



Case Report

Dorsal epidural “Spindle Cell Lipoma” in a pregnant female

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ABSTRACT

Background: Spindle cell lipoma (SCL) constitutes just 1.5% of all lipomatous tumors. They typically occur in the upper back and shoulders. Here, we report a 37-year-old female presenting with a SCL in the dorsal epidural thoracic spine, during her 9th month of pregnancy.

Case Description: A 37-year-old female presented with a subacute (2 months) progressive paraparesis during her 9th month of pregnancy. The MR showed a dorsal epidural mass at the D8 level. Following a cesarean section, the patient underwent a laminectomy for tumor excision. Microscopically, the lesion proved to be a SCL. At 5-year follow-up, there was no tumor recurrence.

Conclusion: SCL represents a variant of benign lipomas that may occur in the dorsal thoracic spine. Gross total excision may be followed by a benign clinical course without recurrence or malignant degeneration. Very atypical SCLs need closer follow-up to avoid the misdiagnosis of liposarcoma.

Keywords: Epidural space, Liposarcoma, Neurosurgery, Spindle cell lipoma, Spine

INTRODUCTION

Lipomas are benign tumors arising from mature adipocytes. The variant called spindle cell lipoma (SCL), accounting for only 1.5% of all lipomatous tumors, is about 60 times less common than benign lipomas.^[8] Notably, they are benign lesions that may be misdiagnosed as liposarcomas. They usually occur in males (M:F = 9:1), between the ages of 50 and 70.^[4] They are typically solitary, painless circumscribed/encapsulated firm nodular lesions that occur within the deep subcutaneous tissues but are also frequently encountered in the retronuchal and interscapular tissues. An additional 20% may be in the oral cavity, parotid glands, and extremities, every more rarely in the laryngeal, bronchial, endocranial, endo-orbital, and perianal locations.^[2] Here, we present a 37-year-old female with a dorsal thoracic T8 lesion that contributed to an acute paraparesis during her 9th month of pregnancy.

MATERIALS AND METHODS

A 37-year-old female presented with paresthesias/hypoesthesias and mild bilateral lower extremity paraparesis (3–4/5 proximally/distally) over the past 2 months of her pregnancy.

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The MR revealed an epidural, slightly irregular, mass (5 × 3 cm) extending from D7 to D9 that compressed the dural sac, and extruded through the right D8–D9 neural foramen [Figure 1]. The lesion demonstrated a patchy hyperintensity on both T1- and T2-weighted images and showed mild centralized, irregular enhancement with gadolinium administration.

Surgery

Following a cesarean section, the patient underwent D7–D9 laminectomy and right partial D8 costotransversectomy [Figure 2]. The mass had two different components: A pinkish superficial fleshy mass in the epidural space and a deeper, less solid, grayish lesion in the peripleural space [Figure 3]. Although gross removal was achieved, there was copious intraoperative bleeding from both the tumor and the epidural plexus.

Histology

The tumor consisted of adipose tissue with features of a typical SCL: Spindle cells in a myxoid stroma within lobules of mature adipose tissue [Figure 4]. The immunohistochemical analysis further confirmed a positive reaction to CD34 and

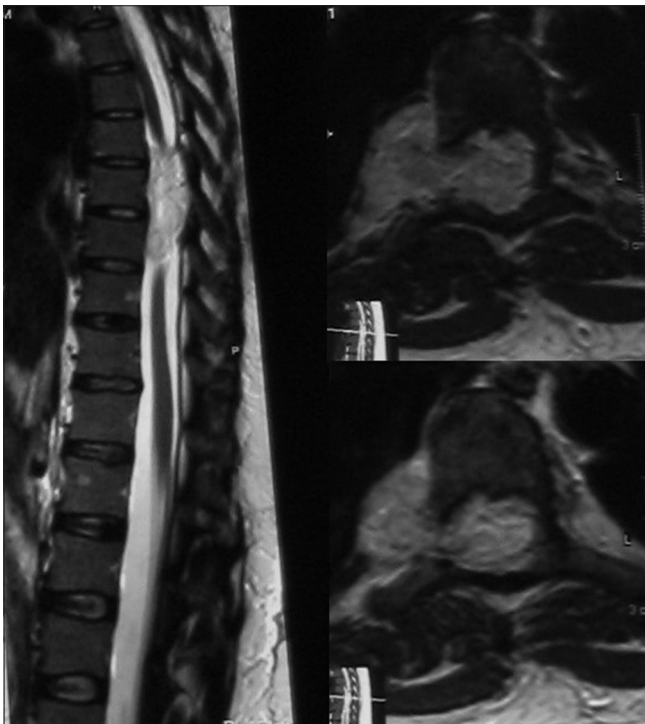


Figure 1: Sagittal T2-weighted image (left) and axial T1-weighted image after gadolinium administration (right), showing the D7–D9 extension of the mass and the spinal cord compression. At the D8 level, it is evident the invasion of the right peripleural space through the right conjugation canal.

the absence of a response to desmin, thus confirming the diagnosis of a SCL.

Postoperative course

At 24 h after surgery, a postoperative MR confirmed the complete removal of the lesion [Figure 5]. Postoperatively, the patient's neurological deficit resolved within the 1st week and 5 years later, and the patient remains neurologically intact without tumor recurrence.

DISCUSSION

Here, we presented a 37-year-old pregnant female, with a 2-month history of a progressive paraparesis attributed to a SCL and hormonal changes.^[1] Typically, these lesions are slow growing, non-infiltrative, and follow a “benign” course.^[3]

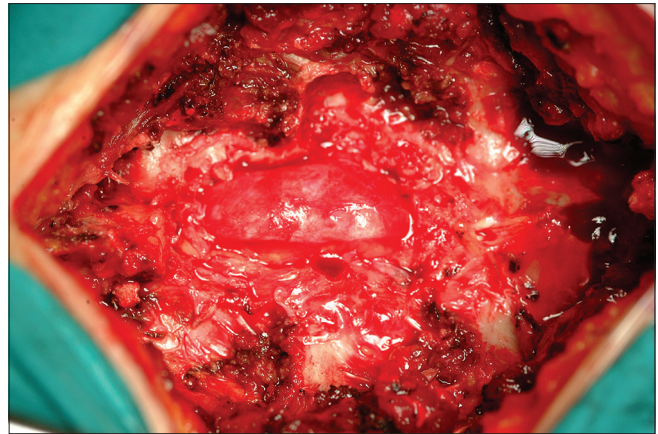


Figure 2: Surgical exposure after a D7–D9 laminectomy and D8 right partial costotransversectomy: The lesion fills the posterior epidural space.

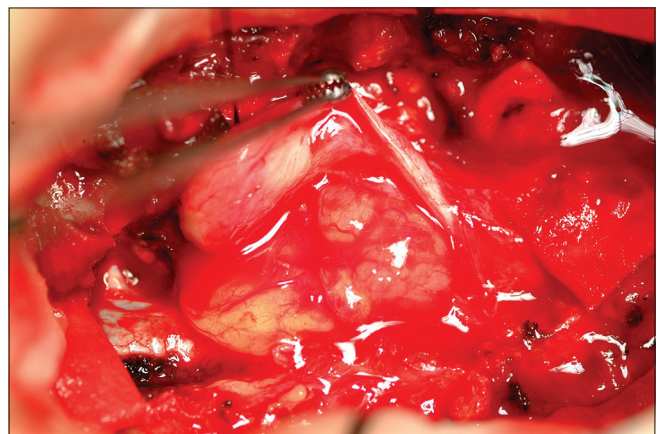


Figure 3: The two macroscopically different portions of the mass are shown: No significant differences were found at histological examination instead.

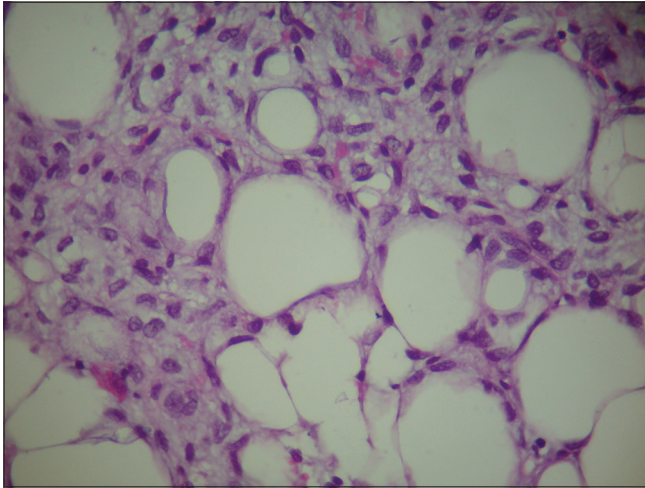


Figure 4: Microscopical aspect of the tumor: Oval and spindle cells are embedded in a myxoid stroma within lobules of mature adipose tissue.

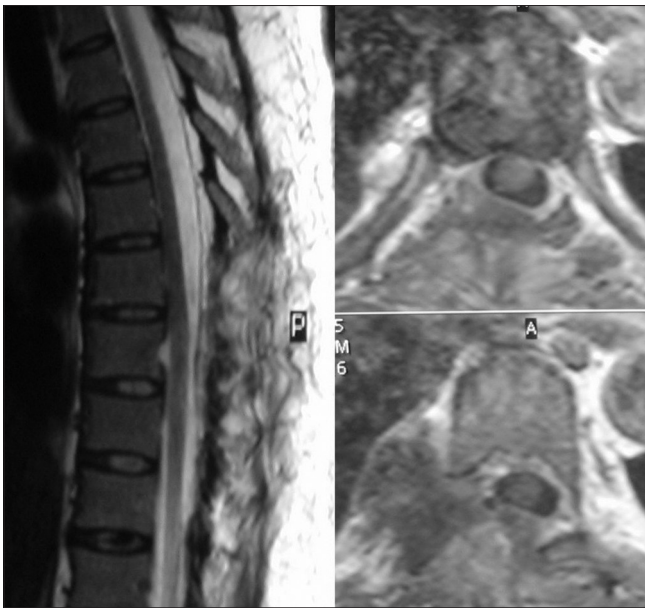


Figure 5: Postoperative MRI: the total mass removal corresponded to a good dural sac re-expansion.

The MR documented a hyperintense lesion on T1-weighted images, a hypointense lesion on T2-weighted studies, and inhomogeneous intralésional enhancement. Surgical intervention is typically effective in eradicating these tumors, which do not warrant further adjunctive treatment (e.g., radiation or chemotherapy).

Histology/pathology

Histologically and macroscopically these lesions are well-encapsulated lobulated masses, similar to the classical

lipomas, with some gray-whitish areas, high cellularity zones, without calcifications, necrosis, or hemorrhages. Typically, mature adipocytes are replaced by small spindle cells looking like fibroblasts, within a matrix of collagen fibril and mucin.^[7] Usually, it's made of adipocytes and spindle cells in the same proportion, but cases with an adipose rate ranging from 0% to 95% are described.^[5] Commonly, the vascular texture within these lesions is poorly represented, but forms with a predominant plexiform vascular aspect are possible too.^[3]

In our case, an equal distribution of not-adipose and adipose cells population was evident, surrounded by a stroma rich in mucin and without fibrous filaments. Vascularization was well represented, but without the plexiform aspect: This characteristic, with the absence of lipoblasts, allowed a quick distinction from the myxoid liposarcoma.

Immunohistochemistry

SCLs are considered positive to CD34 and usually negative to desmin reactions.^[6] In our case, the specimen was positive to CD34 and negative to desmin; besides there was a slight positivity to S-100 protein, typically found in adipose cells, but not found in the spindle cells.

Postoperative MR studies

The first MR at 24 h after surgery showed, in this case, complete removal of the mass. Five days after surgery, the patient was discharged neurologically intact. During the 5-year follow-up period, there were no signs of tumor recurrence on follow-up MR studies. As these lesions are benign, this absence of recurrence was anticipated.

CONCLUSION

A 37-year-old female presented with 2 months of a progressive paraparesis attributed to a dorsal D7–D9 benign epidural SCL. Five years following gross total tumor excision, the patient's symptoms resolved and the tumor never recurred.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent.

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Nil.

Conflicts of interest

There are no conflicts of interest.

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