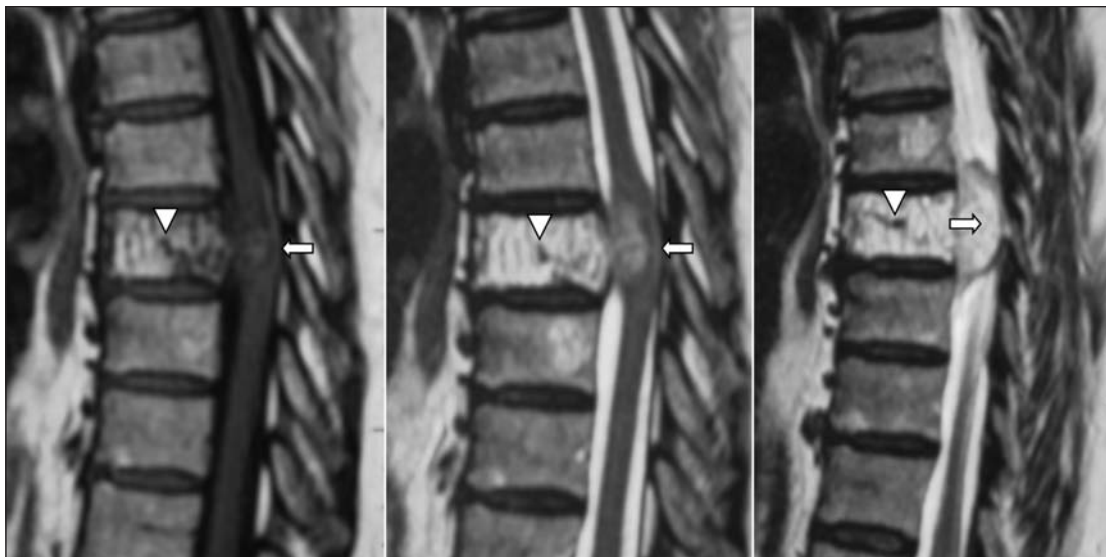
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A 62-year-old woman presented with a six-month history of progressive back pain, sensory disturbances and weakness in both lower limbs. On examination, there was a localized pain to palpation of lower thoracic vertebra, a mild spastic paraparesis with bilateral Babinski signs and altered sensation to the level of the umbilicus. Magnetic resonance imaging revealed a mixed hyper and isointense lesion on T1-weighted images and hyperintense on T2-weighted images involving the body of T8 with a trabeculated appearance and foci of signal void. There was a soft tissue epidural extension of the lesion into the spinal canal with compression of the spinal cord that showed hyperintensity signal changes (Figure 1 and 2). These findings were consistent with a vertebral hemangioma (VH) causing a spinal cord compression. Preoperative embolization and surgical

decompression with laminectomy and tumour resection were performed, with complete clinical recovery. The histological diagnosis was hemangioma of bone.

Vertebral hemangiomas (VH) are relatively common benign vascular tumours usually asymptomatic, diagnosed as incidental findings during imaging studies. Rarely, their extraosseous extension can produce compressive neurological symptoms, although only few cases appear in the literature. The clinical presentation is characteristically insidious preceded by increased back pain, but acute onset may occur<sup>1,2</sup>. The most common location for symptomatic VH is the lower thoracic spine and women are more often affected than men<sup>1,3</sup>. Their more frequent magnetic resonance imaging features, although non-specific, are high signal intensity on both T1 and T2 weighted images



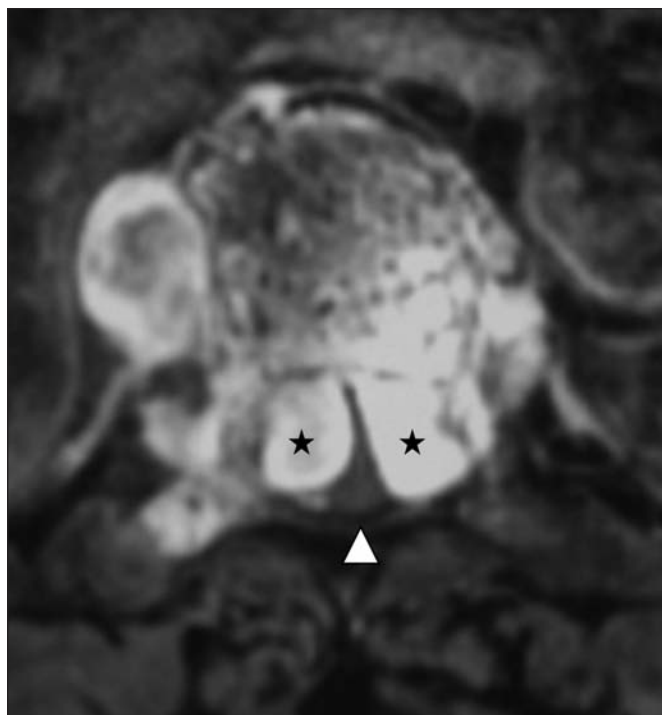
**Figure 1:** Sagittal MR images showing a mixed hyper and isointense lesion on T1WI (left) and hyperintense signal on T2WI (centre and right), at T8 level. The vertebra is of normal height with trabeculated appearance and foci of signal voids (arrowheads). There is an extraosseous component of the lesion that extends into the spinal canal (right arrow) producing high signal intensity of the compressed spinal cord (left and central arrows).

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**Figure 2:** Axial fat saturation T1WI with enhancement of the lesion after intravenous contrast administration showing soft tissue invasion of the spinal canal (stars) producing compression of the spinal cord (arrowhead).

(representing fatty stroma of the hemangioma) and maintained vertebral height. The presence of intraosseous signal voids (due to the vascular component of the lesion) is an additional sign highly suggestive of VH<sup>4</sup>.

Although the reported incidence of VH causing compressive neurological symptoms is infrequent, this condition must be included in the differential diagnosis when one presents with symptoms of a painful progressive myelopathy. The importance of preoperative diagnosis lies in the requirement for angiography and, if necessary, for embolization, to avoid life threatening hemorrhage during surgical procedures.

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