Is ESP block an answer for upper abdominal surgeries where epidural analgesia can't be used?

Ultrasound-guided erector spinae plane (US-ESP) block is a myo-facial plane block, described by Forero *et al.*, where a drug diffuses in a plane below erector spinae muscle and provides analgesia by blocking dorsal rami, ventral rami, as well as rami communicans of spinal nerves.[1]

Here, we are sharing our experience of successful management of perioperative analgesia by performing USG-guided bilateral extrasensory perception (ESP) block, where administering the standard epidural analgesia was relatively contraindicated due to high-international normalized ratio (INR), as well as locating the epidural space was also difficult due to presence of moderate scoliosis. A consent for publication was taken from the patient. A 52-years old female with carcinoma gall bladder, history of coronary artery bypass surgery (CABG) performed 4 months ago, on a low molecular weight (LMW) heparin and dual antiplatelet therapy, posted for extended cholecystectomy. Her biochemical parameters related to liver function tests were deranged, hemoglobin was 9 gm/dl, prothrombin time (PT) was 26 seconds, and INR was 1.88. Her body mass index (BMI) was 16.4, preoperative blood pressure (BP) was 90/50, and heart rate (HR) was 110/minute. To add more procedural difficulty for epidural analgesia, she had moderate scoliosis. During preanesthetic checkup, informed written consent was taken, patient was educated about ESP block and numeric rating scale (NRS) for pain assessment, and premedication and order of nil per oral for 8 h before surgery was given. In operation theater, basic monitors were instituted. After positioning the patient in a sitting position, USG-guided bilateral ESP block was given with 20 ml of 0.25% levobupivacaine, at the level of eight thoracic vertebra, and a catheter was secured bilaterally in that myo-facial plane for perioperative continuous infusion of 0.125% levobupivacaine at the rate of 6 ml/hour [Figure 1]. General anesthesia (GA) was given with standard technique. At the end of the surgery, the trachea was extubated and patient was shifted to postanesthesia care unit (PACU). No other analgesic was given in intraoperative period. Postoperatively, 11 points NRS, HR, and systolic and diastolic BP were monitored and documented just after reaching PACU and then at the interval of 2, 4, 8, 12, 24, 36, and 48 h. We decided to use injection morphine (0.1 mg/kg) as rescue analgesia if NRS was more than four. But our patient was pain free with stable vital parameters throughout the postoperative period. The catheters were removed after 48 hours. The whole perioperative period was uneventful. Patient satisfaction score was assessed on a numerical scale from zero to five and was documented to be four.

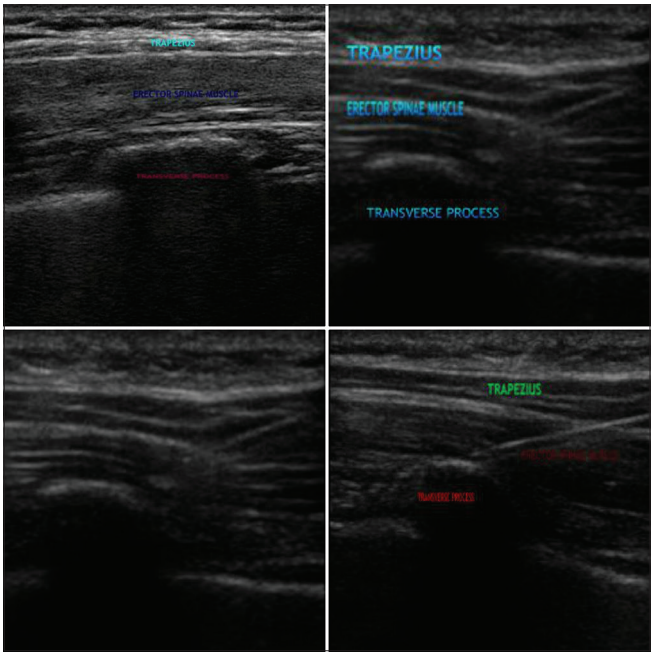

Figure 1: Ultrasonographic image of ESP block

Epidural analgesia is our standard practice for the management of perioperative analgesia for such surgeries. But, in this case, in view of recent history of CABG, LMW heparin and dual platelet therapy with raised INR, scoliotic spine, and preoperative BP on the lower side, we had decided to go for bilateral ESP block for perioperative analgesia. We negated the option of bilateral transversus abdominalis plane (TAP) block for postoperative analgesia as TAP block has been more effective in controlling pain when incision extends up to 10th thoracic dermatome, and its efficacy wanes as the transverse surgical incision approach the anterior axillary line.[2]

Thus, we conclude that bilateral ESP block may be an effective technique for postoperative analgesia in patients where epidural analgesia is relatively contraindicated. It is easy to perform, safer, unassociated with hemodynamic fluctuations, and can provide extensive analgesia from single puncture as ESP plane is larger than the epidural space.[3]

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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