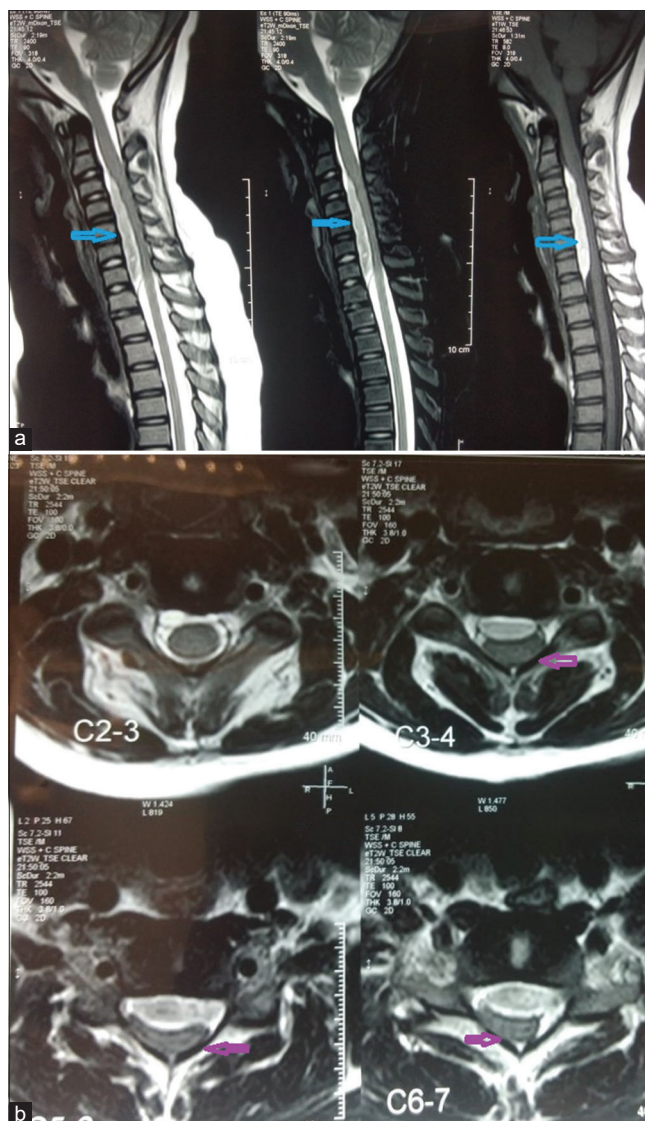


## Anaesthetic management in a child with post-traumatic cervical epidural haematoma: A case study

Dear Editor,

The incidence of post-traumatic cervical epidural haematoma is 2.5%, of which 59% are associated with spinal cord compression.<sup>[1]</sup> Following traumatic injury, the formed haematoma becomes a space-occupying lesion in the cervical spinal canal that can manifest with sensory and motor deficits.<sup>[2]</sup>

A 13-year-old male child, weighing 44 kg, presented to the emergency department with complaints of sudden onset of neck pain, weakness and numbness of both upper limb 20 days back. He had an alleged history of fall while playing. Computed tomography of the cervical spine showed no fracture or listhesis of vertebrae. Magnetic resonance imaging of the cervical spine showed a sizeable epidural collection from C3 to C7 level, causing compression over the adjacent cord [Figure 1]. The patient was planned for decompressive laminectomy and evacuation of an epidural haematoma under general anaesthesia. The patient belonged to American Society of Anesthesiologists physical status I, with a mouth opening of 4 cm and modified Mallampati grade II. There was limited cervical spine movement because of pain during the airway evaluation. The anaesthesia was induced with intravenous (IV) fentanyl 2 µg/kg and propofol in titrated doses till loss of verbal response, followed by ventilation which was checked before administering a neuromuscular blocking drug. IV atracurium 0.5 mg/kg and esmolol 0.5 mg/kg were administered before the tracheal intubation. With manual in-line stabilisation, tracheal intubation was performed using a video laryngoscope. Anaesthesia was maintained with sevoflurane, air and oxygen. Patient was positioned in prone for facilitating surgery. The atracurium was given intermittently when required. Intra-operatively controlled hypotension was maintained with IV dexmedetomidine infusion. Haemodynamic parameters were stable intra-operatively. After surgery, the patient was turned supine, and deep extubation was carried out. The perioperative period was uneventful, and the total duration of surgery was 4 h. The patient was shifted to the intensive care unit for observation. Limb physiotherapy was started the next day. On the



**Figure 1:** Magnetic resonance imaging of the cervical spine: (a) sagittal view – arrow showing concavo-convex space-occupying lesion from C3 to C7; (b) axial view – arrow depicting space-occupying lesion posterior to the spinal cord from C3 to C7

fifth postoperative day, the patient was discharged with improved upper limb power.

The concerns were positioning, airway management, pain management and maintaining the spinal perfusion pressure. Epidural space is a potential space that is rich in blood vessels. Because the spinal cord occupies the majority of the space in the cervical region, epidural haematoma in the cervical region produces significant neurological compromise compared to any other location in the spine.<sup>[3]</sup> Airway management is a concern in such cases as manipulation while securing the airway may cause secondary damage to the spinal cord<sup>[4]</sup> or break the fragile vessels, increasing the bleeding and further compromising the spinal cord.

Thus, the child's head was kept in a neutral position, and a manual in-line stabilisation manoeuvre was performed to minimise neck movement. We used a video laryngoscope for tracheal intubation to reduce the possibility of further neurological compromise. On one hand, blood pressure had to be maintained for perfusion; on the other, controlled hypotension had to be achieved to prevent bleeding.

#### Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form, the parents consented to the images and other clinical information to be reported in the journal. The parents understand that the child's name and initials will not be published and due efforts will be made to conceal his identity, but anonymity cannot be guaranteed.

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Nil.

#### Conflicts of interest

There are no conflicts of interest.

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