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Case report of lumbar intradural capillary hemangioma

Ajaya Kumar Ayyappan Unnithan, T. P. Joseph, Amol Gautam, V. Shymole

Mar Gregorios Memorial Muthoot Medical Centre, Kozhencherry, Kerala, India

E-mail: *Ajaya Kumar Ayyappan Unnithan - drajayakumara@gmail.com; T. P. Joseph - Josephthykkoodan@gmail.com; Amol Goutam - amolsir01@gmail.com; V. Shymole - shymolev@gmail.com
*Corresponding author

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Abstract

Background: Capillary hemangioma is a rare tumor in spinal intradural location. Despite the rarity, early recognition is important because of the risk of hemorrhage. This is a case report of a woman who had capillary hemangioma of cauda equina.

Case Description: A 54 -year-old woman presented with a low backache, radiating to the left leg for 2 months. She had left extensor hallucis weakness, sensory impairment in left L5 dermatome, and mild tenderness in lower lumbar spine. Magnetic resonance imaging (MRI) LS spine showed L4/5 intradural tumor, completely occluding canal in myelogram, enhancing with contrast, s/o benign nerve sheath tumor. L4 laminectomy was done. Reddish tumor was seen originating from a single root. It was removed preserving the root. Postoperatively, she was relieved of symptoms. MRI showed no residue. Histopathology showed lobular proliferation of capillary-sized blood vessels and elongated spindle cells. Immunohistochemistry showed CD34 positivity in endothelial cell lining of blood vessel and smooth muscle actin positivity in blood vessel muscle cells. HPR-capillary hemangioma.

Conclusion: Although rare, capillary hemangioma should be in the differential diagnosis of intradural tumors. It closely mimics nerve sheath tumor.

Key Words: Benign nerve sheath tumor, capillary hemangioma, cauda equina, intradural tumors, lumbar spinal tumors, meningioma

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INTRODUCTION

Common spinal intradural tumors are schwannoma, meningioma, ependymoma etc. Capillary hemangioma is rare in this location. Despite the rarity, early recognition is important because of risk of hemorrhage. Literature shows only few reports of capillary hemangioma in this location. This is a case report of a woman who had capillary hemangioma of cauda equina.

CASE SUMMARY

A 54-year-old woman presented with a low backache for 2 months. Pain aggravated for 10 days. It was of lancinating type, radiating to left leg, increasing more in night. Pain was not relieved by medicines. It was progressively increasing in intensity. She had numbness in the left lateral leg and mild weakness of foot while walking. She has diabetes mellitus. On examination, she had positive straight leg raising test on the left side, left extensor hallucis weakness, sensory impairment for touch, and pain in left L5 dermatome. There was mild tenderness in the lower lumbar spine.

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Magnetic resonance imaging (MRI) of lumbar spine was done. A well-defined oval-shaped solid mass lesion was seen in spinal canal at L4/L5 level within thecal sac. It measured 17 mm × 14 mm × 11 mm. It exhibited isointensity on T1-weighted and slight hyperintensity on the T2-weighted sequence. Lesion was seen in intradural compartment [Figure 1]. The nerve roots were displaced peripherally. Myelogram showed complete occlusion of canal. There was intense homogenous enhancement with gadolinium contrast administration [Figure 2]. As the lesion was in proximity to nerve root, benign nerve sheath tumor was considered as a prime possibility.

MRI brain screening was done to rule out any schwannoma, and it was normal.

Evaluatory investigations were hemoglobin - 13.5 g%, total count - 8100/mm^3, platelet count - 240,000/mm^3, blood sugar - 192 mg%, and urea - 26 mg%.

Surgery was done under general anesthesia in the prone position. L4 laminectomy was done under fluoroscopic guidance for localization. Dura was bulging. It was opened in midline. An oval reddish tumor was seen occupying the whole canal [Figure 3]. Nerve roots were seen compressed and splayed around it. Arachnoid was opened. Tumor was dissected slowly from nerve roots, under operating microscope. Arachnoid dissector was used for that. It was seen to be originating from a single root. That root was thickened. Many roots were seen anteriorly. Tumor was dissected out in two pieces [Figure 4]. Residue in the root was curetted. There was bleeding from bed. Gelfoam was placed to stop bleeding and gave mild compression. Dura was closed in watertight fashion with 4-0 prolene.

In the postoperative period, she was relieved of pain, numbness, and weakness. She was ambulated on the 3rd day. MRI was done, and it showed complete removal with no residue [Figure 5].

Histopathology sections showed a vascular spindle cell tumor composed of a lobular proliferation of capillary-sized blood vessels and elongated spindle cells [Figure 6]. Immunohistochemistry was done. CD34 was

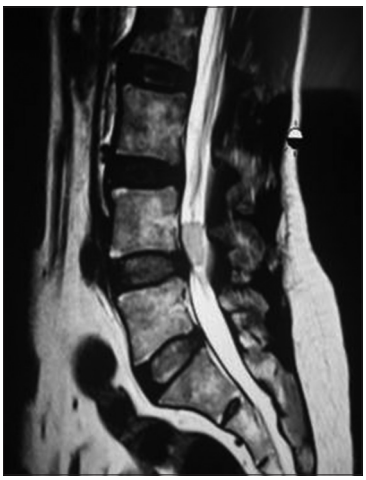

Figure 1: Magnetic resonance imaging T2-weighted sagittal view showing oval slightly hyperintense tumor

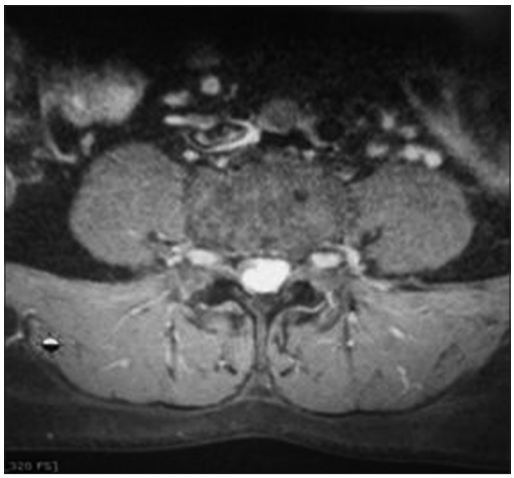

Figure 2: Postcontrast axial T1-weighted sequence

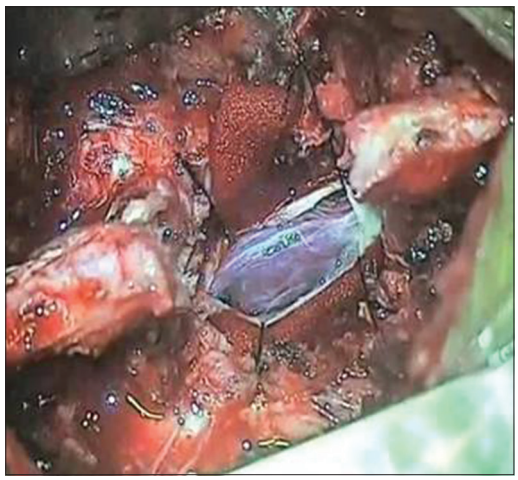

Figure 3: Oval reddish tumor amidst nerve roots

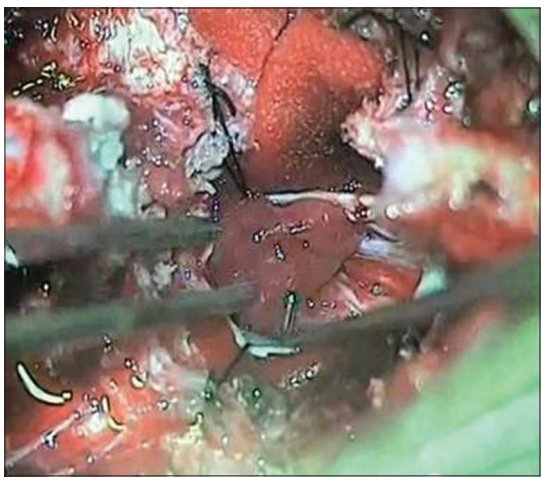

Figure 4: Tumor gets dissected out from the thick root

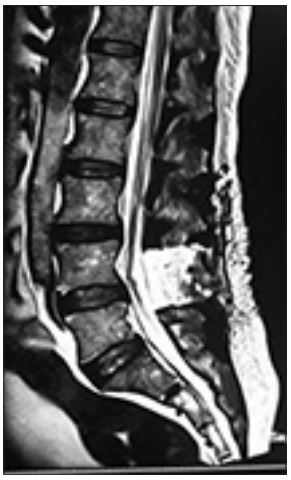

Figure 5: Postoperative magnetic resonance imaging showing complete excision

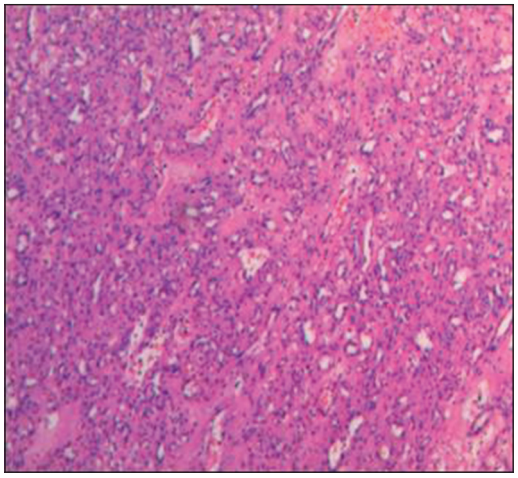

Figure 6: Histopathology-lobular proliferation of capillary-sized blood vessels and elongated spindle cells

positive in endothelial cell lining of blood vessel. Smooth muscle actin was positive in blood vessel muscle cells. The report was vascular spindle cell tumor, suggestive of capillary hemangioma.

DISCUSSION

The differential diagnosis for enhancing intradural tumors is schwannoma, meningioma, hemangioblastoma, hemangioma, paraganglioma, drop metastasis, lymphoma, filum terminale ependymoma, etc. The most common intradural tumors are schwannoma and meningioma.[1] They show marked enhancement on contrast-enhanced T1-weighted images.

Capillary hemangioma (also known as "Strawberry hemangioma") is the most common variant of hemangioma which appears as a raised, reddish-purple, lumpy area of flesh anywhere on the body. It most frequently occurs in cutaneous, subcutaneous, or mucosal tissues, and in those locations, it is commonly seen in childhood. It is characterized microscopically by the lobules of capillary-sized channels that are tightly aggregated into nodules nourished by feeding vessels. Hemangiomas, either capillary or cavernous, have been rarely encountered in the spinal intradural space.[3]

There are only a few reports of capillary hemangioma in this location. Most of the patients were between 50 and 60 years of age[1-4] except two who were of 20 and 28 years.[1,5] Males were more in number.[1,2,4,5] Clinical features were low back pain, radicular pain,[1-5] paresthesias, decreased sensation, motor weakness, positive Lasegue's sign, urinary retention, retrograde ejaculation, and impotence.[5] MRI revealed intradural, well-circumscribed mass. The mass was isointense relative to the spinal cord on T1-weighted images and slightly hyperintense on T2-weighted images. On contrast-enhanced T1-weighted images, the tumor showed strong homogeneous enhancement.[1-5] Surgical approach was through laminectomy.[2-5] The appearance of the tumor was pinkish red.[1-5] The tumor was tightly attached to one root.[1-5] In most cases, the tumor was resected with involved root.[2-4] Histologically, the mass comprised proliferation of capillary-sized vessels lined by flattened endothelial cells indicating capillary hemangioma.[1,4,5]

Our case also was similar in age, presentation, MRI findings, and peroperative findings. Only difference is that tumor was removed preserving the nerve root. Thus, the patient was relieved of symptoms completely.

CONCLUSION

This is a case report of lumbar intradural capillary hemangioma which was successfully excised. Although rare, capillary hemangioma should be in the differential diagnosis of intradural tumors. It closely mimics nerve sheath tumor. Literature shows good prognosis.

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Conflicts of interest
There are no conflicts of interest.

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