Lumbar Spinal Extradural Angiolipoma: Case Report and Review of the Literature

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INTRODUCTION

Angiolipomas are benign tumors of mature adipose tissue containing abnormal vascular elements. Spinally located angiolipomas are rare and estimated to account for 0.04-1.2% of spinal axis tumors and 2-3% of extradural spinal tumors. Most spinal angiolipomas arise in the thoracic epidural space, with lumbar occurrence being extremely rare. The first report of a lumbar spinal angiolipoma was by Kasper and Cowan in 1929, and fewer than 20 have been documented since. The present report describes a case of lumbar spinal angiolipoma and reviews the literature.

CASE REPORT

A 74-year-old woman was presented with a 5-month history of lower back pain. Severe radiculopathy was experienced in the left leg for 5 days prior to the presentation. Neurological examination revealed no deficits. Magnetic resonance (MR) images showed an approximately 3.5 cm heterogeneously enhanced and elongated mass at the left L5-S1 level. A portion of the mass appeared with high signal intensity on T2-weighted MR images, with low signal intensity on T1-weighted images, and with high signal intensity on T1 fat suppression enhancement images. Resection of the tumor was approached via an L5 and S1 laminectomy. A fibrous sticky yellowish hypervascular tumor was identified. Histological study revealed the tumor as an angiolipoma. Symptoms were relieved after tumor excision, and there were no neurological sequelae. Although extremely rare, lumbar epidural angiolipoma should be considered in the differential diagnosis of lumbar spinal epidural lesions. The prognosis after surgical management of this lesion is favorable.

KEY WORDS: Angiolipoma • Spinal neoplasm • Lumbar epidural tumor.
Histological examination showed that the tumor contained a mixture of mature adipocytes and large, branching, blood-filled cavernous vascular channels indicating an angiolipoma. The patient was discharged with no neurological sequelae, and the radiculopathy disappeared postoperatively.

**DISCUSSION**

In 1961, Howard and Helwig established angiolipoma as a clinicopathological entity usually occurring in subcutaneous vessels, muscle, bone and kidneys. Spinal epidural angiolipomas are quite rare, occur in middle-aged women and preferentially affect the dorsal aspect of the thoracic spine. Lumbar angiolipomas are extremely rare, representing only 9.6% of all spinal extradural angiolipomas.

Angiolipoma patients most commonly have long-standing pain and then develop progressive neurological symptoms secondary to spinal cord compression. Like other vascular lesions, onset or deterioration may occur during pregnancy. On rare occasions, angiolipomas may cause sudden deterioration due to thrombosis, hemorrhage or steal phenomena. While the present patient complained of acute symptom onset, histological examination revealed no evidence of bleeding or thrombosis.

MR is the imaging modality of choice for detecting angiolipomas. The fat component is typically hyperintense on T1-weighted images and hypointense on T2-weighted images. In the current case, hypointensity on T1-weighted images correlated with increased vascularity within the spinal angiolipoma. Gadolinium enhancement with or without fat saturation sequences are useful in the study of these lesions, and the former examination also confirmed the present diagnosis.

Spinal epidural angiolipomas are benign lesions that have good postoperative outcomes. These lesions are slow growing and do not undergo malignant transformation. Surgery appears to be the treatment of choice, and complete excision appears to be curative in most cases. While additional...
Onal radiotherapy has been used in the treatment of 3 cases, there is no indication that it is necessary for these benign lesions. In the present case, complete tumor resection also provided symptomatic relief, which is consistent with other cases.

**CONCLUSION**

Although extremely rare, lumbar epidural angiolipomas should be considered in the differential diagnosis of lumbar spinal epidural disease. The prognosis after surgical management of this lesion is favorable. While symptoms may vary, MR images are usually diagnostic.

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