

## Epidural analgesia confusing the diagnosis of spontaneous acute thoracic epidural hematoma after cesarean section

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To the Editor:

A 31-year-old woman underwent cesarean section because of fetal distress. An epidural anesthesia was carried out in the L1–L2 space. The lumbar puncture and surgery were uneventful. An epidural catheter was placed for patient-controlled epidural analgesia (PCEA) using 0.125 % bupivacaine with sufentanil (0.5 µg/ml). The basal infusion rate was 4 ml/h, with a 2-ml bolus available every 20 min.

The patient recovered from the anesthesia 4 h after the surgery, and started to notice mild pain in the left scapular region and back at 15 h after the surgery. At 24 h after surgery, the patient noticed sensory deficits in both legs, but motor function was not affected. The epidural catheter was removed, but motor function became affected, with weakened deep tendon reflexes below the T3 level at 29 h after the surgery. Both bladder and bowel continence was impaired. A diagnosis of epidural hematoma at the T1–T3 level was established with magnetic resonance imaging (Fig. 1). Thirty-one hours after the surgery, emergency

surgery was carried out to remove the hematoma. The patient was able to walk with a cane after 1 year. A follow-up at 5 years revealed some permanent motor neurological damage.

Spontaneous epidural hematoma has been reported during pregnancy in both the cervical and thoracic segments [1, 2]. In such cases, pain typically occurs abruptly, and progresses rapidly to paraplegia. In patients receiving regional anesthesia and PCEA, such as in this case, the lower-extremity symptoms of epidural hematoma are often confused with the neuraxial block. In this case, the pain was mild initially, and the progression was slow. Thus, the recognition of epidural hematoma was difficult.

Spontaneous epidural hematoma tends to occur in patients with coagulation deficits, and could be secondary to other conditions, such as preeclampsia and liver diseases [3]. None of the known risks was present in this case. Also, we did not notice hemangioma, vascular malformation, or intraspinal tumor bleeding, suggesting the spontaneous nature of the hematoma.

Neurological recovery is more likely if surgical decompression is carried out within 8 h from the onset. In this case, surgical decompression was carried out at 16 h

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**Fig. 1** Magnetic resonance imaging at T<sub>1</sub> (*axial*) and T<sub>2</sub> (*sagittal*) shows spinal cord compression at the level of T1–T3



after the first symptom/sign, mostly likely because of PCEA. Permanent damage was evident after 5 years. This case highlights the importance of close monitoring in patients receiving PCEA.

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