

CASE REPORT

Posttraumatic Late-onset Extradural Hematoma in Dorsal Spine: A Rare Presentation

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ABSTRACT

Spinal epidural hematoma is a rare condition, which may be due to trauma, coagulopathy, surgery, or epidural catheterization. Its incidence is estimated at 0.1/100,000/year. We report a case of late-onset extradural hematoma due to trauma causing compression, and was surgically evacuated followed by immediate neurological recovery of patient.

Keywords: Late-onset extradural hematoma, Surgical decompression, Posttraumatic.

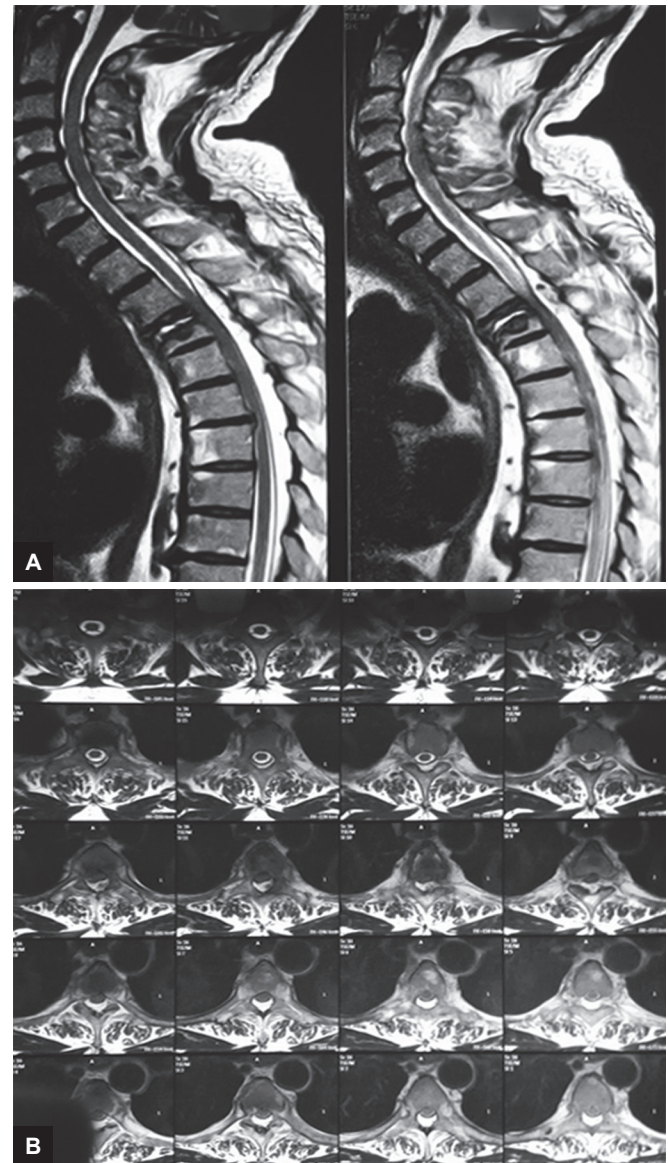
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CASE REPORT

A 70-year-old male came to the emergency department with a chief complaint of back pain and difficulty in walking. Patient had alleged history of trivial trauma on April 28, 2016, for which the patient went to a nearby hospital where primary management was given. Patient reported to us on May 5, 2016, with gradual onset of difficulty in walking followed by difficulty in standing. On examination, vitals were stable, general condition was fair, and no associated chest, abdominal, and bilateral upper limb and lower limb injury was present. Locally diffuse swelling and tenderness was present in T2–T6 region, and there was no muscular atrophy and neurologically paraparesis, bilateral lower limb of power 3/5, reflexes were diminished, and bowel and bladder involvement were seen. The X-ray imaging of cervical, dorsal, and lumbar spine anteroposterior and lateral was done, and suggestive of nondisplaced D3 vertebra fracture. Magnetic resonance imaging (MRI) was done (Figs 1A and B) showing reduced height fracture with



Figs 1A and B: Wedge fracture with extradural collection causing compression

partial collapse of D3 vertebra; signal changes were noted in D3–D4 vertebra due to edema. Collection is noted in epidural space posteriorly extending from D1 to D8 vertebra, epidural hemorrhage displacing thecal sac and cord anteriorly. Reduced disk space with posterior disk bulge was noted at D5–D6 effacing the epidural fat. All blood investigations were normal. Patient was posted for surgery, D3 to D6 laminectomy was done, extradural lipoma (Fig. 2) was seen and excised, and extradural hematoma was seen and evacuated.

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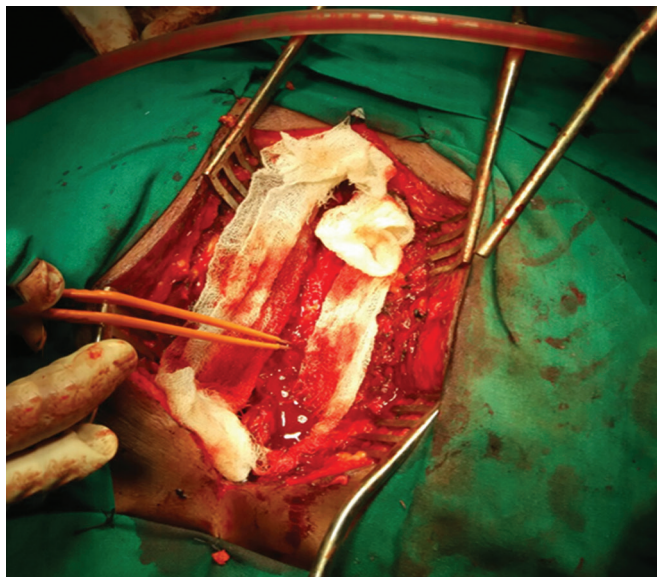


Fig. 2: Intraoperative photograph showing hematoma

DISCUSSION

A spinal epidural hematoma is a rare, but significant neurological condition. The spontaneous development of spinal epidural hematomas is most frequent after the 4th or 5th decade.^{1,2} However, it has been reported to occur in all age groups, and it is a very rare clinical entity in children. Only 30 pediatric cases of spontaneous spinal epidural hematomas (SSEHs) have been documented in the medical literature.^{1,3,4} The male/female ratio is 1.4:1.⁵ Certain precipitating factors, including anticoagulant therapy for prosthetic cardiac valves, therapeutic thrombolysis for acute myocardial infarction, hemophilia B, factor XI deficiency, long-term aspirin using as a platelet aggregation inhibitor, and vascular malformation are suggested to be correlated with SSEHs.^{1,6,7} It is also a rare occurrence during pregnancy, with only six cases reported in the literature.^{1,8} Statistically, idiopathic cases account for approximate 40% of all cases.^{1,5} The most common site of an SSEH is the cervicothoracic region or thoracolumbar region.^{1,2,9}

Up to now, there have been disputes about the origin of these hematomas. Most researchers assert that SSEHs arise from the epidural venous plexus in the spinal epidural space because it lacks venous valves, and undulating pressure from the thoracic and abdominal cavities can impact it directly.^{1,2,5,10} Several authors have proposed the spinal epidural arteries as a source of hemorrhage.^{1,11} A more likely explanation is that pressure from arterial bleeding compresses the spinal cord, because the intrathecal pressure is higher than the venous pressure.^{1,2,12}

The usual clinical presentation of an SSEH is sudden stabbing neck or back pain that progresses toward paraparesis or quadriparesis, depending on the level of the lesion and the nerve root.^{1,13} Children

often suffer from additional symptoms of irritability, and occasionally urinary retention.^{1,3} In high cervical region, SSEHs could cause spinal shock, leading to fatal condition.^{1,14}

Currently, MRI is considered as the first choice of diagnostic method for SSEH.^{1,15,16} It typically shows biconvex hematomas in the epidural space with well-defined borders tapering superiorly and inferiorly.^{1,17} Subacute hematomas show characteristic high-signal intensity on T1-weighted images.¹ A computed tomography scan should be obtained if MRI is unavailable.^{1,10}

The differential diagnosis of SSEH includes an acute herniated intervertebral disk, acute ischemia of the spinal cord, epidural tumor or abscess, spondylitis, transverse myelitis, or even a dissecting aortic aneurysm, and acute myocardial infarction.

Early surgical intervention is the general treatment for SSEHs. The procedure includes decompressive laminectomy and hematoma removal. If the exact location of the hematoma cannot be detected and confirmed by MRI, the dura should be opened to exclude the subdural hematoma. In cases with incomplete neurological deficits, the operation should be performed within 48 hours of the onset of the initial symptoms.^{1,5} If the initial neurological deficits are complete, the operation should be performed within 36 hours.^{1,5}

REFERENCES

1. Baek BS, Hur JW, Kwon KY, Lee HK. Spontaneous spinal epidural hematoma. *J Korean Neurosurg Soc* 2008 Jul;44(1):40-42.
2. Güzel A, Simşek O, Karasalihoğlu S, Küçükuşurluoğlu Y, Acunaş B, Tosun A, Cakir B. Spontaneous spinal epidural hematoma after seizure: a case report. *Clin Pediatr (Phila)* 2007 Apr;46(3):263-265.
3. Poonai N, Rieder MJ, Ranger A. Spontaneous spinal epidural hematoma in an 11-month-old girl. *Pediatr Neurosurg* 2007;43(2):121-124.
4. Tailor J, Dunn IF, Smith E. Conservative treatment of spontaneous spinal epidural hematoma associated with oral anticoagulant therapy in a child. *Childs Nerv Syst* 2006 Dec;22(12):1643-1645.
5. Liu Z, Jiao Q, Xu J, Wang X, Li S, You C. Spontaneous spinal epidural hematoma: analysis of 23 cases. *Surg Neurol* 2008 Mar;69(3):253-260; discussion 260.
6. Bisson EF, Dumont T, Tranmer B. Spontaneous spinal epidural hematoma in a child with hemophilia B. *Can J Neurol Sci* 2007 Nov;34(4):488-490.
7. Solheim O, Jorgensen JV, Nygaard OP. Lumbar epidural hematoma after chiropractic manipulation for lower back pain: case report. *Neurosurgery* 2007 Jul;61(1):E170-E171; discussion E171.
8. Bose S, Ali Z, Rath GP, Prabhakar H. Spontaneous spinal epidural hematoma: a rare cause of quadriplegia in the postpartum period. *Br J Anaesth* 2007 Dec;99(6):855-857.
9. Shin JJ, Kuh SU, Cho YE. Surgical management of spontaneous spinal epidural hematoma. *Eur Spine J* 2006 Jun;15(6):998-1004.

10. Riaz S, Jiang H, Fox R, Lavoie M, Mahood JK. Spontaneous spinal epidural hematoma causing Brown-Sequard syndrome: case report and review of the literature. *J Emerg Med* 2007 Oct;33(3):241-244.
11. Park J, Lee JB, Park JY, Lim DJ, Kim SD, Chung YK. Spinal cord infarction after decompressive laminectomy for spontaneous spinal epidural hematoma. *Neurol Med Chir (Tokyo)* 2007 Jul;47(7):325-327.
12. Hangping Y, Shunwu F, Huilin Y, Tiansi T, Feng Z, Xing Z. Early diagnosis and treatment of acute or subacute spinal epidural hematoma. *Chin Med J* 2007 Aug 5;120(15):1303-1308.
13. Chan DT, Boet R, Poon WS, Yap F, Chan YL. Spinal shock in spontaneous cervical spinal epidural haematoma. *Acta Neurochir (Wien)* 2004 Oct;146(10):1161-1162; discussion 1162-1163.
14. Matsumura A, Namikawa T, Hashimoto R, Okamoto T, Yanagida I, Hoshi M, Noguchi K, Takami M. Clinical management for spontaneous epidural hematoma: diagnosis and treatment. *Spine J* 2008 May-Jun;8(3):534-537.
15. Song KJ, Lee KB. The poor outcome of the delayed diagnosis of acute spontaneous spinal epidural hematoma: two cases report. *J Korean Med Sci* 2005 Apr;20(2):331-334.
16. Fujiwara H, Oki K, Momoshima S, Kuribayashi S. PROPELLER diffusion-weighted magnetic resonance imaging of acute spinal epidural hematoma. *Acta Radiol* 2005 Aug;46(5):539-542.
17. Ziyal IM, Aydin S, Inci S, Sahn A, Ozagen T. Multilevel acute spinal epidural hematoma in a patient with chronic renal failure—case report. *Neurol Med Chir (Tokyo)* 2003 Aug;43(8):409-412.