Acute spontaneous epidural haematoma of cervical spine

Ramkumar KP¹, Jim F Vellara², Ankit Mudgal³

Metropolitan Hospital
Thrissur, Kerala, India

¹ Head of Spine Unit
² Consultant in Spine Unit
³ Junior Resident in Orthopaedics

Correspondence should be sent to: jvellara@yahoo.com

ABSTRACT

Spontaneous Epidural Haematoma (SEH) of cervical spine is a rare entity with incidence of 0.1 per 1,00,000 population and they represent less than 1% of spinal space occupying lesions. Patients usually present with sudden neck pain and rapidly progressing neurological deficit. Coagulopathy, neoplasm, infections, vascular malformation and trauma are the usual causative factors. The rest of the cases are idiopathic. Early detection and prompt decompression of the cord is essential to limit serious neurological complications. This case is being reported due to the rare presentation and to emphasise the need for urgent decompression.

Keywords: Epidural hematoma, cord compression

A 47 year old male, driver by profession, walked out of the airport carrying his luggage when developed sudden onset weakness of both lower limbs about 4 hours prior to seeking medical care. He had prior history of cervical disc disease and was managed conservatively with no major events for the past two years. He had no family history of vascular problems or neoplasm. He had type 2 diabetes mellitus and hypothyroidism and was on regular treatment.

On general examination, he was well oriented and afebrile with stable vital signs. Local examination of neck revealed loss of cervical lordosis and neck movements were restricted due to pain. Neurological examination revealed bilateral weak hand grip. All lower limb muscles had grade 4-5 power. The knee and ankle jerks were brisk bilaterally. Plantar was flexor on right side and equivocal on left side. Romberg sign was positive and patient had no cerebellar signs.

The cervical spine radiographs were unremarkable except for degenerative changes and loss of normal lordosis.

MRI revealed fusiform lesion compressing the cord at C6-C7 level. It was iso intense on T1 image and was of heterogenous signal intensity on T2 image with features of disc degeneration. A diagnosis of acute spontaneous epidural hematoma C6-C7 with cord compression was made.

Figure 1. T2 weighted MRI image showing the fusiform lesion at C6–C7

Figure 2a. Axial T1 weighted MRI image at C6-C7 level showing the isointense lesion
Patient underwent emergency surgery. The lesion was approached through a C6, C7 laminectomy. Intra operatively, a large epidural hematoma was seen compressing the cord at the C6-C7 vertebral level. (Figure 3) It was evacuated completely. (Figure 4, 5) No abnormal vessels or other lesions were seen per operatively to explain the bleeding.

Post operatively patient had good relief of symptoms. He was ambulated on 2nd postoperative day with a cervical collar. He was discharged with excellent neurological recovery. Histopathology report was suggestive of haematoma. No other lesions were seen.

**DISCUSSION**

Spinal epidural hematoma is a rare but significant neurological emergency. Spontaneous spinal epidural haematoma is an accumulation of blood in the vertebral epidural space in the absence of trauma or iatrogenic procedures like lumbar puncture. Some authors claim that hematoma can be termed “spontaneous”, only when it is of idiopathic origin. The spontaneous development of spinal epidural hematomas is most frequently seen in the fourth or fifth decade. It most commonly affects C6 to T12 levels. The male to female ratio is 1.4:1.

Certain precipitating factors like anti-coagulant therapy for prosthetic cardiac valves, therapeutic thrombolysis for acute myocardial infarction, haemophilia, factor 11 deficiency, long term use of aspirin and vascular malformations are implicated in formation of spinal epidural hematoma. The hematoma could be of a venous or arterial origin.

The usual clinical presentation of Spontaneous Epidural Haematoma is a sudden, stabbing neck or back pains that progresses towards paraparesis or quadriparesis depending of

Currently, MRI is considered the first choice diagnostic method for SEH. It typically shows biconvex hematomas in the epidural space with well defined borders tapering superiorly and
inferiorly. Contrast enhancement pattern and morphological findings on MR images can differentiate acute SEH from spinal epidural neoplasm or abscess.

Urgent surgical intervention is the mainstay of treatment. The procedure includes decompressive laminectomy and hematoma evacuation. In these cases surgery should be performed as early as possible.

Contraindications of surgery include multilevel acute epidural hematomas in patients with coagulopathy, patients with irreversible cord injury presenting late and high risk patients with major co-morbidities. Role of trial conservative treatment is not yet proven.

The prognosis depends on size and level of hematoma, severity of pre-operative neurological deficits and interval between the onset of symptoms and surgery.

**Conclusion**

SEH is a rare but disabling or even fatal entity. Early diagnosis and prompt surgery improves the neurological and functional outcome but it still remains a clinical challenge. Epidural hematoma should be considered as a differential diagnosis in all cases of sudden neurological deficits.

**REFERENCES**


Cite this article as:

Source of funding: Nil; Conflict of interest: Nil.