
Perioperative analgesia with erector spinae plane block for cervical spine instrumentation surgery

Sir,

Spine surgeries are known to evoke intense pain preventing early mobilization and postoperative rehabilitation. Therefore, optimal perioperative analgesia is essential to achieve adequate pain relief and improve functional outcome. Various modalities have been used to achieve analgesia after spine surgeries.^[1] To the best of our knowledge, erector spinae plane (ESP) block for surgeries in cervical region has not been reported till date. We describe the use of ESP block for perioperative analgesia in cervical spine instrumentation surgery.

A 39-year-old male was admitted with complaints of neck pain and upper limbs weakness. Computed tomography

imaging showed C6-C7 grade-2 subluxation with fracture of C6 vertebral body and disc prolapse. He was scheduled for posterior approach C5 and C7 transpedicular screw placement and fixation with rod, and anterior cervical discectomy and fusion of C6-C7 vertebrae with peek cage [Figure 1b]. To provide optimal analgesia, we planned for general anesthesia with bilateral ESP block under ultrasonography guidance. C7 transverse process was approached with an 18 G Tuohy's needle in caudal-to-cranial direction [Figure 1a]. A total of 30 ml of 0.25% bupivacaine with 150 µg of clonidine and 8 mg dexamethasone was administered deep to erector spinae muscle (ESM) bilaterally. No additional opioids were required during 9-h surgery due to the absence of any significant change

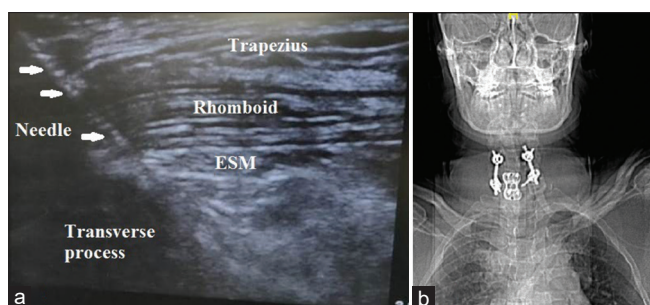


Figure 1: (a) Ultrasonographic image showing trapezius, rhomboid, and erector spinae muscle (ESM) along with needle (arrows) approaching transverse process. (b) Postoperative image showing cervical spine fixation with transpedicular screws and rod, and fusion of C6-C7 vertebrae with peek cage

in hemodynamic parameters and surgical pleth index. In view of prolonged surgery and to provide postoperative analgesia, the ESP block was repeated at T1 level after completion of surgery. Postoperatively, the patient received paracetamol 500 mg 6 hourly. Postoperative pain intensity was assessed using numeric rating scale (NRS). Maximum NRS at rest was 1 and 3 at movement in first 48 h, and no additional rescue analgesia was needed. Rest of the hospital stay was uneventful.

Alternative analgesia strategies in cervical spine surgeries include systemic analgesics and epidural local anesthetic drugs or opioids.^[1] But these are associated with risks such as nausea, vomiting, respiratory depression, gastro-intestinal adverse effects with parenteral opioids and motor blockade, respiratory depression, wound infection, and spinal hematoma, with neuraxial techniques. Apart from eliminating the risks stated above, the absence of major blood vessel or pleura in the close vicinity makes the ESP block safe and easy to perform for cervical spine surgeries.

ESP block is the new favorite among various fascial plane blocks.^[1-3] Local anesthetic drug is injected in the fascial plane superficial to transverse process and deeper to ESM. The multisegment spread of drug by a single injection along with diffusion into paravertebral and intercostal space brings about analgesia by acting at ventral and dorsal rami.^[4] Recently, ESP block has shown to improve the quality and duration of analgesia in thoracic and abdominal surgeries, and chronic neuropathic pain conditions,^[4,5] but its application in spine surgeries is limited. We demonstrate the successful application of ESP block for perioperative analgesia in cervical spine surgery. The benefits included stable hemodynamics and analgesia in the intraoperative period and good analgesia, avoidance of opioids, and early ambulation in the postoperative period.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form, the patient has given his consent for his images and other clinical information to be reported in the journal. The patient understands that his 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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Conflicts of interest

There are no conflicts of interest.

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