
A case of misplaced epidural catheter

Sir,
Epidural catheter migration and misplacement are well-known to occur. We report a case of epidural catheter misplacement into the pleural cavity.

A 73-year-old male with adenocarcinoma of the lung was posted for right lower lobectomy. Thoracic epidural was attempted in the left lateral position. The midline approach failed, and a paramedian approach was tried at

the T₈-T₉ level. The needle was inserted at an angle of 45°. The epidural space was identified using the loss of resistance (LOR) syringe available with the set, at a depth of 7 cm, and was confirmed with hanging drop technique and meniscal sign. The catheter was threaded in easily and fixed at 11 cm. The patient did not complain of any respiratory difficulty or chest pain. No test dose or local anesthetic bolus was given before induction.

On entering the thorax, the surgeon noticed the epidural catheter in the pleural cavity. Approximately 4 cm of the catheter was visible [Figure 1]. The intraoperative period proceeded uneventfully. At the end of the surgery, the misplaced catheter was removed and another epidural catheter was placed at T₉-T₁₀ space through midline approach. The patient had an unremarkable recovery and was discharged on postoperative day 15.

Pleural misplacement of thoracic epidural catheter maybe an underreported adverse event.^[1,2] Pleural puncture by epidural needle is a life-threatening complication which may often be unrecognized because the patient remains asymptomatic in most cases just as in ours. Though technically easier, paramedian approach is more frequently associated with complications. There are reports of catheter misplaced into the pleural cavity maintained as such to provide intrapleural analgesia for thoracotomy and flail chest.^[3]

The use of LOR technique to find the epidural space can result in false identification. This is because of the failure

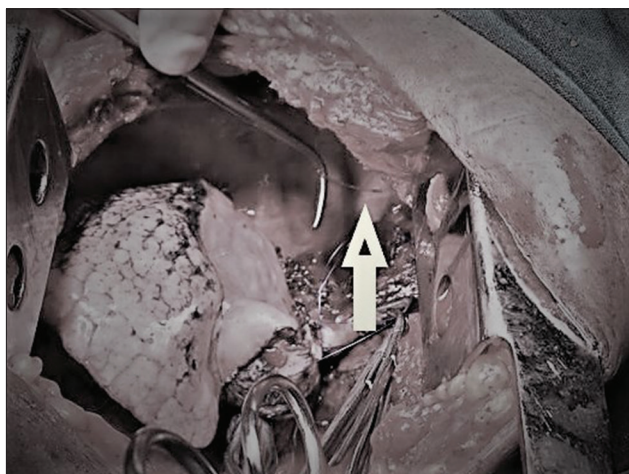


Figure 1: The epidural catheter inside the thoracic cavity. The arrow points to the catheter

of fusion of ligamentum flavum in the midline especially at thoracic levels.^[4] This technique relies on the resistance offered by the spinal ligaments which disappears once needle pierces the ligamentum flavum. Elsharkawy *et al.*,^[5] in their review, describe various evolving methods to identify the epidural space such as preprocedural or real-time ultrasound guidance, fluoroscopy, epidural pressure waveform analysis, and near-infrared tracking, to name a few.

Blind procedures such as epidural blocks can always fail or cause complications. Two major reasons quoted for inadequate action of epidural blocks are incorrect primary placement and secondary migration of a catheter after proper placement. The best clinical practice would be performing an epidural in an awake patient who can report any symptoms and ensuring a bilateral block before proceeding with general anesthesia. A failed or partial block should prompt the anesthesiologist to consider misplacement or migration of catheter. A thorough knowledge and awareness can prevent dangerous complications related to epidural blocks.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Conflicts of interest

There are no conflicts of interest.

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