



Epidural Capillary Hemangioma in the Thoracic Spine with Neural Foramina Extension: A Case Report

Manish Garg¹, Daljit Singh^{1*}, Vikas Kumar¹, Hukum Singh¹, Vineeta Vijay Batra² and Deepashu Sachdeva¹

¹Department of Neurosurgery, GB Pant Institute of Postgraduate Medical Education and Research and Maulana Azad Medical College, India

²Department of Pathology, GB Pant Institute of Postgraduate Medical Education and Research and Maulana Azad Medical College, India

Abstract

Capillary Hemangiomas are common soft tissue tumors on the skin or mucosa of the head and neck in early childhood, but very rare in the CNS. A 50-year-old man presented with three month history of back pain in the mid thoracic area, radiating pain to both legs, and decreased sensation (all types) below D7 dermatome. Thoracic spine MRI showed 34.3 × 27.5 × 10.5 mm, well-defined extradural mass at D5 body level, which showed isointensity to spinal cord on T1, Hyperintensity on T2-weighted images. The patient underwent D6-7 total laminectomy & complete tumor removal. Histological features were consistent with capillary hemangioma which is extremely rare at this site.

Keywords: Extradural capillary hemangioma; Spinal cord tumour; Epidural tumor

Introduction

Hemangiomas of the spine are usually lesions of the vertebral bodies, and purely epidural hemangiomas are rare. Most of the spinal cord hemangiomas are cavernous, capillary hemangiomas are rare and epidural capillary hemangiomas are even rarer. Only nine epidural capillary hemangiomas in the spinal canal have been reported in the literature till date [1].

Hemangiomas are benign tumors and their source in the cord is the meningeal coverings and the vasa nervosum. As these tumors are very rare, not much is known about the natural history of spinal cord capillary [2]. Common spinal cord tumors like schwannoma and meningioma have similar magnetic resonance imaging (MRI) features like that of capillary hemangioma causing difficulty in diagnosis. There is a significant risk of spontaneous bleeding; hence complete en-block excision is recommended [2]. We report a very rare case of purely epidural, large “spinal cord capillary hemangioma with foraminal extension”.

Case Presentation

A 55 year old male patient admitted in the department of neurosurgery, with the complain of pain in back along with weakness in both lower limbs since 3 months. Weakness was sudden in onset and progressive in nature. Bowel and bladder involvement was absent. On neurological examination, power was 3/5 in both lower limbs along with hypoesthesia below the level of D7 vertebra. Thoracic spine MRI revealed 34.3 × 27.5 × 10.5 mm, well-defined extradural mass at D5 body level, iso-intense to spinal cord on T1 and hyper-intense on T2-weighted images. Spinal cord at the level of mass was compressed and displaced anteriorly & to the right. Mass extended into neural foramina at the D5-D6 level. Nerve roots at this level were not definable separately from the mass (Figure 1,2,3 and 4). Patient underwent D5-D6 laminectomy. Tumor was bluish pink and was moderately vascular with well defined margin. It was firm in consistency and was purely in extradural space. The tumor extended along the D5 nerve root on left side. It was excised en-bloc.

The histopathological examination of excised specimen revealed fibrocollagenous and fibroadipose tissue. The tissue also showed a dilated irregular vascular channel lined by flattened epithelium separated by stroma. These features were consistent with capillary hemangioma (Figure 5).

Postoperatively, significant improvement in power of both lower limbs was observed in the patient along with disappearance of back pain.

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*Correspondence:

Daljit Singh, Department of Neurosurgery, GB Pant Institute of Postgraduate Medical Education and Research and Maulana Azad Medical College, JLN marg I, New Delhi, India, E-mail: drdaljit@hotmail.com

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Table 1: Review of published literature on similar cases.

S No	Year	Author Name	Presenting features of the case	Features on radiologic imaging
1	1996 Aug	Gupta S	-	-
2	2003 Feb	Badinand	40 yr f progressive pain & muscular contracture of lower limbs,difficulty in walking	Thoracic epidural capillary hemangioma with foramen extension(t2-t4)
3	2008Oct	Tekin T [8]	L4 hypoesthesia and back pain	lumbar spine epidural capillary hemangioma
4	2011Mar	Hasan A	57 yr male with low back pain & progressive myelopathy	Lower thoracic spine epidural capillary hemangioma with neural foramina extension
5	2011 Nov	Vassal F.	-	-
6	2014 Feb	Sefari A	58y pt lbp with gait difficulty	T2-T4 Epidural capillary hemangioma
7	2014 Nov	Gencipinar P	17 month f inability to walk	TH epidural capillary hemangioma oracic
8	2015 July	Garcia-Pallero [9]	67y pt presented with pleural effusion & mediastnal mass	Thoracic dumbbell shape epidural capillary hemangioma with foramen & intrathoracic extension
9	2015 Dec	Equ K [1]	60yr pt with s1 back ache and redicular pain	L5-S1 epidural capillary hemangioma

Full free text articles were not available for these studies.



Figure 1: Mri d-l spine saggital view t1 image showing isointense epidural mass at d5 level.



Figure 2: Mri d-l spine saggital view t2 image showing hyperintense epidural mass.



Figure 3: Mri axial section t1 image showing isointense mass extending into left neural foramino, cord is also compressed anteriorly & towards right.



Figure 4: Mri axial section t2 image showing hyperintense mass extending into left neural foramino at d5-6 level.

Discussion

Spinal cord tumors comprise about 15% of all central nervous system (CNS) neoplasm. Spinal vascular tumors may be classified as

capillary telangiectasias, cavernous angioma, capillary hemangiomas, arteriovenous malformations or venous malformations [3]. The neuro epithelium, ontogenetically giving rise to the distal spinal cord, is of mesodermal origin. Frequently, tumors at the level of the conus medullaris and cauda equina contain mesodermal elements. The occurrence of vascular lesions involving the conus medullaris and cauda roots in a metameric distribution has occasionally been recognized. Capillary hemangioma, one of the spinal vascular tumors, is characterized by a lobular architecture, with each lobule separated by septa of fibrous connective tissue and consisting of a myriad of small and very small capillaries lined by endothelial cells [4]. Because it is usually well demarcated from the surrounding parenchyma by

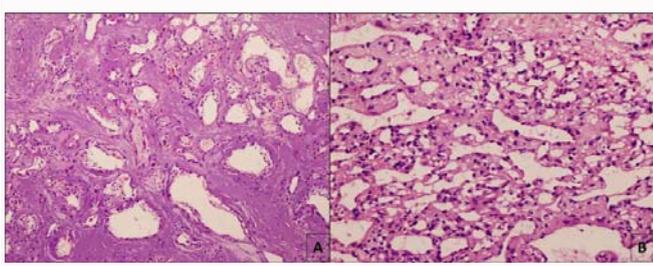


Figure 5: The photomicrographs showing histological features of the case (a) multiple thin walled dilated vascular channels separated by thickened dura, some of which shows rbc's within the lumen (hex100) (b) conglomerate of the variable sized vascular channels lined by endothelial layer, (hex100) consistent with capillary hemangioma.

a connective tissue capsule and reveals mild to moderate mitotic activity, capillary hemangioma can be classified into a benign vascular tumor or tumor-like lesion, despite the lack of precise understanding of the details of its development and growth [4]. Spinal epidural hemangiomas account for 4% of all spinal epidural tumors, mostly occurring as a primary lesion in the vertebral bone [5]. Though spinal epidural hemangioma itself is a very rare variety of tumor the capillary variety is far rarer than cavernous type, according to literature there are 80 reported cases of cavernous epidural hemangioma while on the contrary only 9 cases of capillary hemangioma reported in literature [1,6].

Patient with epidural hemangioma can present with slow and progressive spinal cord syndrome (most common presentation) Patients can also present with acute spinal cord syndrome (due to acute hemorrhage), backache and radiculopathy [7]. There is one case report in which patient presented with lumbar disc herniation [8]. Our patient presented with back pain & radiculopathy. Patients suffer from progressive myelopathy and early treatment will prevent any residual neurological deficits [9]. Complete en-bloc resection is the treatment of choice [9].

Conclusion

Epidural hemangioma is very rare but it should be included in differential diagnosis of epidural mass. Since these are benign lesions so en-bloc excision cures the patient.

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