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## Ultrasound guided bilateral erector spinae plane block for post-surgical pain in patients after thoracic surgery

Dmytriiev D. V., Glazov E. O., Marchuk O. V., Zaletskiy B. V.

National Pirogov Memorial Medical University, Vinnytsia, Ukraine

**Objective:** To examine the analgesic efficacy of bilateral erector spinae plane (ESP) block compared with conventional treatment for pain after thoracic surgery.

**Methods:** 34 patients with thoracic trauma were divided into 2 groups. Patients in group 1 (ESP block group, n = 14) received ultrasound-guided bilateral ESP block with 3 mg/kg of 0.375 % ropivacaine before anesthesia induction at the T6 transverse process level (Fig. 1). Patients in group 2 (acetaminophen and morphine group, n = 20) received acetaminophen (15 mg/kg every 6 hours – maximum 1 g) and morphine (10 mg every 8 hours) intravenously in the postoperative period. The primary study outcome was to evaluate pain at rest using an 10-point numeric rating scale (NRS). Mann – Whitney U-test was used for comparing NRS scores.

**Results:** The postoperative pain level after extubation and duration of analgesia during which NRS was < 4 of 10 was compared between the groups. The median pain score at rest after extubation in group 1 was 0 of 10 until hour 6, 3 of 10 at hour 8, and 4 of 10 at hours 10 and 12 postextubation. These were significantly less in comparison with group 2 (p = 0.0001). Patients in group 1 had a significantly higher mean duration of analgesia (11.04 ± 0.18 hours), during which NRS was < 4 of 10, compared with group 2 (4.18 ± 0.14 hours) (p = 0.0001).

**Conclusion:** ESP block safely provided significantly better pain relief at rest for longer duration as compared to intravenous acetaminophen and morphine.

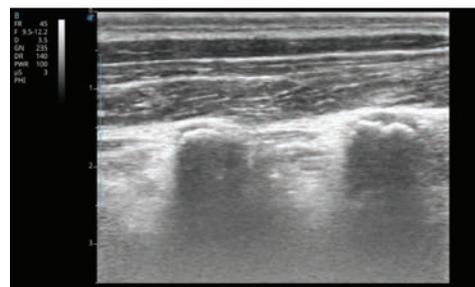
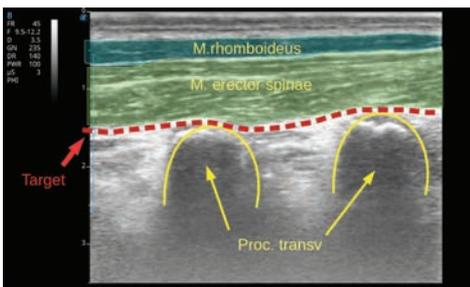


Fig. 1. Erector spinae block ultrasound image

