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# Efficacy of ultrasound-guided erector spinae plane block for postoperative analgesia in bilateral mastectomy: a case report

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## Abstract

Introduction

The Erector Spinae Plane Block (ESP) is a new technique of regional anesthesia to the chest wall, where local anesthetic is deposited between the transverse process and erector spinae muscle, resulting in analgesia and anesthesia to hemithorax[1].

The simplicity and safety compared with thoracic epidural or bilateral paravertebral blocks are the advantages of this technique.

We present a successful ESP block for postoperative analgesia in a patient underwent bilateral total mastectomy.

Case report

A 41-year-old woman (77 kg, 164 cm, BMI=28.6, ASA score =1), was admitted to the hospital for bilateral risk reducing mastectomy in BRCA1 mutation follower by mammary protsthesis implantation. Written informed consent was obtained from the patient and bilateral ESP block was planned for postoperative regional analgesia.

On the day of the surgery, the patient was premedicated with midazolam 2 mg by IV. Bilateral ESP block was performed in the lateral decubitus position at T4-T8 transverse process level using 10-MHz linear ultrasound probe. For the block, 15 mL of 0.25% Levobupivacaine was used on each side.

After monitoring routine vital parameters,100% oxygen was administered and general anesthesia was induced using 2.5 mg/kg propofol, followed by 0.6 mg/kg rocuronium. Anesthesia was maintained using remifentanil (0.03-0.08mcg/kg/min) and 1.5-2% sevoflurane (MAC>0.7) in 40% $O_2$/air. At the end of the anesthesia acetaminophen 1g was administered and was connected iv 2mL/h elastomer with 10mg morphine, infused in a period of 30 hours. Pain intensity was measured using Numeric Rating Scale (NRS: 0= no pain; 10=worst pain imaginable): it was 2 in PACU and always <3 in the ward (Measured every 6 hours for the first 24 hours). The patient did not need any rescue analgesic during the first 48 hours postoperatively.

Discussion and Conclusion

Erector spinae plane (ESP) block is a myofascial plane block employed as a simple and safe alternative analgesic technique to provide sensory block at multi-dermatomal levels across the posterior, lateral, and anterior chest wall. It can be used for acute post-surgical, post-traumatic, and chronic neuropathic thoracic pain[2, 3].

In this case the use the ESP block, used for bilateral mastectomy, ensured good postoperative analgesia and no complications were reported. Further controlled clinical trials may better reveal the advantages and the disadvantages of this block.

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**Abstract**
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