



A Case Study on Spontaneous Spinal Epidural Hematoma

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Abstract

Spontaneous spinal epidural hematoma (SSEH) is rare condition and incidence rate is .1 in 1,00,000 population. These are usually seen in the lumbar region in patients above 45 years and dorsal epidural hematomas are more common than ventral hematomas. Patients present with sharp pain in back with or without neurological deficit. We present a case of a 30-year-old female who presented with quadriparesis, bowel and bladder incontinence for 7 days. No history of trauma were present. MRI revealed a posterior epidural hematoma with cord compression and edema. Patient underwent surgery and hematoma was evacuated. Patient had mild residual neurological deficit in the early post op period, which resolved over a period of two 2½ months.

Keywords: *Laminectomy, quadriparesis, MRI, cord compression, spontaneous spinal epidural hematoma, paraparesis.*

Introduction

Spontaneous spinal epidural hematoma (SSEH) is a rare condition. It is usually seen in the fourth and fifth decade of life, commonly affecting the lumbar region in patients aged > 45 years and the cervical and thoracic region in patient aged <40 years.

Clinical presentation is usually due to sharp back ache or neck pain which may progress to paraparesis or quadriparesis depend in on the location. Ventral SSEH are uncommon as the dural sac is firmly attached to the posterior longitudinal ligament.

The present case involves a young male who presented with paraparesis with no history of preceding trauma.

In such a scenario, SSEH has to kept in the list of differential diagnosis as this condition requires prompt surgical management.

Case Report

A 25 years old female had presented to the casualty with complaints of sudden onset of paraparesis for 7 days. There was history of loss of bowel and bladder incontinence for 3 days. There was no history of trauma. There was no history of addictions.

The laboratory tests

Such as complete blood profile, liver function test, blood creatinine, electrolytes and activated partial thromboplastin time were within normal limit.

The neurological examination revealed loss of strength of the bilateral lower extremities.

On MR imaging, an elliptical collection was noted in the posterior epidural space from L2 to L3 level. The collection was seen to compress and displace the cord anteriorly & cord edema was present laminectomy was done with evacuation of hematoma L2-L3, L3-L4.

Patient gradually gained sensation and pain stimulus one 4th postoperative day and was able to move her toes and fingers on the seventh postoperative day. MRI done 3 weeks later showed no residual epidural collection with postlaminectomy changes. Abnormal cord signal was present 3 months after surgery, patient had complete recovery with no neurological deficit.

Diagnosis

Diagnosis of SSEH is difficult to establish prior to the onset of neurological deficit. Therefore, the differential diagnosis of SSEH should include pneumothorax, spontaneous, pulmonary emboli and acute myocardial infarction in the absence of neurological deficit and should include Barre syndrome, epidural subarachnoid bleeding transverse myelitis and acute spinal cord ischemia in the presence of neurological deficit.

Our patient had neurological deficit and the other differentials were excluded by MRI imaging. Contrast MRI was performed and revealed no abnormal enhancement.

In one patient hematoma was located in the dorsal spine and these presented with paraparesis with one patient also having bladder incontinence. In the review of recently published case reports we found patients with SSEH, age range between 29 years and 70 years.

All patients underwent surgical treatment Imaging of choice is MRI. MRI can depict the location and size of hematoma. It can also reveal extent of spinal cord compression and cord edema.

Epidural hematoma appears as lenticular shape in the epidural space with well-defined borders, and may appear hyperintense on T1 images in the

acute phase. With contrast, the periphery of the hematoma and adjacent dura may enhance.

MRI can differentiate SSEH from its mimics such as acute herniated intervertebral disc, acute spinal cord ischemia, epidural tumor or abscess, spondylitis and transverse myelitis

Two hypothesis have been postulated

1. Arterial Origin

Minimal impairment or laceration in the epidural artery caused by low pressure within the venous plexus compared to the intrathecal pressure.

2. Venous Origin

Rupture of the venous plexus in the spinal epidural spaces as these are valveless, and any increase in intrathoracic and intraabdominal pressure is directly transmitted to the epidural veins.

Treatment

Treatment of choice is evacuation of the hematoma. Conservative management is indicated in patients who present with radicular symptoms without neurological deficit, patients who show improvement of the neurological deficit in the early phase and in those with dranged coagulopathy.

Surgery within 24 hr after the onset of symptoms shows faster and often complete recovery, while surgery done later shows slower resolution of symptoms and with persisting residual neurological deficit.

Discussion

Spontaneous spinal epidural hematoma is an uncommon condition that present with acute backache or neck pain with or without neurological deficit. They can be divided into traumatic and spontaneous causes.

Traumatic spinal epidural hematoma follows any spinal surgery, lumbar puncture, vertebral fracture or epidural catheterization, in spontaneous spinal epidural hematoma 20-35% of patients have

history of use of anticoagulants. Other causes include infections, neoplasms, vascular malformations, coagulopathy due to chr. liver disease and Idiopathic cause. However in approximately 50 - 70% of the cases the etiology is unknown.

Conclusion

Conclusion, diagnosis of SSEH should be considered in all patients presenting with acute quadriparesis and must be ruled out with MR imaging as this condition requires prompt surgical treatment.

References

1. Unnithan AKA. A brief review of literature of sponatenous spinal epidural hematoma in the context of an idiopathic spinal epidural hematoma. Egypt J Neurosurg 2019;34:21. doi:10.1186/s41984-019-0046-7
2. Baek BS, Hur JW, Kwon KY, Lee HK. Spontaneous spinal epidural hematoma. J Korean Neurosurg Soc 2008;44:40-2
3. Figueroa J De vine JG. Spontaneous spinal epidural hematoma: Litratione review. J Spine Surg 2017;3:58-63.
4. Zuo B, Zhang Y, Zhang J, et al. Spontaneous spinal epidural hematoma: A case report. Case Rep Orthop Res 2018;1:26-33.
5. Km EJ, Ahn J, Kim SJ. Spontaneous spinal epidural hematoma of the thoracic spine after herbal medicine: A case report. BMC Complement Altern Med 2018;18:291.