

Ultrasonography-guided Erector Spinae Plane Nerve Block May Not Always Contribute to Enhanced Recovery after Spine Surgery

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Dear Editors,

Ultrasonography (USG)-guided erector spinae plane nerve (ESPN) block was introduced in 2016 for the symptomatic alleviation of thoracic neuropathic pain.^[1] The procedure claims to be equianalgesic to time-tested epidural blocks with much lesser side effect profile as ESPN block is performed lateral to spinal canal, thereby avoiding sympathetic down regulation and accidental spinal cord injury. The role of ESPN block in the spine surgery is an emerging matter of debate with very limited evidence available at this point of time.

A 55-year-old manual laborer, with no previous comorbidities, presented to us with a history of back pain for the past 6 months and history of radiating pain to the right lower limb for the past 1 month. Clinical examination revealed radicular pain to the right lower limb that increased with sitting in the forward flexion. Radiologic evaluation with magnetic resonance imaging revealed L3-4, L4-5, and L5-S1 level posterior disc bulge with annular tear. A clinical diagnosis of lumbar disc herniation was made, and the patient was scheduled to undergo lumbar discectomy under general anesthesia (GA). In the operating room, GA was induced with intravenous (IV) fentanyl 3 mcgs/kg and propofol 2 mg/kg. Subsequently, endotracheal intubation was facilitated with IV vecuronium 0.1 mg/kg. After positioning the patient in the prone position for surgery, we performed an ESPN block at L3 level under USG guidance [Figure 1]. After ensuring skin asepsis, a low-frequency curvilinear USG probe (4C-RS probe, GE Medical Systems, Phoenix, Arizona, USA) in a sterile sheath was placed longitudinally 3 cm lateral to the L3 spinous process. An 18-G Tuohy needle was inserted using an in-plane approach, so that the needle tip was placed into the fascial plane on the deep aspect of the erector spinae muscle. A total of 25 mL of 0.25% bupivacaine with 1 µg/kg dexmedetomidine

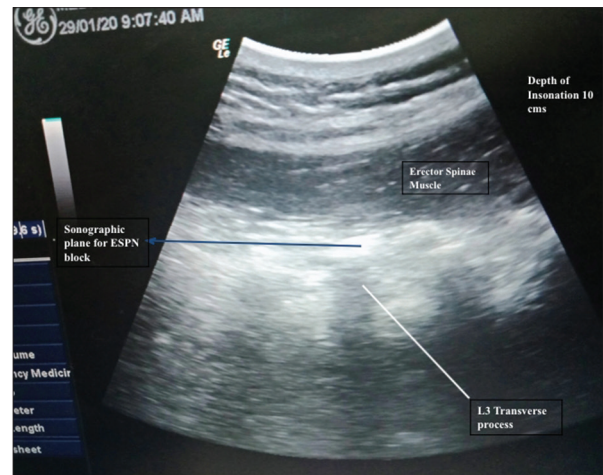


Figure 1: With 10 cm depth of insonation using curvilinear ultrasonography probe at L3 spine level, the erector spinae plane is identified. Local anesthetic was administered using real-time imaging with Tuohy needle on either sides

was injected into the plane below the muscle and above the transverse process and inter-transverse ligaments [Figure 1]. The procedure was repeated on the other side following which the patient underwent surgery in the prone position. The patient required no further opioid analgesics in the intraoperative period. The surgical procedure was otherwise uneventful. Postoperatively, the patient attained an Aldrette score of ≥ 9 by 30 min and the Visual Analog Score for pain was 2/10 at 1 h postoperatively and 3/10 at the 4th postoperative hour. We assessed the patient for quality of recovery (QoR), on a

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QoR-15 scale^[2] at the 24th postoperative hour. The QoR-15 score was 98/150, and also, the patient reported significant sleep disturbances due to pain on the assessment with the Richards-Campbell Sleep Questionnaire.^[3]

Our experience highlights the fact that an ESPN block at the lumbar level can provide good intraoperative and early postoperative analgesia but fails to provide lasting effect for 24 h. This is in contrary to the available evidence.^[4] We presume that the significant loss of local anesthetic during dissection of surgical field could have led to the reduction in analgesic efficacy. ESPN blocks for analgesia after spine surgery is an emerging area of investigation. Our experience also questions the role of a lumbar ESPN block in facilitating enhanced recovery after spine surgery as evidenced by poor QoR-15 score and poor postoperative sleep quality. These two variables are among the six standardized endpoints for the assessment of patient comfort in anesthesia, surgery, and perioperative medicine.^[5] We suggest that without further randomized control trials on this topic, it is too premature to attribute an authoritative role of ESPN block for enhancing recovery after spine surgery, though its analgesic potential intraoperatively can be beneficial.

Declaration of patient consent

The author certify that he have obtained appropriate patient consent form. In the form, the patient has given the consent

for the images and other clinical information to be reported in the journal. The patient understands that name and initial will not be published and due efforts will be made to conceal the identity, but anonymity cannot be guaranteed.

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Conflicts of interest

There are no conflicts of interest.

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