

Ultrasound-guided thoracolumbar interfascial plane block for spine surgery

Sir,

Spine surgeries are associated with severe postoperative pain which typically takes 3 days to subside. Adequate pain relief perioperatively is important for the patient's early mobilization and uneventful postoperative course.^[1] Perioperative pain management is a challenge for the anesthesiologist as these patients are already suffering from chronic pain. We present a case of lumbar spine surgery wherein ultrasound-guided (USG) injection in thoracolumbar interfascial plane (TLIP) helped us to achieve adequate analgesia perioperatively.

A 55-year-old American Society of Anesthesiologists I male with herniated disc in the lumbar spine at L3–L4 level was scheduled for elective spine decompression surgery. Anesthesia was induced with propofol 2 mg/kg and fentanyl 2 µg/kg was administered for analgesia. Muscle relaxation was achieved with vecuronium 0.08 mg/kg following which oral endotracheal intubation was done. Anesthesia was maintained with isoflurane and nitrous oxide in oxygen.

After induction of anesthesia, the patient was placed in prone position, USG-guided TLIP block was performed using a high-frequency linear probe. The probe was covered with sterile sheath positioned transversally in a midline position at approximately the level of the 3rd lumbar vertebra (L3). The corresponding spinous process and interspinous muscles were identified, and the probe was slid laterally to identify the multifidus (MF) muscle and longissimus (LG) muscle [Figure 1]. Sliding the probe from midline to laterally helps in the correct identification of various muscles. Other maneuvers which help in the

identification include lumbar extension and slight rotation of the patient. After identifying the muscles, TLIP block was performed aseptically on both sides of L3 vertebra. Under ultrasound guidance, an insulated echogenic needle (22-gauge, 8 cm, Sonoplex, Pajunk, Germany) was inserted in-plane in a lateral to medial orientation in-plane USG guided through the belly of LG toward the MF [Figure 2]. When needle reached deep to middle of MF/LG interface, 20 ml 0.2% ropivacaine was injected after negative aspiration. The block was administered bilaterally injecting levobupivacaine 0.25% 20 ml on each side. The surgery lasted for 2 h. Intraoperative period was uneventful with no further requirement of analgesics. At the end of the surgery, the patient was extubated and was shifted to postanesthesia care unit. The demand for the first analgesic was after 5 h of surgery. Thereafter, the pain was managed with 1 g paracetamol intravenous 6th hourly with tramadol 1 mg/kg b.w.

The use of TLIP block was first reported in 2015 by Hand *et al.* wherein they did a volunteer-based study and demarcated the area of sensory analgesia.^[2] Thereafter, Ueshima *et al.* reported two cases of spinal surgeries where TLIP block was administered.^[3] TLIP blocks the sensory component of the dorsal rami of the thoracolumbar nerves. These nerves emerge mainly through the interface between MF and LG. Blocking these nerves provides good analgesia after spine surgeries. Preoperative field infiltration by the surgeon is the most commonly used method for pain relief. TLIP block offers the advantage of extension of analgesia beyond the level of injection.^[2] Our case along with others can suggest addition of TLIP block as a component of multimodal analgesia regime for spinal surgery patients.

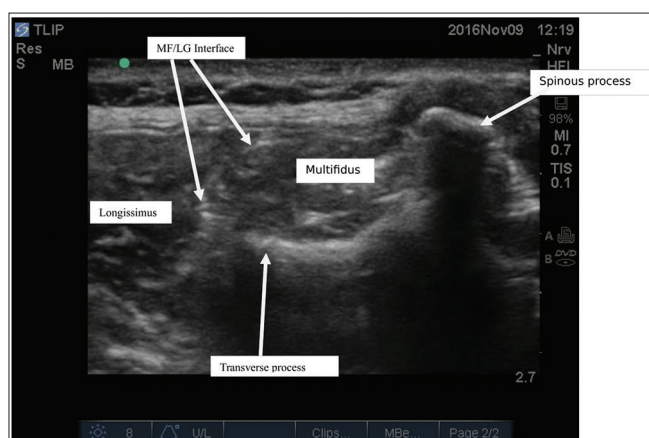


Figure 1: ultrasound image of paraspinous muscles at L3 level

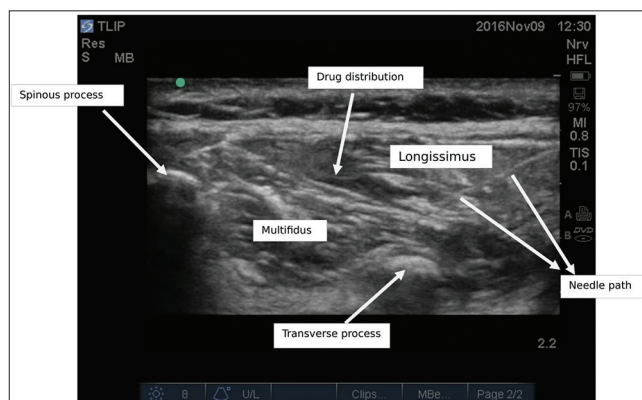


Figure 2: ultrasound image of TLIP block showing drug deposition

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Conflicts of interest

There are no conflicts of interest.

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