Safe practices in epidural catheter tunneling

Sir,

To avoid inward or the outward migration of epidural catheters, different catheter fixation techniques are reported with variable success, e.g., coiling the catheter under a transparent dressing, different types of dressing, adhesive foam, catheter clamp, or using medication port of intravenous bags. The subcutaneous tunneling of epidural catheter has also been described to secure epidural catheter in easy steps and without added cost of device or apparatus. However, a possibility of needle sticks to clinician and also the shearing of the epidural catheter are apprehended while needle is passed subcutaneously. We would like to emphasize on points from our article that the epidural needle should be placed subcutaneously in paraspinous space by keeping needle tip approximately 1.5–2 cm away from the entry of epidural catheter. The subcutaneous passage of Touhy needle can also be facilitated by giving slight curvature to needle. It helps in controlling its subcutaneous placement and brings it out of skin. The use of needle guard, as shown in Figure 1a, is another method to improve the safe practices in subcutaneous tunneling technique. The use of needle guard at exit point of the needle tip from skin prevents needle stick injury and/catheter shearing. It also provides counterpressure on skin to take out the needle tip in controlled manner. These simple practices improve the safety of the epidural catheter fixation by subcutaneous tunneling method for long term use.

Epidural catheter contributing to epidural abscess is uncommon (incidence of 0.01–0.1%). The safety from infection can be ensured by restricting the duration of epidural catheter in situ to 4 days. There can be few indications for an extended period of epidural block, and reassessment of the risk/benefit ratio would certainly be wise after 4 days, if not sooner. It has been suggested that the administration set and filter should be changed after 3 days and that the anesthetist who placed the catheter must take full part in any decision to leave it for longer. It would be interesting to have a randomized controlled trial comparing different fixation methods.

Mukesh Tripathi
Department of Anaesthesiology, Sanjay Gandhi Postgraduate Institute of Medical Sciences, Lucknow, India

Address for correspondence: Dr. Mukesh Tripathi, Department of Anaesthesiology, SGPGI, Lucknow, India.
E-mail: Mukesh_tripathi@yahoo.com

References
1. Gülçü N, Karaaslan K, Koçoğlu H, Gümüş E. A new method for epidural catheter fixation. Agri 2007;19:33-7.
2. Tripathi M, Pandey M. Epidural catheter fixation: Subcutaneous tunnelling with a loop to prevent displacement. Anaesthesia 2000;55:1113-6.
3. Rose GL. Subcutaneous catheter tunneling. Reg Anesth Pain Med 2009;34:379.
4. Gosavi C, Bland D, Poddar R, Horst C. Epidural abscess complicating insertion of epidural catheters. Br J Anaesth. 2004;92:294-5.
5. Grewal S, Hocking G, Wildsmith JA. Epidural abscesses. Br J Anaesth 2006;96:292-302.
Delayed pharyngoesophageal perforation following anterior cervical spine surgery: An incidental finding

Sir,

Anterior cervical spine surgery, although a well-established procedure for spondylotic disease, cervical myelopathy or radiculopathy, and cervical spine trauma, can lead to many potential complications such as infection, displacement, migration of implants, esophageal perforation, and airway complications.

We report a case of delayed pharyngoesophageal perforation detected accidently during intubation.

A 59-year-old man who previously had C5-6 discectomy and anterior cervical fusion done 2 years ago for cervical radiculopathy presented with a 3 weeks history of tingling and weakness in both the upper limbs. X-ray of neck revealed the implant used for fusion was displaced with partial extrusion of one of the screws [Figure 1]. His airway examination was normal and neck extension was not restricted. He was scheduled for removal of the implants due to implant failure. All his preoperative investigations were normal. He received pantoprazole, ondansetron, and glycopyrrolate as premedication before the surgery. In the operation room after instituting minimal mandatory monitoring, he was induced with propofol and fentanyl, and vecuronium was used to facilitate endotracheal intubation. His airway was secured with 8.5-mm ID flexometallic endotracheal tube. During laryngoscopy, anesthesiologist could see a screw jutting out of the posterior pharyngeal wall just above the cricopharyngeal opening. The surgeon was alerted about the same. A nasogastric tube was passed at surgeon's request and esophagoscopy was done using a fiberoptic bronchoscope, which revealed posterior pharyngoesophageal perforation with extrusion of the plate and screw through the perforation [Figure 2].

The cervical implants were removed with primary closure of the pharyngoesophageal perforation. He had an uneventful postoperative recovery. Upon reevaluation postoperatively, he revealed that he had minimal pain and difficulty on swallowing for the past 6 months. These symptoms could be attributed to his underlying clinical condition.

Esophageal perforation following anterior cervical spine surgery is a relatively uncommon complication, but can be morbid or even fatal. Delayed esophageal perforations have been described occurring from weeks to years after anterior spinal surgery.

Several reports in literature highlight delayed esophageal perforation including asymptomatic extrusion of implants. There are reports of asymptomatic passage of implants through the gastrointestinal tract without any morbidity and its detection at a later date on routine radiography.

The most catastrophic event was described by Riew et al., who reported a case of plate rupture and graft migration on the third postoperative night causing airway compromise and resulting in death of the patient.