A Common Pathology in Rare Location: Spinal Hemangioma

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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.

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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-D1 left posterior-lateral epidural hemorrhagic mass with cord compression. There were variables 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 Ewing’s 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 micro-surgical 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 intrallesional 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
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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

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.\textsuperscript{5,7} 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.\textsuperscript{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.\textsuperscript{5,6} Posterior paraspinal muscle enhancement retrospectively is considered to be because of sub-acute denervation.

REFERENCES