

A Common Pathology in Rare Location: Spinal Hemangioma

¹Vivek Agrawal, ²Rajendra B Aher

ABSTRACT

Hemangioma of spinal column is a common pathology but purely epidural spinal hemangioma, especially in pediatric age group, is rare and there are very few case reports available in English medical literature. We are reporting a case of cervicodorsal epidural arterio-venous hemangioma without vertebrae involvement in a pediatric patient to highlight difficulty in interpretation and importance of preoperative radiological diagnosis.

Keywords: Epidural lesions, Hemangioma, Spinal hemangioma.

How to cite this article: Agrawal V, Aher RB. A Common Pathology in Rare Location: Spinal Hemangioma. *J Spinal Surg* 2018;5(4):178-180.

Source of support: Nil

Conflict of interest: None

INTRODUCTION

Epidural space is a common location for malignant pathology like neuroblastoma and Ewing's sarcoma to cause cord compression in pediatric age, but pure epidural hemangiomas are very rare.^{1,2} We present a case of cervicodorsal pure epidural hemangioma present with acute radiculopathy in a girl of 15 months age.

CASE REPORT

A 15 months girl presented with sudden onset weakness in a left upper limb with torticollis. Examination revealed lower motor neuron (LMN) weakness (MRC grade-3/5) with a sensory deficit in left upper limb along with right laterocollis (Fig. 1). Weakness and hypoesthesia were non-progressive. No signs or symptoms of myelopathy were present. MRI suggested a C5-D2 left posterior-lateral epidural hemorrhagic mass with cord compression. There were variable enhancement of left posterior paraspinal muscles suggesting a lateral extension of the lesion (Figs 2 and 3). It was suspected to be a neuroblastoma or

Ewings sarcoma depending on the magnetic resonance imaging (MRI) findings. The patient underwent surgical excision of the hemorrhagic lesion with decompression of cord and nerve roots through C5-D1 laminotomy. The dark red colored mass, soft to firm in consistency, was highly vascular but was easily separable from the dura. Total excision of the mass was achieved using microsurgical techniques. Laminoplasty was done to fix back the laminae (Fig. 4). There was approximately 300cc of blood loss in surgery. The postoperative patient took almost 2 months for complete recovery from neuro deficit. Holoprosencephaly (HPE) revealed randomly arranged thin-walled blood vessels with few separate fibrous areas containing capillary-sized vessels filled with red blood cells (RBC's). A diffuse mononuclear inflammatory infiltrates with areas of fresh and organizing hemorrhage and some hemosiderin-laden macrophages suggestive of arteriovenous haemangioma (Fig. 4).

DISCUSSION

Ewings sarcoma and neuroblastoma are two commonest epidural tumors in the pediatric age group, and intralesional bleed is not a rare phenomenon with these lesions.³ Epidural hemangiomas constitute approximately 4% of all epidural tumors and 12% of all intraspinal hemangiomas.^{4,5} As illustrated in our case, purely epidural hemangiomas, although uncommon, ought to be considered in the differential diagnosis of spinal

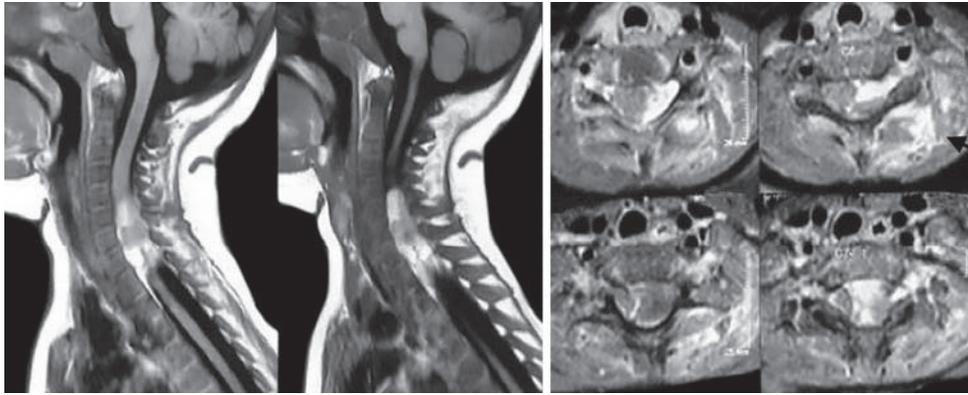


Figs 1A and B: (A) Left upper limb weakness with retrocollis; (B) Improvement in neurological deficit after surgery

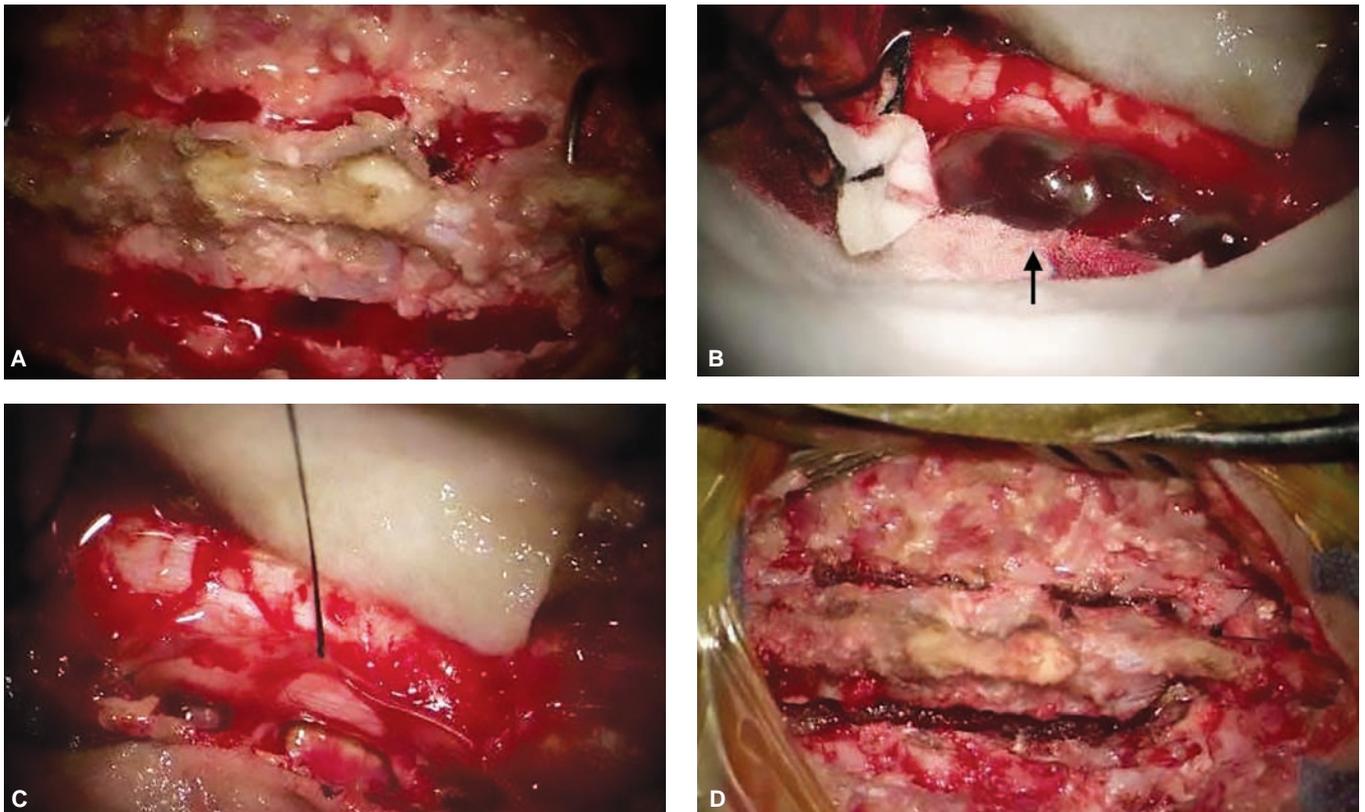
¹Consultant, ²Associate Consultant

^{1,2}Department of Neurosurgery, Sir H N Reliance Foundation Hospital, Mumbai, Maharashtra, India

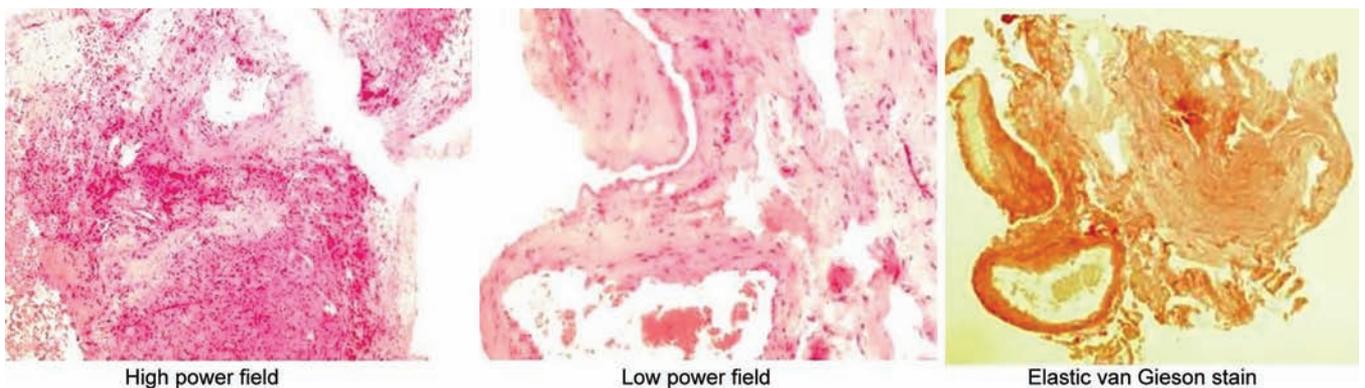
Corresponding Author: Vivek Agrawal, Consultant, Department of Neurosurgery, Sir H N Reliance Foundation Hospital, Mumbai, Maharashtra, India, Mobile: 9867647125, e-mail: neuro.vi@gmail.com



Figs 2A and B: (A) Pre-contrast T1W sag: C5-D2 epidural lesion extending from C5-D2; (B) Post-contrast T1W axial: Posterior paraspinal muscle enhancement with epidural lesion



Figs 3A to D: Intraoperative photographs—(A) C5 to D1 laminotomy; (B) Left posterior-lateral epidural haemorrhagic lesion exposure; (C) Decompression of cord and nerve roots; (D) Laminoplasty



High power field

Low power field

Elastic van Gieson stain

Figs 4A to C: High power, low power and special stain histopathological photographs of excised lesion

epidural tumors. Radiological findings of various type of haemangioma are quite variable.^{6,7} In the absence of constant MRI features preoperative diagnosis becomes difficult in this rare pathology, nevertheless preoperative suspicion of haemangioma is crucial as its high vascularity may results in unexpected intraoperative hemorrhage, incomplete surgical removal and an attempt to perform the procedure through minimal exposure may result in serious complications.^{5,7,8} Multi segmental involvement, the absence of any bony changes, lobular contour, a rim of low T2 signal intensity are few radiological features as present in our case helps in differentiating the lesion from other pathologies.^{5,6} Posterior paraspinal muscle enhancement retrospectively is considered to be because of sub-acute denervation.

REFERENCES

1. Goyal A, Singh AK, Gupta V, Tatke M. Spinal epidural cavernous haemangioma: a case report and review of literature. *Spinal cord*. 2002 Apr;40(4):200.
2. Graziani N, Bouillot P, Figarella-Branger D, Dufour H, de Peragut JC, Grisoli F. Cavernous angiomas and arteriovenous malformations of the spinal epidural space: report of 11 cases. *Neurosurgery*. 1994 Nov 1;35(5):856-864.
3. Kazina C, Macdonald P. Epidural Spinal tumors in children. In: Editors Jörg-Christian Tonn, Stuart A. Grossman, James T. Rutka, Manfred Westphal. eds. *Neuro-Oncology of CNS Tumors*. Berlin Heidelberg: Springer. 2006:575-581.
4. Feider HK, Yuille DL. An epidural cavernous hemangioma of the spine. *American journal of neuroradiology*. 1991 Mar 1;12(2):243-244.
5. Talacchi A, Spinnato S, Alessandrini F, Iuzzolino P, Bricolo A. Radiologic and surgical aspects of pure spinal epidural cavernous angiomas: report on 5 cases and review of the literature. *Surgical neurology*. 1999 Aug 1;52(2):198-203.
6. Lee JW, Cho EY, Hong SH, Chung HW, Kim JH, Chang KH, Choi JY, Yeom JS, Kang HS. Spinal epidural hemangiomas: various types of MR imaging features with histopathologic correlation. *American Journal of Neuroradiology*. 2007 Aug 1;28(7):1242-1248.
7. Provenzale JM, McLendon RE. Spinal angioliipomas: MR features. *American journal of neuroradiology*. 1996 Apr 1;17(4):713-719.
8. Minh NH. Cervicothoracic spinal epidural cavernous hemangioma: case report and review of the literature. *Surgical neurology*. 2005 Jul 1;64(1):83-85.