

Introduction

- Effective postoperative pain control is vital for enhanced recovery after abdominal surgeries.
- Rectus sheath block (RSB) provides anterior abdominal wall analgesia by targeting ventral rami of spinal nerves (T7-L1).
- Traditional transverse RSB approaches may have inconsistent dermatomal coverage and catheter placement challenges.
- This case series introduces a novel longitudinal RSB technique aimed at improving analgesic efficacy and coverage.
- Written informed consent was obtained from the patients for publication of this report.

Case Report

Case 1

- 57-year-old female patient underwent exploratory laparotomy, adhesiolysis, sarcoma resection, and hernia repair via vertical midline incision (T6 to below umbilicus).
- Continuous longitudinal rectus sheath block placed from cephalad to caudad direction pre-extubation with 5-inch ON-Q SilverSoaker™ multiport catheter system.
- Post-op analgesia: bupivacaine 0.125% at 8 mLh⁻¹, acetaminophen, and lidocaine patch; no opioids
- Median pain score 1 [0–2] over 3 days; sensory block extended to T12, beyond incision.

Case Report

Case 2

- 32-year-old female patient underwent radical nephrectomy, retroperitoneal lymph node dissection and mass excision via vertical incision.
- Continuous longitudinal in plane rectus sheath catheters placed in cephalad to caudad direction using 5-inch ON-Q SilverSoaker™ multiport catheter system before extubation.
- Postoperatively, received bupivacaine 0.125% at 8 mLh⁻¹, acetaminophen, diclofenac, lidocaine patch, and one time five mg oxycodone.
- Reported median pain score 2 [0–5] over 3 days; sensory block extended to T12.

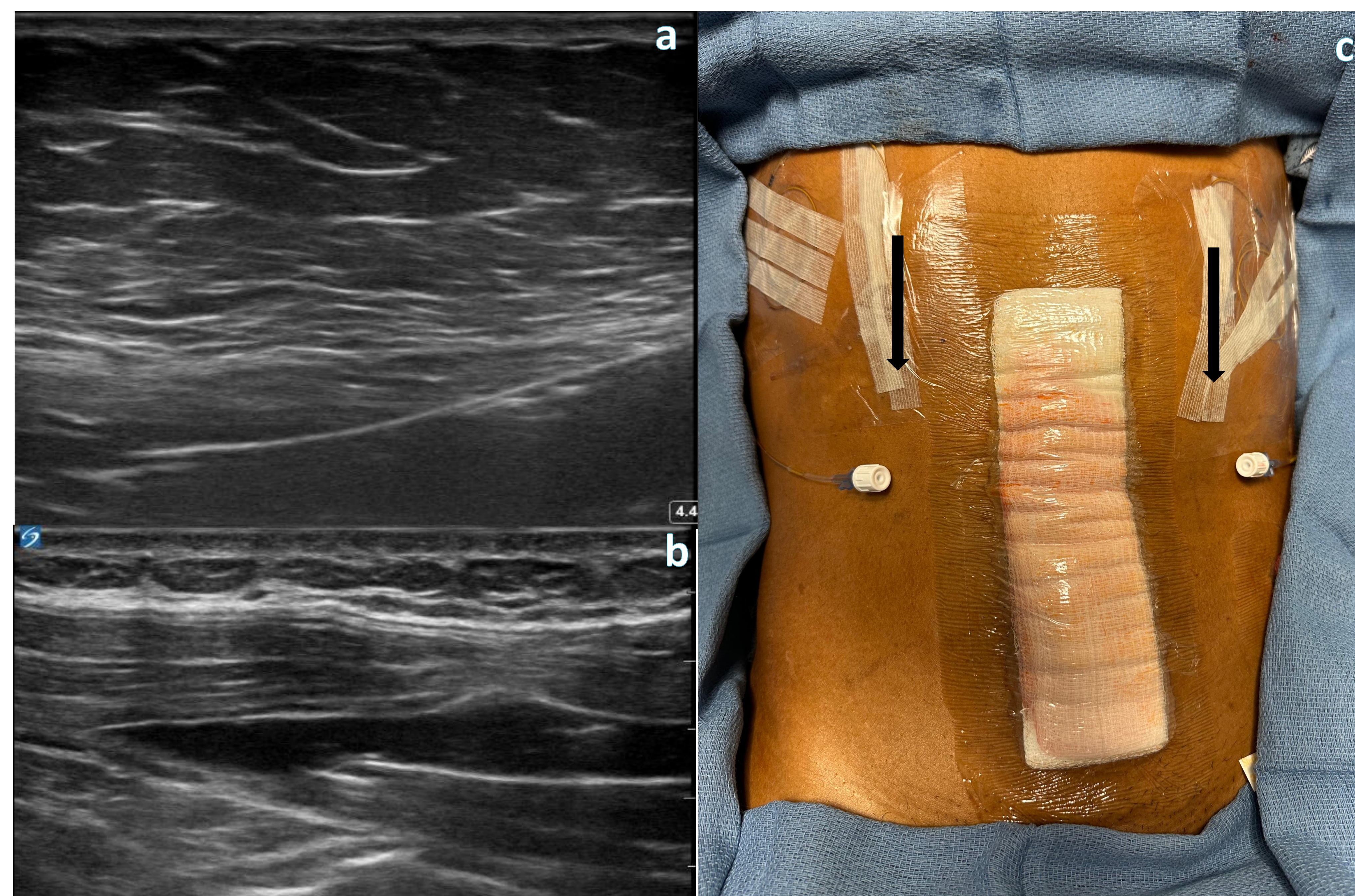


Figure 1a and b. Local anesthetic spread with bent tip needle in the space between the rectus muscle and the posterior rectus sheath. Fig 1c. Bilateral multiport catheters in place with black arrows depicting the direction of catheters

Discussion

- Continuous longitudinal rectus sheath block offers consistent dermatomal coverage with wider spread of local anesthetic infusion for vertical abdominal incisions.
- In this case series, both the patients had low pain scores, minimal opioid use, and sensory blockade extending to T12 dermatome.
- Compared to traditional approach, a longitudinally placed multiport catheter travels through the anatomical tendinous intersections ensuring local anesthetic spread along the length of the muscle to reliably cover for T9-T12 nerves
- Results suggest promise for this technique in multimodal pain management, warranting further study in larger cohorts.

References

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- 2.Dingeman RS, Barus LM, Chung HK, et al. Ultrasonographically-guided bilateral rectus sheath block vs. local anesthetic infiltration after pediatric umbilical hernia repair: a prospective randomized clinical trial. *JAMA Surg* 2013;148:707-713.
- 3.Shido A, Imamachi N, Doi K, et al. Continuous local anesthetic infusion through ultrasound-guided rectus sheath catheters. *Can J Anesth* 2010;57:1046-1047.