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

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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: Extrudal 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 dermatome. 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, Hyperintense 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.
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 equina in a metameric distribution has occasionally been recognized. Capillary hemangioma, one of the spinal vascular tumors, is characterized by a lobular architecture, with each lobe 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

Table 1: Review of published literature on similar cases.

<table>
<thead>
<tr>
<th>S No</th>
<th>Year</th>
<th>Author Name</th>
<th>Presenting features of the case</th>
<th>Features on radiologic imaging</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1996</td>
<td>Gupta S</td>
<td>40 yr f progressive pain &amp; muscular contracture of lower limbs,difficulty in walking</td>
<td>Thoracic epidural capillary hemangioma with foramen extension (T2-4)</td>
</tr>
<tr>
<td>2</td>
<td>2003</td>
<td>Badinand</td>
<td>L4 hypoesthesia and back pain</td>
<td>Lumbar spine epidural capillary hemangioma</td>
</tr>
<tr>
<td>3</td>
<td>2011</td>
<td>Hasan A</td>
<td>57 yr male with low back pain &amp; progressive myelopathy</td>
<td>Lower thoracic spine epidural capillary hemangioma with neural foramina extension</td>
</tr>
<tr>
<td>4</td>
<td>2011</td>
<td>Vassal F.</td>
<td>Th epideral capillary hemangioma oracic</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>2014</td>
<td>Sefar A</td>
<td>58y pt lbp with gait difficulty</td>
<td>T2-T4 Epidural capillary hemangioma</td>
</tr>
<tr>
<td>6</td>
<td>2015</td>
<td>Hasan A</td>
<td>17 month f inability to walk</td>
<td>TH epidural capillary hemangioma</td>
</tr>
<tr>
<td>7</td>
<td>2015</td>
<td>Garcia-Pallero</td>
<td>67 y pt presented with pleural effusion &amp; mediastinal mass</td>
<td>Thoracic dumbell shape epidural capillary hemangioma with foramen &amp; intrathoracic extension</td>
</tr>
<tr>
<td>8</td>
<td>2015</td>
<td>Equ K</td>
<td>17 month f inability to walk</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>2015</td>
<td>Gencipinar P</td>
<td>60 yr pt with s1 back ache and redicular pain</td>
<td>L5-S1 epidural capillary hemangioma</td>
</tr>
</tbody>
</table>

*Full free text articles were not available for these studies.
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 lumbosacral 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.

**References**