

AGGRESSIVE VERTEBRAL HEMANGIOMA : A RARE CASE REPORT**GAURAV RAJ^a, NEERA KOHLI^{b1}, SIMRAN SINGH^c AND ABHISHEK CHAUHAN^d**^{abcd}Department of Radiodiagnosis, Dr. Ram Manohar Lohia Institute of Medical Sciences, Lucknow, U.P., India**ABSTRACT**

Vertebral hemangiomas are encountered commonly and most of them are benign. A rare variety of these are characterized as aggressive (incidence .03 to .1%) as they have an extra-osseous extension, ballooning of bone, compression fractures and involvement of paravertebral muscles. We present a case of young woman with progressive paraplegia and an infiltrative mass of L2 vertebrashowing rare involvement of posterior elements withMR signals and characters consistent with Hemangioma.

KEYWORDS : Hemangioma, Vertebral Body, Cord Compression**CASE REPORT**

A young woman presented in the outpatient department with history of backache from past 3 months, weakness of both lower limbs and inability to carry out routine work. Clinical evaluation was done and patient was advised MRI of dorsal spine. The patient was subjected to MRI (3 Tesla) with the following sequences:T1 Sag, T2 Sag, Coronal T2 STIR, Sag Fat Supressed/STIR, Axial T2, Axial T1, post contrast Axial T1.

On MRI study there was presence of central wedge collapse of L2 with hypointense signal on T1 and hyperintense signal on T2. The vertebral margins were irregular with disease process involving left pedicle & transverse process. Epidural extension of bony lesion with secondary canal stenosis and extension into left lateral recess and paravertebral soft tissue was noted. On contrast study heterogenous enhancement was seen. The site was unusual in that pedicle and transverse process were involved.(Figure I,II,III & IV)

DISCUSSION

Vertebral hemangiomas are one of the common benign lesions with incidence of 10-12%. Typically incidental findings, they are symptomatic in very few individuals (Chen et al., 2007 and Cheung, et al., 2011). Category of symptomatic lesions are known as aggressive hemangiomas and are identified with bone expansion, extraosseous extension of tumor, disturbance of local blood flow, and rarely compression fractures and paravertebral soft tissue extension.

Intralesional fat of hemangiomas cause increased signal intensity on T1 weighted MR images. On T2-

weighted images, the signal intensity is higher due to high water content (Laredo et al.,1990). T2 hyperintensity is often greater than that of fat, thereby differentiating hemangiomas from focal fat deposition. Aggressive hemangiomas typically contain less fat and more vascular stroma thereby producing a low MR signal on T1 weighted images (Chen et al., 2007; Ross et al., 1987 and Fox & Onofrio,1993). This appearance may resemble a metastatic lesion. However metastatic lesions usually have low signal on T1 weighted images and high signal on T2 weighted images. Lymphoma may also have a similar appearance but is usually distinguished by enhancement on contrast MRI (Boukobza et al.,1996)

Aggressive vertebral hemangiomas most often occur between D3 and D9 vertebral segments(Laredo et al.,1986). They generally occupy the entire vertebral body, extend into the neural arch, expand the osseous margins, and contain a soft tissue component (Laredo et al.,1986). Cord compression and subsequent myelopathic changes may result from either encroachment of extradural soft tissue, pathologic fractures(Dickerman and Bennet,2005). Vertebral hemangiomas may become symptomatic during pregnancy.

Treatment options for symptomatic or aggressive hemangiomas without cord compression include vertebroplasty (Galibert and Deramond,1990), embolization and sclerotherapy (Doppman et al.,2000)

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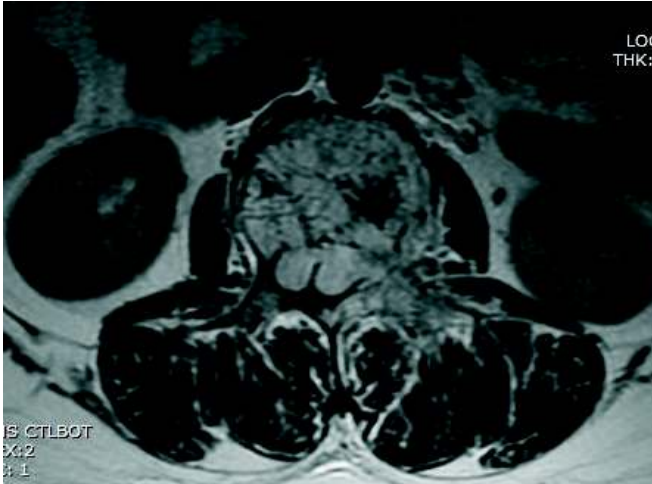


Figure I : T2 Axial Image Showing Irregular Vertebral Body Margins With Disease Process Involving Left Pedicle and Transverse Process Along With Extension Into Left Lateral Recess, and Into Left Paravertebral Tissue Is Noted

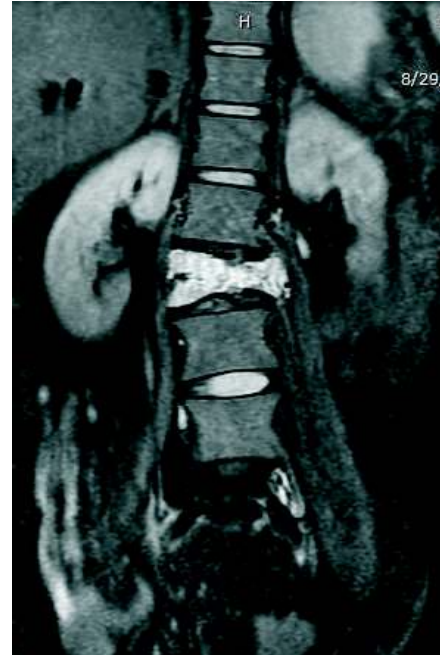


Figure II : Coronal T2 Weighted Image Showing Central Wedge Collapse With Mild Scoliosis

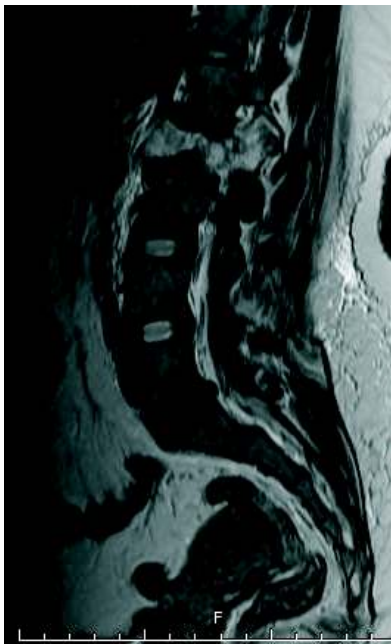


Figure III

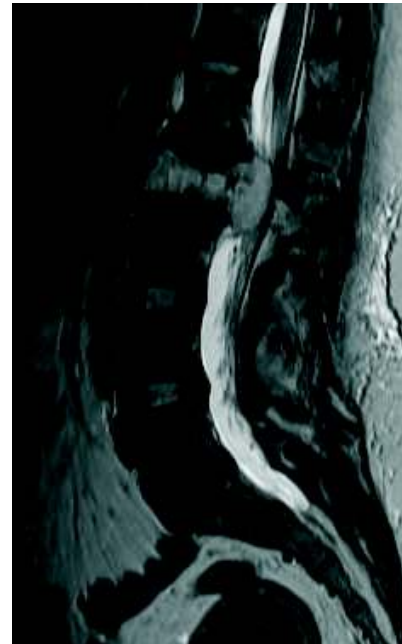


Figure IV

Figure III & IV: T2 Weighted Images Showing Collapsed L2 Vertebra With Hyperintense Signal And Posterior Extension Causing Secondary Canal Stenosis and Compression Over Ventral Aspect of Thecal Sac

REFERENCES

- Chen H.I., Heuer G.G., Zaghoul K., Simon S.L., Weigele J.B. and Grady M.S., 2007. Case report. Lumbar vertebral hamangioma presenting with the acute onset of neurological symptoms. *J Neurosurg Spine*,**7**:80-85.
- Cheung N.K., Doorenbosch X. and Christie J.G., 2011. Rapid onset aggressive vertebral haemangioma. *Childs Nerv Syst.*, **27**:469-72.
- Boukobza M., Mazel C. and Touboul E., 1996. Primary vertebral and spinal epidural non-Hodgkin's lymphoma with spinal cord compression. *Neuroradiology*,**38**(4):33-37.
- Dickerman R.D. and Bennett M.T., 2005. Acute spinal cord compression caused by vertebral hemangioma. *Spine J.*,**5**:582-584
- Doppman J.L., Oldfield E.H. and Heiss J.D., 2000. Symptomatic vertebral hemangiomas: treatment by means of direct intralesional injection of ethanol. *Radiology*, **214**:341-348.
- Galibert P. and Deramond H., 1990. Percutaneous acrylic vertebroplasty as a treatment of vertebral angioma as well as painful and debilitating diseases. *Chirurgie*, **116**:326-334.
- Fox M.W. and Onofrio B.M., 1993. The natural history and management of symptomatic and asymptomatic vertebral hemangiomas. *J Neurosurg.*, **78**:36-45.
- Laredo J.D., Assouline E., Gelbert F., Wybier M., Merland J.J. and Tubiana J.M., 1990. Vertebral hemangiomas: fat content as a sign of aggressiveness. *Radiology*, **177**:467-472.
- Laredo J.D., Reizine D., Bard M. and Merland J.J., 1986. Vertebral hemangiomas: radiologic evaluation. *Radiology*, **161**:183-189.
- Ross J.S., Masaryk T.J., Modic M.T., Carter J.R., Mapstone T. and Dengel F.H., 1987. Vertebral hemangiomas: MR imaging. *Radiology*:165-169.