

# An Unusual Presentation of Spontaneous Spinal Epidural Hematoma: A Case Study

Aneesh K K<sup>1</sup>, Harshit Mundra<sup>2</sup>, Mabel Vasnaik<sup>3</sup>

## How to cite this article:

Aneesh K K, Harshit Mundra, Mabel Vasnaik, An Unusual Presentation of Spontaneous Spinal Epidural Hematoma: A Case Study. *Ind J Emerg Med.* 2024;10(4):239-241.

## Abstract

Spontaneous spinal epidural hematomas (SSEH) typically happen under specific situations; rarely do they occur without any cause. The incidence of spontaneous spinal epidural hematoma is ~0.1 per 100,000 population, and male to female ratio is about 1.4:1.<sup>1</sup> This case report is aimed at enlightening emergency physicians about the possible presence of an initial asymptomatic phase and quick progression of symptoms in patients presenting with lower back ache due to spinal epidural hematoma. Patients present initially with lower back pain, observation and close follow up are necessary. A rare case of a spontaneous spinal epidural hematoma will be described herein.

**Keywords:** Spontaneous spinal epidural hematoma.

## INTRODUCTION

Spontaneous spinal epidural hematoma (SSEH) is not a common disease but can present with sudden onset of acute neurological deficits that necessitate immediate diagnosis and rapid treatment to reduce the probability and severity of sensorimotor impairment. The word 'spontaneous' denotes its non-traumatic origins with contributing factors like hemophilia, tumors, arteriovenous malformation, hypertension, anticoagulants, straining, sneezing or lifting may be present.<sup>2</sup> The vertebral venous plexus is a long system composed of large veins with low resistance to blood flow

that have no valves. Blood flows in either direction: upwards or downwards depending on the pressure difference. The most widely accepted explanation for the source of hemorrhage has been venous systems since spinal epidural veins are exposed to changes of thoracic or abdominal pressure. An increase in these pressures would increase intravenous pressure, resulting in vessel rupture.<sup>3</sup> Patients present with back or neck pain, sudden in onset, which may show signs of nerve root or spinal cord compression immediately after, or may be progressive and variable in nature. This may contribute to a delay in diagnosis and must be kept in mind. MRI can be used to determine the exact location of the lesion, its size, shape, and the

**Author's Affiliation:** <sup>1</sup>Resident, <sup>2</sup>Consultant, <sup>3</sup>HOD, Department of Emergency Medicine, Manipal Hospital, Old airport road, Bangalore, Karnataka 560017, India.

**Corresponding Author:** Aneesh K K, Resident, Department of Emergency Medicine, Manipal Hospital, Old airport road, Bangalore, Karnataka 560017, India.

**E-mail:** [aneeshkkthodathy@gmail.com](mailto:aneeshkkthodathy@gmail.com)

**Received on:** 09-05-2024

**Accepted on:** 28-09-2024



level of spinal cord compression. On T1-weighted images, within 24 hours post-symptom onset SSEH typically presents as an isointense signal to the spinal cord and subsequently as a hyperintense signal over 36 hours.<sup>4</sup>

## CASE PRESENTATION

A 73 year old male with no known comorbidities presented with lower back pain started after yoga exercise 5 hours before presentation to our emergency department (ED). Symptoms started with mild lower limb numbness. On presentation to our ED patient had a pain score of 10/10 and did not have any significant motor or sensory deficits. X-ray of lumbar and thoracic spine was done which was found to be normal. An hour after the presentation, the patient complained of being unable to pass urine. He was catheterized in view of bladder distension and acute urinary retention. On repeat examination the patient found to have developed motor and sensory weakness in bilateral lower limb.

Joint	Motor Power - Left	Motor Power - Right
<b>Hip</b>		
Flexion	2/5	2/5
Abduction	2/5	2/5
Adduction	2/5	2/5
<b>Knee</b>		
Flexion	2/5	2/5
Extension	2/5	2/5
<b>Ankle</b>		
Dorsiflexion	0/5	0/5
Plantar flexion	0/5	0/5
EHL, EDL	0/5	0/5
FHL, FDL	0/5	0/5

Deep tendon reflexes are absent in bilateral lower limb

Bilateral plantar reflex mute

Sensory loss in bilateral lower limb corresponds to S1 dermatome level

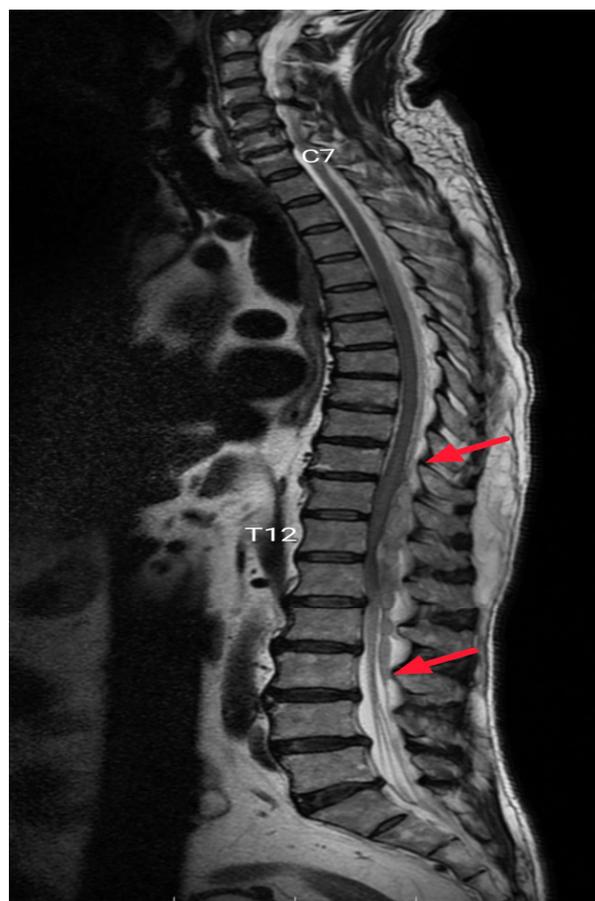
Saddle anesthesia +

Bilateral dorsalis pedis and posterior tibial arteries palpable

Bilateral upper limbs are clinically normal

Patient then underwent an MRI lumbosacral spine and was found to have posterior spinal epidural hematoma extending from T10 to L3 level causing compression of the cord and conus medullaris with mild cord edema. He underwent

urgent hematoma evacuation and circumferential decompression T10 to L2 with undercutting lamina and global instrumented fusion from T10 to L2. Post the surgery his power in bilateral lower limb improved to 4/5 in all groups of muscles. He was discharged home with a urinary catheter in-situ.



## DISCUSSION AND CONCLUSION

Spontaneous spinal epidural hematoma is very rare but it can be disabling if not addressed in an early stage. Sudden onset back pain followed by sensory motor deficit can be the most common presentation. However it is not necessary that immediate sensory or motor involvement should be there like in this case. Symptom presentation can start from within hours to several days or even months from the onset of the back pain.<sup>5</sup> Thorough and repeated neurological examination is necessary in case of lower back pain. Use ASIA score system for classification as well as examination and documentation for spinal pathologies.<sup>2</sup> An urgent MRI of the spine must be considered in a patient suspected of SSEH with severe lower back pain and

a history of strenuous activity or on antiplatelets or anticoagulants or a history of bleeding disorder, even without neurological deficits as that might be a delayed and/or a varying presentation. Immediate recognition of spinal epidural hematoma is very important because it is a surgical emergency.<sup>5</sup> Delay in recognition and surgery can lead to long term neurological sequelae. Patients who present with more severe symptoms within a shorter time frame tend to have larger hematomas; these are associated with worse outcomes, particularly when four or more spinal segments are involved.<sup>5</sup> Decompressive laminectomy and hematoma evacuation are the standard surgical procedures upon diagnosis of SSEH.<sup>6</sup> Two salient factors have been shown to have major prognostic implications—the degree of preoperative neural deficit and the time interval between ictus and surgery.<sup>2</sup> Early surgery followed by physiotherapy helps in better neurological outcomes.

## REFERENCES

1. Sheng OC, Wu RC, Chang IH. Spontaneous spinal epidural hematoma: a case report. *Int J Emerg Med.* 2021 Dec 25;14(1):60.
2. Raasck K, Habis AA, Aoude A, Simões L, Barros F, Reindl R, *et al.* Spontaneous spinal epidural hematoma management: a case series and literature review. *Spinal Cord Ser Cases.* 2017 Feb 2;3(1):16043.
3. Zuo B, Zhang Y, Zhang J, Song J, Jiang S, Zhang X. Spontaneous Spinal Epidural Hematoma: A Case Report. *Case Reports Orthop Res.* 2018 Jun 28; 1(1-3):27-34.
4. Duffill J. Can spontaneous spinal epidural haematoma be managed safely without operation? a report of four cases. *J Neurol Neurosurg Psychiatry* [Internet]. 2000 Dec 1; 69(6):816-9.
5. Figueroa J, DeVine JG. Spontaneous spinal epidural hematoma: literature review. *J Spine Surg.* 2017 Mar; 3(1):58-63.
6. Unnithan AKA. A brief review of literature of spontaneous spinal epidural hematoma in the context of an idiopathic spinal epidural hematoma. *Egypt J Neurosurg.* 2019 Dec 24; 34(1):21.