

Case Report

Lumbar chronic subdural hematoma mimicking an intradural extramedullary tumor: A case report

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Abstract

Background: Chronic spinal subdural hematomas are extremely rare with only 28 cases reported in the literature. Nevertheless, they should be considered among the differential diagnoses for spinal intradural/extramedullary lesions.

Case Report: A 65-year-old male presented with progressive back pain and right S1 radiculopathy. Magnetic resonance imaging scan revealed a right-sided posterolateral intradural/extramedullary lesion at the L5–S1 level. It was hyperintense on T1 and hypointense on T2-weighted images; on the short T1 inversion recovery sequence it was hyperintense. The lesion was excised through a right L5 hemilaminectomy, and the patient was neurologically intact postoperatively. Histopathology revealed a chronic subdural hematoma.

Conclusion: Chronic spinal subdural hematoma can mimic intradural extramedullary spinal tumors even in the absence of trauma and/or coagulopathies.

Key Words: Chronic, intradural extramedullary tumor, spinal subdural hematoma

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INTRODUCTION

Spinal subdural hematomas (SDHs) are rare, accounting for only 4.1% of all spinal hemorrhages.^[5] There are only 28 cases of spinal subdural hematomas reported in the literature.^[1] Most occur in the thoracic and/or thoracolumbar regions.^[4] Here, we report a chronic SDH occurring in a 65-year-old male at the L5–S1 level mimicking an intradural extramedullary tumor.

CASE REPORT

Clinical and radiographic presentation

In the absence of trauma or a history of coagulopathy, a 65-year-old male presented with a progressive right lower extremity L5/S1 radiculopathy.

On physical examination, straight leg raising was positive on the right side at 70 degrees and the right Achilles response was absent; there was no sensory or motor deficit.

Standing lateral dynamic X-rays showed a grade 1 listhesis at the L4–L5 level [Figure 1a and b]. Magnetic

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resonance imaging (MRI) documented a right-sided, posterolateral intradural/extramedullary lesion at the L5–S1 level [Figure 2]. It was hyperintense on T1 and hypointense on the T2-weighted images; the short TI inversion recovery sequence showed it was hyperintense.

Surgery

The patient underwent a right L5 microscope-assisted hemilaminectomy. When the dura was opened longitudinally, it revealed a dark blood clot within a semi-transparent neomembrane [Figure 3]. It was easily removed with blunt dissection; the covering membrane was easily separated from the surrounding arachnoid mater. Due to the grade I spondylolisthesis at the L4–L5 level, an L4–L5 transforaminal interbody fusion (TLIF) was performed. Postoperatively, the patient had no complaints, including no neurological deficit. Radiological MR follow up [Figure 4] revealed no residual pathology and adequate decompression. Postoperative X-rays documented the TLIF at L4–L5 [Figure 1c and d].

Histopathology

Histopathology showed membranes with loose connective tissue containing scattered lymphocytes, siderophages, many eosinophils within areas of hemorrhage, and spindly fibroblasts. These findings confirmed the diagnosis of a chronic SDH [Figure 5].

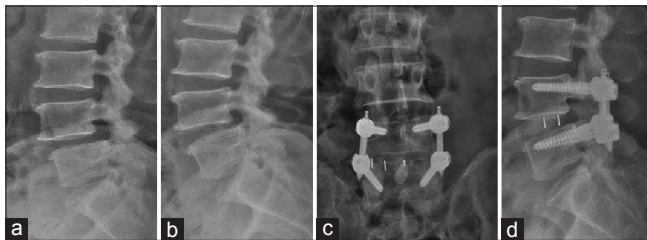


Figure 1: The standing lateral dynamic x-rays showed grade I listhesis at L4-L5 level (a and b). TLIF was done at an L4-L5 level with percutaneous posterior screw fixation (c and d)

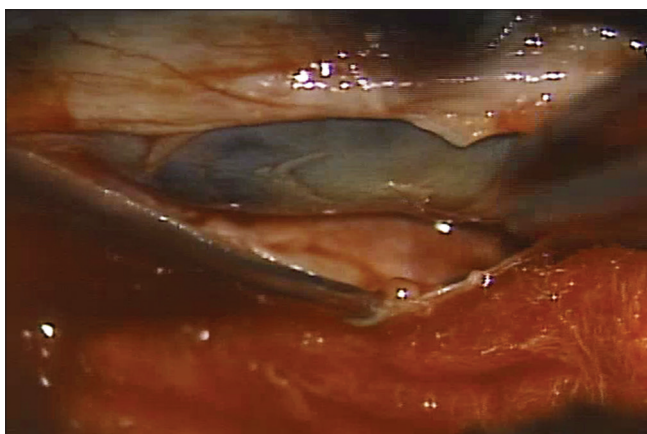


Figure 3: Intraoperative photograph of chronic SDH: blood clots within semi-transparent neo-membrane

DISCUSSION

Spontaneous spinal SDHs without coagulopathy are rare conditions. There are two major theories regarding the etiology of these lesions. First, they may be attributed to cranial subarachnoid hemorrhages (SAH) that have extended into the spinal subarachnoid space and spinal subdural space by exceeding or lacerating the arachnoid membrane. Second, minor trauma increases both the intrathoracic pressure and intraluminal pressure of the vessels in the subarachnoid space. When cerebrospinal fluid pressure momentarily lags behind the intravascular pressure, vessels may rupture resulting in SAH.^[3]

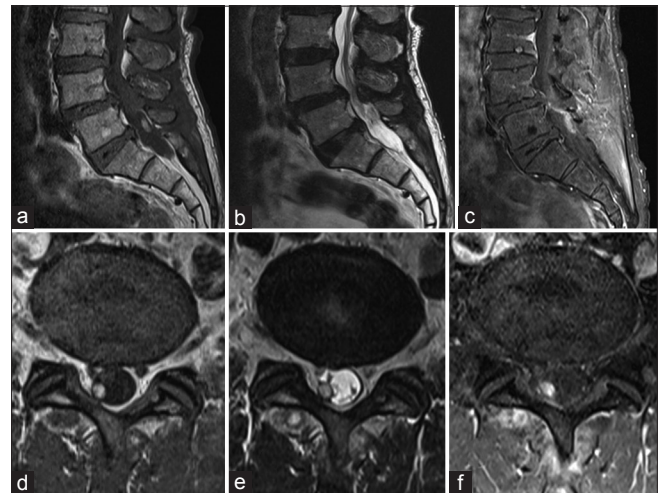


Figure 2: Preoperative MRI revealed an intradural extramedullary mass lesion at the level of L5-S1 on right postero-lateral aspect. The lesion was hyperintense in T1WI (a and d), and hypointense on T2WI (b and e) with hyperintense to the cord on STIR sequence (c and f)



Figure 4: Radiological follow up with T2WI showed no residual pathology and decompression of spinal cord

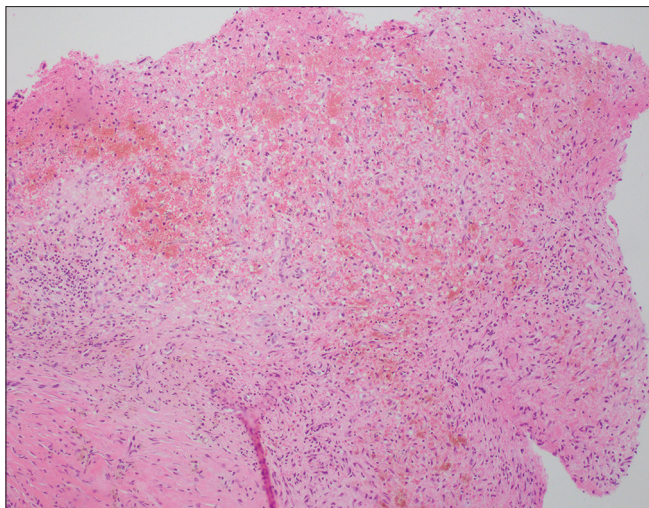


Figure 5: Histopathological section of chronic subdural hematoma

MRI is the best imaging modality for diagnosing spinal SDH. The radiological differential diagnoses include schwannoma, meningioma, intradural lipoma, and spinal SDH. There are no definite guidelines for the management of these lesions. Those without neurological deficits may be treated with nonoperative management and serial MRI monitoring.

The operative treatment for spinal SDH includes wide laminectomy for evacuation of the hematoma.^[2] Here, a right L5 hemilaminectomy preserved normal anatomical structures. Early diagnosis using MRI imaging with

surgical confirmation of the pathology may prevent disastrous neurological deterioration and is the key to prevent potential severe neurological deficits.

CONCLUSION

The differentiate diagnosis for spinal intradural/extramedullary lesions should include chronic spinal SDH even without the history of trauma or coagulopathies. The early diagnosis and treatment of these lesions optimizes outcomes.

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Nil.

Conflicts of interest

There are no conflicts of interest.

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