# Case Report

# An Uncommon Cause of Compressive Myelopathy Misdiagnosed as Transverse Myelitis

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*Though spontaneous spinal epidural hematoma is a very uncommon cause of spinal cord compression, early correct diagnosis is crucial for final clinical outcome. A case of spontaneous spinal epidural hematoma with similar clinical presentation to transverse myelitis was reported. Careful clinical correlation and multiple sequences of spinal magnetic resonance images are critical factors for early diagnosis.*

**Keywords:** *Spinal epidural hematoma, Spinal cord compression, Myelitis, Magnetic resonance imaging*

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Spontaneous spinal epidural hematoma (SSEH) is a very rare cause of compressive myelopathy. The estimated incidence was 0.1 per 100,000 patients per year[1]. Acute back or neck pain with rapidly progressive myelopathy are the common presentations. A spinal magnetic resonance imaging (MRI) is necessary for the diagnosis and differential diagnosis from the other spinal cord disorders. The completeness of compressive myelopathic symptoms at the presentation was a significant predictor for the neurological outcome, so emergency surgical decompression was strongly indicated[2].

**Case Report**

A 33-year-old woman had an acute severe lumbar pain that woke her up from a night sleep. One hour later, rapidly progressive ascending paraplegia with anesthesia and urinary retention were associated. Initial neurological evaluation in a local hospital revealed flaccid paraplegia with areflexia. Loss of all sensory modalities was detected from the first lumbar (L1) dermatome level and below.

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An initial MRI of the thoraco-lumbar spine showed only heterogenous hypersignal intensity in the T2W study from the tenth thoracic spinal level (T10) down to the conus medullaris. Transverse myelitis was the initial diagnosis and one gram/day of intravenous methylprednisolone was given for three consecutive days without improvement. Moreover, her persistent lumbar pain was so intense that repeated dosages of intravenous opiate analgesic were needed. An emergency MRI of the spinal cord repeated in our center one week after the onset showed an extramedullary heterogenous hypersignal intensity lesion on both the T1W and T2W images but hyposignal intensity on the gradient echo image extended from the eleventh thoracic to the fourth lumbar spinal level (T11 to L4). This abnormal signal is not suppressed by fat suppression imaging. Evidence of myelopathy of the conus medularis was also noted (Fig. 1).

Therefore, subacute spinal epidural hematoma was diagnosed. The baseline hematology investigations, including coagulogram, were unremarkable. Neither recent major nor minor repeated spinal injury could be recalled. The patient underwent immediate spinal decompression laminectomy with blood clot removal (eleven days after the onset). No arteriovenous malformation was detected in the operative field. The motor power of her lower limbs returned to grade 2/5 but impaired urination remained at six months post operatively.

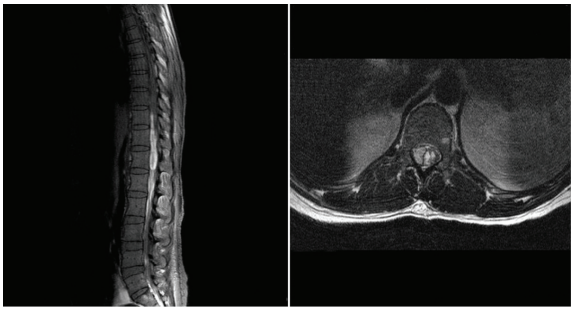

**Fig. 1** Sagittal T1W and axial T2W of thoraco-lumbar spinal MRI shows a right antero-laterally located spinal epidural haematoma extending from the T11 to L4 level with compressive myelopathy

## Discussion

Previous anecdotal case reports have shown an association between SSEH and bleeding diathesis; either related to hematological diseases or treatment, degenerative spinal disc, repeated spinal trauma, essential hypertension, and severe pre-eclampsia but less likely with spinal arterio-venous malformation[3]. The hematoma was considered venous in origin and ruptured Batson's spinal venous plexus produced it. Anterior part of the thoracic spinal canal was the most common site of hematoma location[3].

A hyperacute, persistent and mostly intractable localized spinal pain followed by a rapidly progressive compressive myelopathy are the hallmarks for the diagnosis of SSEH. Since the early spinal MRI is not obviously diagnostic for hyperacute and acute stage of SSEH, transverse myelitis is frequently a misdiagnosis at the first presentation. The correct diagnosis was established when a MRI study with T1W, T2W, gradient echo and fat suppression sequences was performed in the subacute stage[4]. Therefore, it has to be remarked here that the severe localized spinal pain persisted after the syndrome of myelopathy have reached its peak is very unusual for transverse myelitis and spinal cord compression should be carefully considered and explored.

Immediate surgical decompression is the only indicated treatment, because the good outcome from conservative treatment has been reported only in a few cases[3]. The misdiagnosis as transverse myelitis caused the delayed surgical intervention and the unfavorable outcome in this case.

In conclusion, the rarity of SSEH causes the attending physicians less suspicion of this disorder. Since surgical decompression without delay is the treatment of choice, early diagnosis by a multi-modality MRI studies is mandatory.


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## Potential and conflicts of interest

None.

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## *การกดทับไขสันหลังด้วยสาเหตุพบไม่บ่อยวินิจฉัยผิดเป็นภาวะไขสันหลังอักเสบแบบตัดขวาง*

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*แม้ว่าภาวะเลือดออกเหนือต่อเยื่อดูราของไขสันหลังแบบเกิดขึ้นเองเป็นสาเหตุของการกดทับไขสันหลังพบไม่บ่อย การวินิจฉัยที่ถูกต้องตั้งแต่แรกมีความสำคัญต่อผลการรักษา รายงานฉบับนี้เป็นผู้ป่วยรายหนึ่งที่มีภาวะเลือดออกเหนือต่อเยื่อดูราของไขสันหลังแบบเกิดขึ้นเอง พร้อมกับอาการทางคลินิกคล้ายคลึงกับภาวะไขสันหลังอักเสบแบบตัดขวาง ความสัมพันธ์ทางคลินิกกับสิ่งตรวจพบทางภาพถ่ายเอกซเรย์สนามแม่เหล็กหลายรูปลักษณะของไขสันหลังเป็นปัจจัยวิกฤตในการวินิจฉัยแต่แรกเริ่ม*