



Journal of ANESTHESIA AND CRITICAL CARE REPORTS AND IMAGING

www.journalancri.com

Effect of Bilateral Oblique Subcostal TAP Block on Multimodal Analgesia for Upper Abdominal Incisions: Two Case Reports

Ömer Keklice¹

Konya City Hospital, Anesthesiology and Reanimation Clinic, Konya, Türkiye

Case Report

Abstract

Severe somatic pain often follows upper abdominal incisions and may not be adequately controlled by systemic opioids alone. The oblique subcostal transversus abdominis plane (OSTAP) block targets T7–T10 dermatomes to enhance multimodal analgesia. Two patients undergoing major upper abdominal procedures received bilateral ultrasound-guided OSTAP blocks before emergence from anesthesia. Case 1 was a 73-year-old man (78 kg) with type 2 diabetes mellitus who underwent open gastrectomy for gastric adenocarcinoma. Case 2 was a 55-year-old woman (86 kg) who underwent cytoreductive debulking for ovarian carcinoma. Both received identical anesthetic protocols (premedication: midazolam 2 mg IV; induction: propofol 2 mg/kg, fentanyl 2 µg/kg, rocuronium 0.6 mg/kg), intraoperative IV paracetamol 1 g, tramadol 2 mg/kg, and ondansetron 0.1 mg/kg, plus invasive arterial pressure and core temperature monitoring during ≈ 8 h of surgery. Before emergence, each patient received 20 mL of 0.25 % bupivacaine per side via OSTAP block. On PACU admission, their VAS scores were 2/10 (Case 1) and 3/10 (Case 2). The first request for additional analgesia occurred at 14 h in Case 1 and at 12 h in Case 2. No complications were observed. Ultrasound-guided bilateral OSTAP block is a safe and effective adjunct to multimodal analgesia in upper abdominal surgery, providing prolonged somatic pain relief and significantly delaying early opioid requirements across different patient profiles.

Keywords:
Oblique subcostal
transversus abdominis
plane block,
Abdominal surgery

Received 18.03.2025

Accepted 18.07.2025

Introduction

Upper abdominal incisions extending from the xiphoid process to below the umbilicus produce intense somatic pain often inadequately controlled by systemic opioids alone. The landmark-based transversus abdominis plane (TAP) block provides analgesia to infra-umbilical dermatomes but fails to cover supra-umbilical segments [1]. Hebbard et al. described the oblique subcostal TAP (OSTAP) block, which deposits local anesthetic along the costal margin to reliably block T7–T10 dermatomes and address upper abdominal pain [2]. Systematic reviews have demonstrated that OSTAP reduces postoperative pain scores and opioid consumption after abdominal procedures [3].

Case Report

Case 1

A 73-year-old man (78 kg) with type 2 diabetes mellitus was scheduled for elective open gastrectomy for gastric adeno-

*Corresponding:

E-mail address: drokeklice@gmail.com

Cite this article as:

Keklicek Ö. Effect of Bilateral Oblique Subcostal TAP Block on Multimodal Analgesia for Upper Abdominal Incisions: Two Case Reports. J Anesth Crit Care Rep Imaging. 2025;1(1):18-20

carcinoma. After obtaining written and verbal consent, premedication was midazolam 2 mg IV. Anesthesia was induced with propofol 2 mg/kg, fentanyl 2 µg/kg, and rocuronium 0.6 mg/kg; tracheal intubation was uneventful. Intraoperative monitoring comprised ECG and pulse oximetry, supplemented by invasive arterial pressure and core temperature measurements. The surgery—via a midline incision from the xiphoid to below the umbilicus—lasted approximately 8 hours. Intraoperative analgesia and antiemesis included paracetamol 1 g IV, tramadol 2 mg/kg IV, and ondansetron 0.1 mg/kg IV. At the end of the procedure and before emergence, bilateral OSTAP blocks were performed under sterile conditions using a Mindray DC-60 exp high-frequency linear ultrasound probe; 20 mL of 0.25 % bupivacaine was injected on each side [2]. Upon admission to the PACU, his VAS was 2/10, and the first request for rescue analgesia occurred 14 hours later. No complications were observed.

Case 2

A 55-year-old woman (86 kg) diagnosed with ovarian carcinoma underwent cytoreductive debulking via the same midline incision. Her premedication, induction agents (propofol 2 mg/kg, fentanyl 2 µg/kg, rocuronium 0.6 mg/kg), and monitoring protocol were identical to Case 1. The 6-hour debulking procedure concluded with bilateral OSTAP blocks (20 mL of 0.25 % bupivacaine per side) before emergence. Intraoperative IV paracetamol (1 g), tramadol (2 mg/kg), and ondansetron (0.1 mg/kg) were administered. On arrival in the PACU, her VAS score was 3/10. She remained pain-free until 12 hours post-block, at which point she required her first additional analgesic. No block-related adverse events occurred.

Discussion

The OSTAP block extends the dermatomal coverage of classic TAP blocks to supra-umbilical areas by depositing local anesthetic beneath the costal margin, effectively blocking T7–T10 sensory nerves [2]. In both an elderly male and a middle-aged female patient, OSTAP performed immediately before emergence combined with intraoperative IV analgesics maintained



Figure 1. Incision line

low pain scores ($\text{VAS} \leq 3$) and postponed opioid requirements (14 hours in Case 1, 12 hours in Case 2). These findings align with reported analgesic durations of 8–12 hours in the literature [3]. Invasive hemodynamic and temperature monitoring during prolonged surgery ensured optimal physiological stability. Incorporating OSTAP into multimodal analgesia protocols can reduce opioid-related side effects and improve patient comfort.



Figure 2. Ultrasonographic image of the muscles and the needle.

Future randomized trials comparing OSTAP with epidural analgesia or other regional techniques in extensive upper abdominal surgeries are warranted.

Conclusion

Ultrasound-guided bilateral OSTAP block is a safe and effective adjunct to multimodal analgesia for upper abdominal surgery across diverse patient profiles, providing prolonged somatic pain relief and significantly delaying early opioid requirements.

References

1. Rafi AN. Abdominal field block: a new approach via the lumbar triangle. *Anaesthesia*. 2001;56(10):1024–6.
2. Hebbard P, Fujiwara Y, Shibata Y, Schroeder S. Oblique subcostal transversus abdominis plane block: description of a novel approach and case report. *Br J Anaesth*. 2008;100(6):140–2.
3. Abdallah FW, Brull R. Is the transversus abdominis plane block effective in reducing postoperative pain and opioid consumption after abdominal surgery? A systematic review. *Anesth Analg*. 2012;114(5):1318–31.

Ethics

Informed Consent

Written informed consent was obtained from both patients for publication of this case report, including the use of anonymized clinical data and images.

Author Contributions

The author is solely responsible for the conception, design, data acquisition, analysis, interpretation, and drafting of the manuscript.

Declaration of Interests

The author declares no conflicts of interest.

Funding

The author received no financial support for the research, authorship, and/or publication of this article.
