

Successful Bilateral Quadratus Lumborum Catheters in a Trauma Patient with Retroperitoneal Hematoma

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INTRODUCTION

- Effective postoperative pain management in complex trauma patients poses unique challenges.
- This can be due to patient comorbidities, complexity of traumatic injuries, as well as traumatic induced coagulopathy.
- Regional anesthesia can be an effective perioperative pain management strategy especially in opiate tolerant patients but should be used cautiously in coagulopathic patients^[1].
- This case highlights the utility of perioperative regional anesthesia in the setting of major abdominal trauma and coagulopathy.

PATIENT CASE

- 65-year-old male with history of chronic pain and SUD, presented as a trauma after a bicycle accident.
- Injury complex:
 - hemorrhagic shock secondary to large retroperitoneal hematoma, hemoperitoneum, hemopneumothorax, multiple abdominal wall hematomas
- Surgical course:
 - exploratory laparotomy, hemicolectomy, and small bowel resection, multiple abdominal surgeries over a five-day course until end anastomosis and abdominal wall closure were obtained.
- The patient remained intubated postoperatively in the ICU on ketamine and fentanyl infusions.
- Bilateral QL catheters were performed.

IMAGES

The patient was placed in the lateral decubitus position. A high-frequency curvilinear ultrasound probe was placed at the patient's flank along the mid axillary line just cranial to the iliac crest.

The ideal position should reveal the transverse process of lumbar vertebra with the erector spinae posteriorly, QL laterally, and psoas major anteriorly.

An 18G Tuohy needle was inserted in-plane from anterior to posterior and advanced until anterior to the QL Muscle.

15ml of 0.5% Ropivacaine was injected to confirm proper needle placement and spread followed by insertion of a 20G catheter.

Following catheter placement, 0.25% lidocaine was continuously infused for 3 days in both catheters

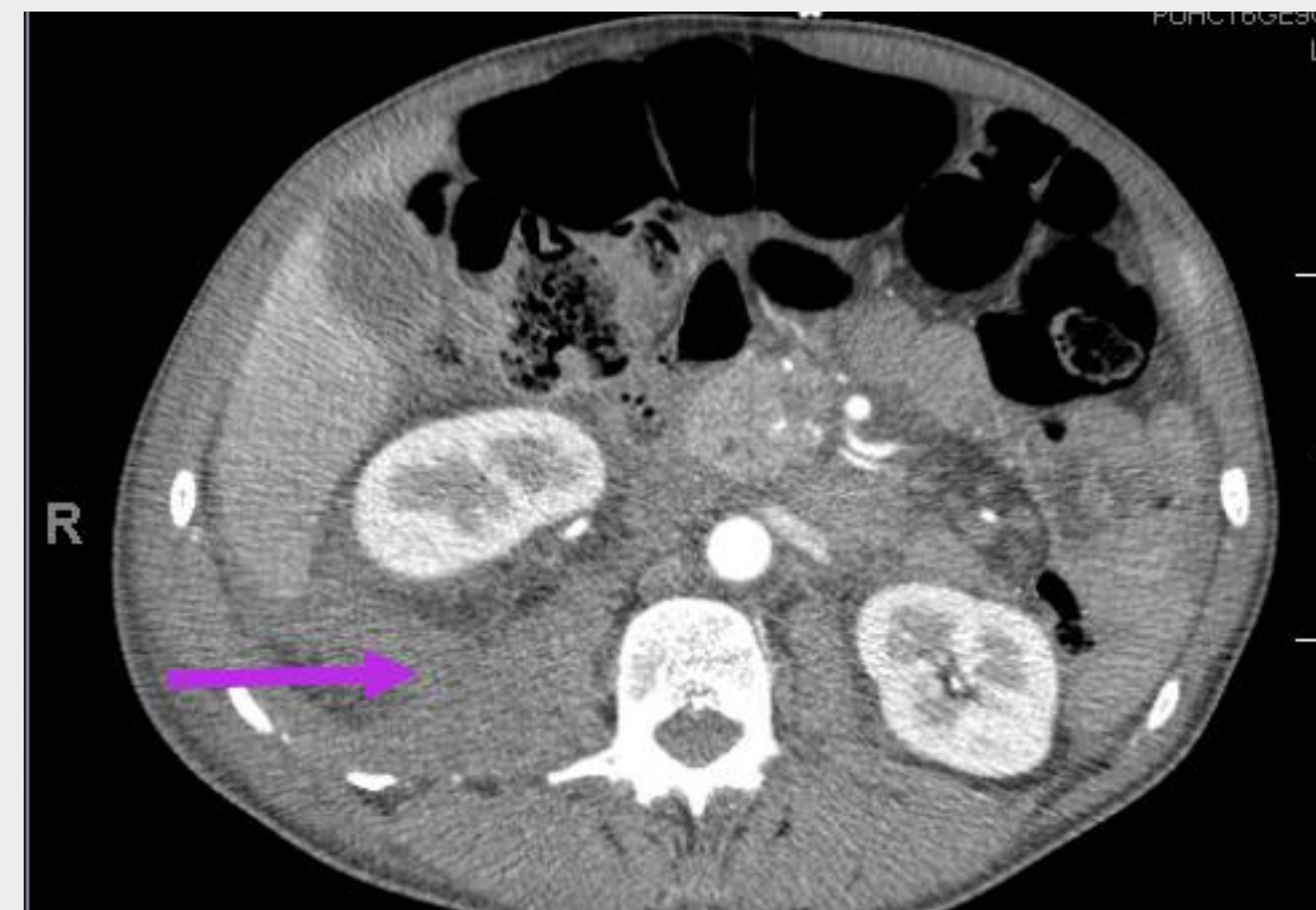


Figure 4: CT Angio with purple arrow showing retroperitoneal hematoma

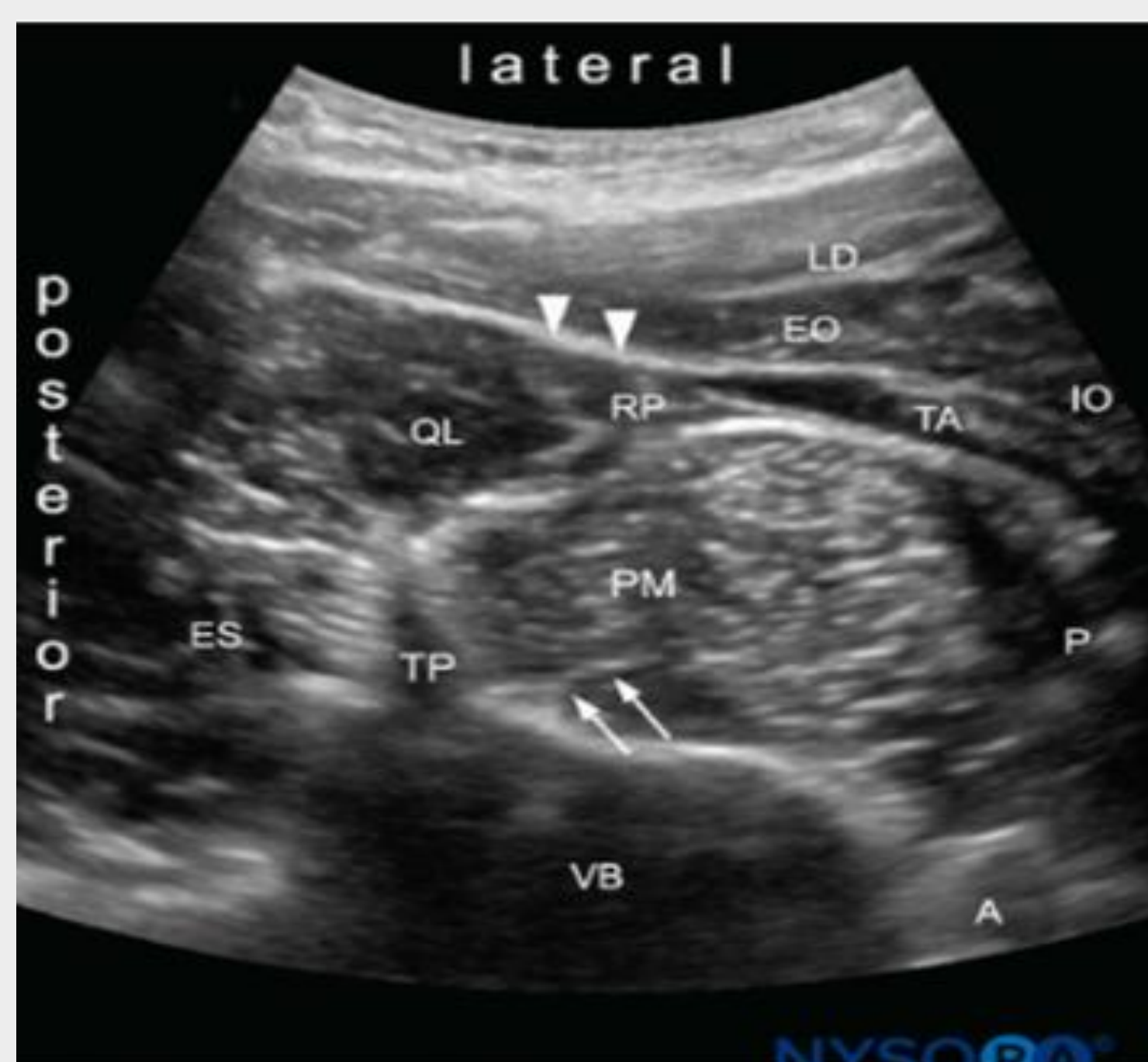


Figure 1: Ultrasound showing anatomy for QL Block^[2]

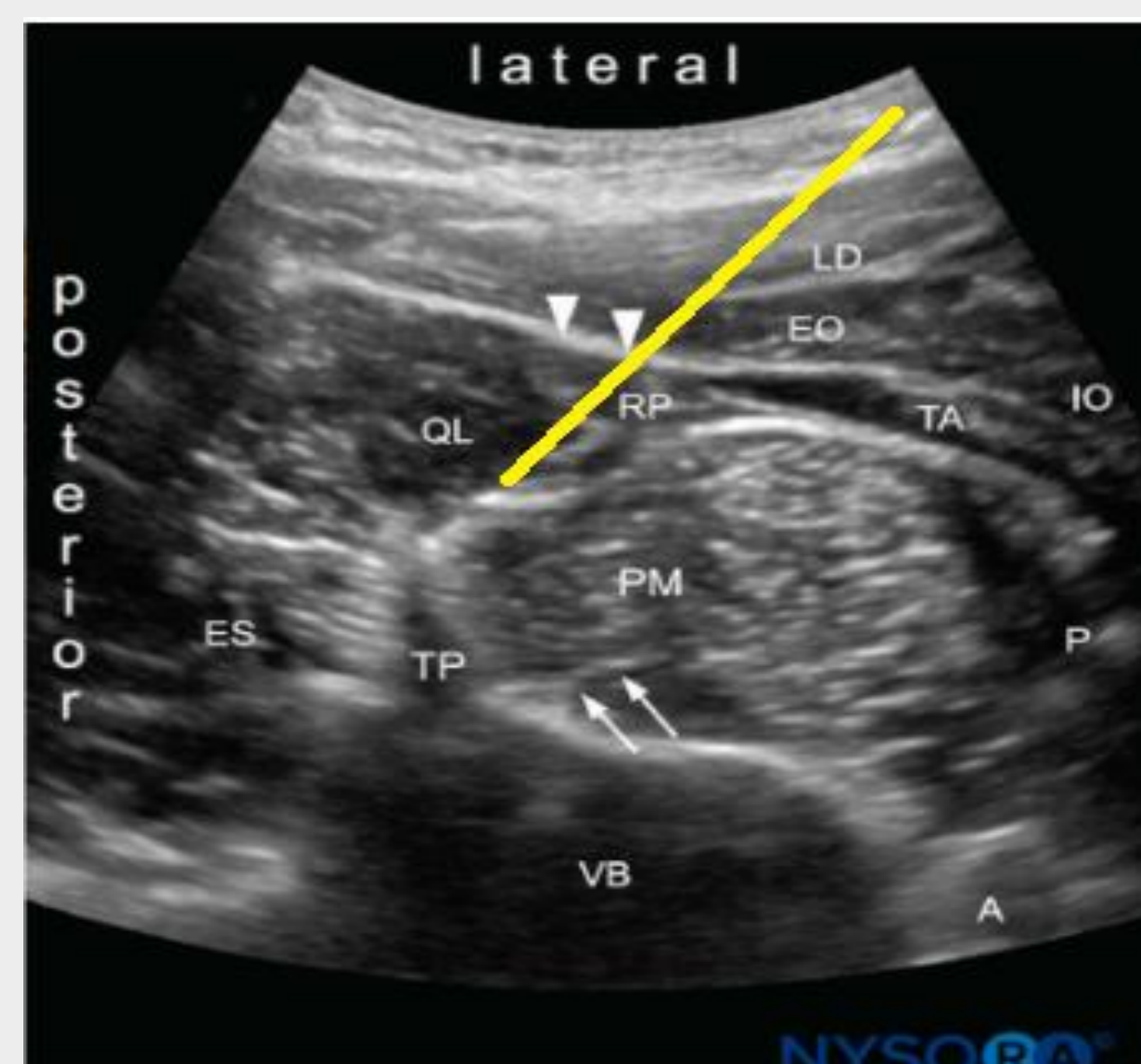


Figure 2: Ultrasound showing needle approach for QL2 Block Anterior Approach^[2]



Figure 3: Lateral Positioning for QL PNB^[2]

DISCUSSION

- Patient outcome:
 - Significant improvement in pain leading to discontinuation of Fentanyl infusion
 - Successful extubation achieved without complications.
 - No opioid-related adverse effects were observed post-extubation.
- Post-operative pain management in trauma patients with intra-abdominal and retroperitoneal injuries is often complex. Particularly when opioids pose a risk due to respiratory compromise, altered mental status, or substance use history^[3].
- QL blocks, particularly continuous catheter-based infusions, offer a valuable adjunct in complex trauma scenarios, promoting opioid-sparing pain control, respiratory recovery, and improved patient outcomes.
- While retroperitoneal hematoma might traditionally be considered a relative contraindication for regional analgesia, the peripheral nature of the QL block, along with imaging-guided placement, makes it a safer and more targeted option^[4].
- In this case, it enabled effective analgesia, opioid reduction, and facilitated ventilator weaning, thus demonstrating a successful outcome in this high-risk surgical patient.

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