

Reviewer 1:

Very good quality of the manuscript. Very good surgical attitude (in the therapeutic window) Very interesting anatomic-pathological findings and etio-pathogenetic considerations

Answer:

Thank you for the review of our manuscript.

Reviewer 2:

It's well written and crisp manuscript of a rare presentation. There are few inputs to the authors. 1. "first reported case of". This needs revision to "probably the first"

Answer:

Thank you for this comment. We revised our manuscript accordingly.

"In this report, we present probably the first reported case of an acute spontaneous thoracic epidural hematoma caused by an intraspinal lymphangioma in a 53-year-old female patient."

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2. "Case report and Review of the Literature". Better to list as "Case Report", there is not enough review of literature.

Answer:

Thank you for this comment. We revised our manuscript accordingly.

"**Full Title:** Acute Spontaneous Thoracic Epidural Hematoma Associated with Intraspinal Lymphangioma: A Case Report"

删除的内容: and Review of the Literature

3. How common are spontaneous hematoma ?

Answer:

Thank you for this question. For our case with a spontaneous spinal epidural hematoma, one rare type of spontaneous hematoma, it accounting for less than 1% of spinal space-occupying lesions.

"However, these spontaneous spinal epidural hematomas can be a rare cause of spinal cord compression, accounting for less than 1% of spinal space-occupying lesions^[6]. In this report, we present probably the first reported case of an acute spontaneous thoracic epidural hematoma caused by an intraspinal lymphangioma in a 53-year-old female patient."

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“The annual incidence of SSEH has been estimated at 0.1 per 100 000^[12].”

删除的内容: The annual incidence has been estimated at 0.1 per 100 000

4. Below the xiphoid process- Use more scientific terms along (T level)

Answer:

Thank you for this comment. We revised our manuscript accordingly.

“A 53-year-old healthy woman was admitted to our emergency room with complete paraplegia in both legs and loss of all sensation below the xiphoid process (T4 level).”

5. Vitals of the patient at presentation to be added.

Answer:

Thank you for this comment. We revised our manuscript accordingly.

“She also had difficulty in voiding her bladder. Vital signs at presentation were body temperature (BT): 36.6 °C, respiratory rate (RR): 17/minute, pulse rate (PR): 82/minute and blood pressure (BP): 156/82 mmHg. A neurological examination revealed increased deep tendon reflexes over the right and left knees and ankles.”

6. Coagulation parameter- exact results to be listed.

Answer:

Thank you for this comment. We revised our manuscript accordingly.

“The patient was not receiving any anticoagulation therapy, and laboratory test results, including a complete blood count, chemistry panel, and coagulation profile, were all within normal limits (Platelets: 206000/μL, prothrombin time (PT): 10.1 seconds, international normalized ratio (INR): 0.96, and activated partial thromboplastin time (APTT): 28.2 seconds).”

7. Exact size of the lesion on MRI

Answer:

Thank you for this comment. Axial T1-weighted MR image shows the anterior-posterior diameter of the epidural hematoma is 0.76cm, the width of hematoma is 1.8cm. Sagittal T1-weighted MR image shows the superior inferior diameter of the epidural hematoma is 8.5cm. The measurement process is captured by images as the following. We revised our manuscript accordingly.

“Magnetic resonance imaging (MRI) of the thoracic spine, performed one hour after abrupt onset of complete paraplegia, revealed the presence of a posterior, epidural, space-occupying lesion (7.6 X 18 X 85 cubic mm in size) at the T4–T8 level of the spinal canal.”

8. How much volume of blood aspirated from the lesion ?

Answer:

Thank you for this question. In our department, we do not ordinarily calculate the exact volume aspirated from intraspinal hematoma such as epidural or subdural hematoma. In this illustrated patient, total volume of intraoperative blood loss was 1000 mL.

9. Increased venous pressure (straining, sneezing, lifting, or whooping cough)- All trivial factors of last day or even preceding week should be considered, as some Epidural hematoma show symptoms/signs around 72 hours. Even Valsalva can cause it, better properly list any trivial causes of last 3 days at least.

Answer:

Thank you for this comment. We added more information according to this issue.

“By noon on the next day, she complained of tightness over her bilateral chest wall,

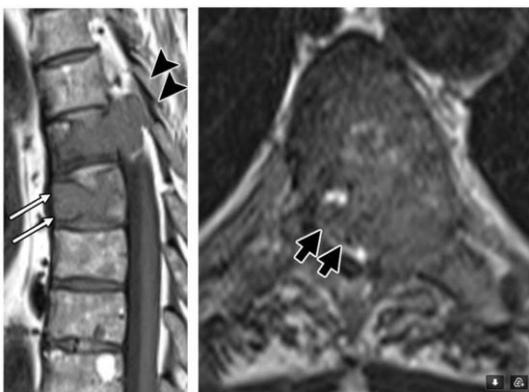
around the level of the xiphoid process. She denied straining, lifting, crying, sneezing, or coughing in the past three days.

10. “Physicians encountering spinal soft tissue tumours should understand the typical symptoms and should consider SSEH as one of the differential diagnoses.” Can the author be specific—MRI will clearly tell the difference between hematoma and any other tumour ?

Answer:

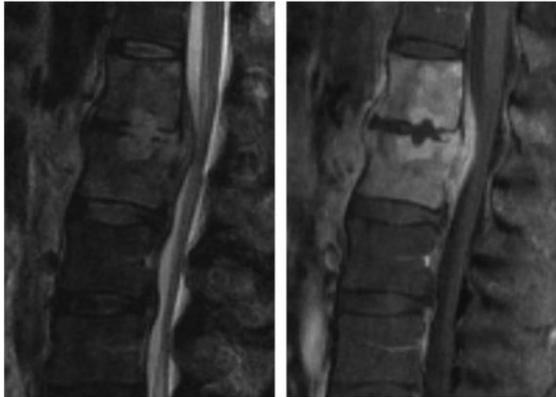
The differential diagnosis of epidural hematoma include the following: (1) epidural tumor spread and metastasis, (2) epidural abscess and phlegmon, (3) epidural disc and synovial cysts, (4) epidural lipomatosis.

Epidural tumor spread and metastasis typically shows T1 signal hypointensity to the spinal cord and more solid postcontrast enhancement. Differentiation from epidural hematoma may also be visualized as osseous involvement due to tumor, appearing as multiple vertebral body metastases or scalloping of adjacent vertebral elements. Patients usually have a previously known malignancy. The following images show epidural metastasis arising from prostate cancer.



Epidural abscess and phlegmon typically occurs with discitis/osteomyelitis; thus, increased T2 signal intensity in the disk space and vertebral bodies with diffuse T1

hypointensity will help differentiate epidural abscess or phlegmon from hematoma. Patients typically present with symptoms of infection, especially fever. The following images show spondylodiscitis with an epidural phlegmon.



Epidural disc and synovial cysts. When there is a disk bulge, protrusion, or extrusion, the epidural component will usually follow disk MRI signal intensity and connect to a disk level. Synovial cysts are associated with facet degenerative change, where bone hypertrophy or osteophytes, joint space narrowing, joint effusion, or subchondral cysts may be present. The following images show disc extrusion and synovial cyst.



Epidural lipomatosis. —Increased fat content in the posterior epidural space can at times be confused with the T1 hyperintense signal of a subacute epidural hematoma. Use of fat-suppressed MRI can help differentiate lipomatosis from an epidural hematoma, as the abnormal signal intensity from hemorrhage will not suppress. The

following image shows epidural lipomatosis. There is significant signal drop of epidural fat on fat-suppressed MR sequence.



11. Discussion- What is the follow of such patients and their recovery ? What is the course in early surgery vs delayed surgery and outcomes ?

Answer:

Thank you for this comment. We added more detail information about this issue:

“OUTCOME AND FOLLOW-UP

Postoperative spinal angiography performed at 3 days following the thoracic spinal surgery showed the artery of Adamkiewicz arising from the right T10 radiculomedullary artery (Figure 5). No gross fistula channel or aneurysmal dilatation arising from radiculopial or radiculomedullary arteries was observed at the T5 to T11 levels.

A follow-up MRI of the thoracic spine performed 7 days postoperatively revealed no residual gross epidural hematoma and no remaining spinal cord compression except for a faint T2 hyperintense signal at the T6–T8 level spinal cord (Figure 6). On the seventh postoperative day, the patient experienced substantial recovery of the muscle power in both legs (grade 4). The sensation of proprioception, pain, pin-prick,

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and vibration also returned to normal. At discharge (1 month after the operation), she regained complete sphincter~~ic~~ control.”

“Pan et al^[17] reported that, from the clinical viewpoint, most patients with spinal epidural hematomas undergo some degree of irreversible cord injury by the time the hematoma is resorbed. The prognosis of SSEH correlates with the size and level of hematoma, preoperative neurological status of the patient, and the time interval between the onset of symptoms and surgery^[18,19]. Therefore, immediate surgical decompression remains the primary consideration in the management of patients with progressive neurological deficits.”

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删除的内容: Therefore, immediate surgical decompression remains the primary consideration in the management of patients with progressive neurological deficits¹⁶.

12. Conclusion- “Acute spontaneous spinal epidural hematoma caused by an intraspinal lymphangioma had not been reported previously in the literature” This may be revised as “Acute spontaneous spinal epidural hematoma caused by an intraspinal lymphangioma is a very rare occurrence ”

Answer:

Thank you for this comment. We revised our manuscript accordingly.

“Acute spontaneous spinal epidural hematoma caused by an intraspinal lymphangioma is a very rare occurrence, Neurosurgeons should consider the possibility of SSEH when their patients show neurologic symptoms related to the spinal cord or root compression. In the event of a thoracic epidural hematoma, prompt surgical intervention is mandatory in order to achieve neurologic recovery.”

删除的内容: Acute spontaneous spinal epidural hematoma caused by an intraspinal lymphangioma had not been reported previously in the literature

13. Figure 5- Stain name and magnification

Answer:

Thank you for this comment. The order of figure 4 and 5 was changed. We revised our manuscript accordingly.

“Figure 4. Proliferation of irregular thick wall vascular channels lined by flat endothelial cells, with clear lymphatic fluid in the lumens (A, H & E, X 40). Some of the proliferative vessels are filled with blood, instead of lymphatic substance (B, H & E, X 100).”