



Quadratus Lumborum Block as Adjunct to PENG in Total Hip Arthroplasty?

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Introduction

Total hip arthroplasty (THA) is an increasingly common surgery with a number of regional techniques used, including fascia iliaca, femoral, PENG, lateral femoral cutaneous (LFCN), and sciatic nerve blocks.

The quadratus lumborum (QL) block has emerged as another analgesia technique that could offer benefit. We report a clinical scenario of utilizing combined PENG, LFCN, and anterior QLB for pain management following THA.

Methods

PENG Block: Curvilinear probe placed along the inguinal crease to identify the femoral neurovascular bundle, anterior inferior iliac spine and iliopubic eminence (Figure 1).

- 20-gauge needle advanced in-plane to the superior pubic ramus lateral to the psoas tendon
- 15 mL of 0.25% bupivacaine with PF dexamethasone 6 mg
- + LFCN block: 5 mL of 0.25% bupivacaine

Anterior QL Block: Curvilinear probe, trans-muscular

- 20-gauge needle advanced to the fascial plane between the QL and psoas major muscle (Figure 2)
- 20 mL of 0.25% bupivacaine with PF dexamethasone 4 mg

Case Report

79 year-old female with multiple myeloma, hypertension, sick sinus syndrome s/p pacemaker, DM, and CKD who presented for THA (posterior approach) in the setting of osteoarthritis with myeloma involvement. A motor-sparing analgesic strategy was prioritized for perioperative care.

- **PENG and LFCN blocks** were performed, with the addition of an **anterior QL block** to enhance analgesic coverage.
- Multimodal analgesia: ketorolac, methocarbamol, and hydrocodone-acetaminophen (7.5/325 mg).
- **Postoperative recovery:** minimal pain at rest and mild-to-moderate pain with movement
- Participated fully in physical therapy without limitations
- Satisfactory pain control, in the setting of chronic back pain
- No rescue IV opioids were required postop

Discussion

- THA is associated with significant postoperative pain
- Motor-sparing regional techniques are preferred to facilitate early ambulation
- *Anterior QL block allows spread to lumbar plexus branches and the thoracic/lumbar paravertebral space, providing coverage from T10–L4*
- Multiple studies demonstrate reduced postoperative opioid requirements with QL blocks
- **Adding anterior QL block to PENG and LFCN blocks could provide complementary analgesia for THA patients**

Clinical Images

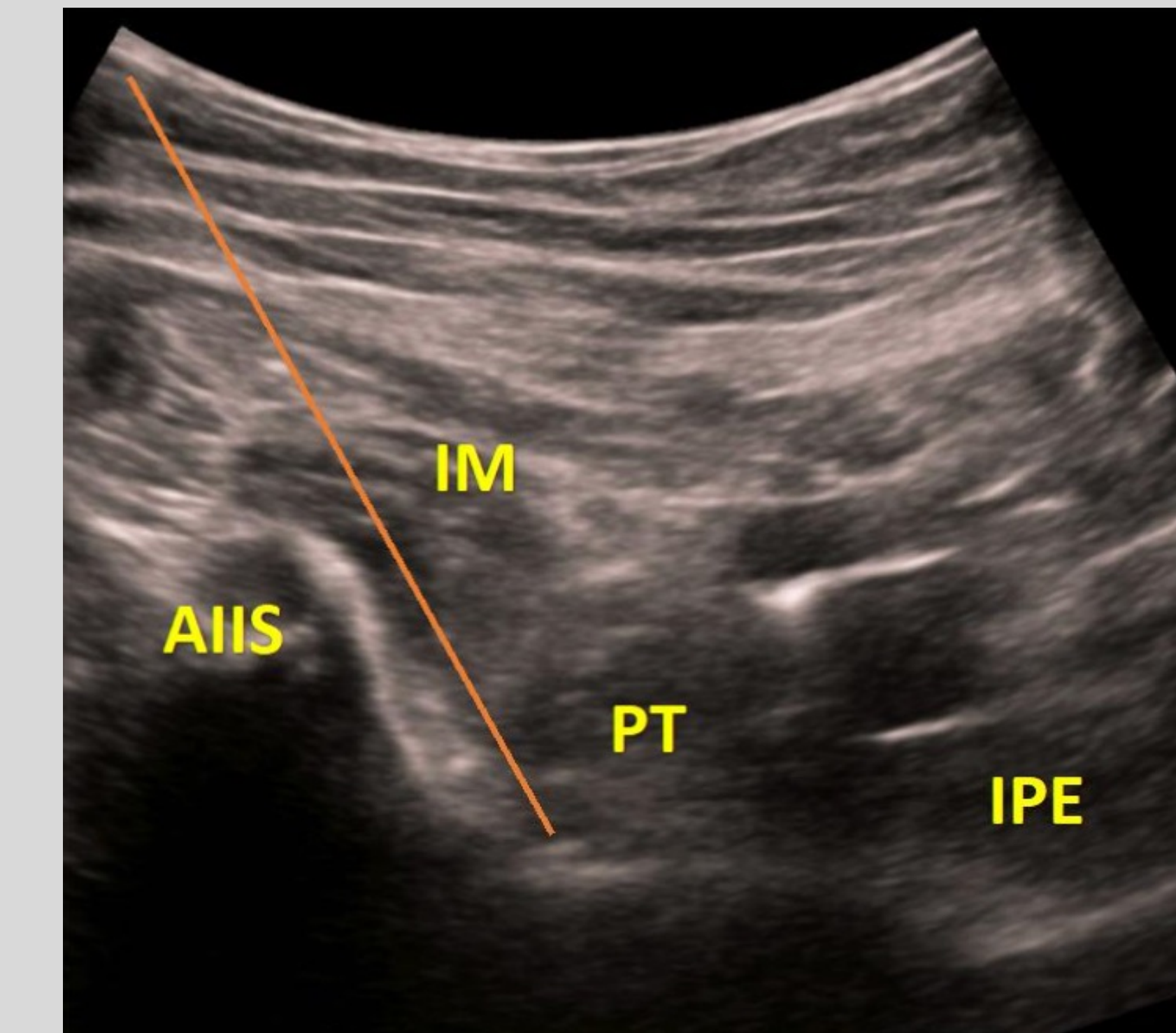


Figure 1. PENG block with trajectory of needle insertion (orange line). IM: Iliacus muscle, AIIS: Anterior inferior iliac spine, PT: Psoas tendon, IPE: Iliopubic eminence

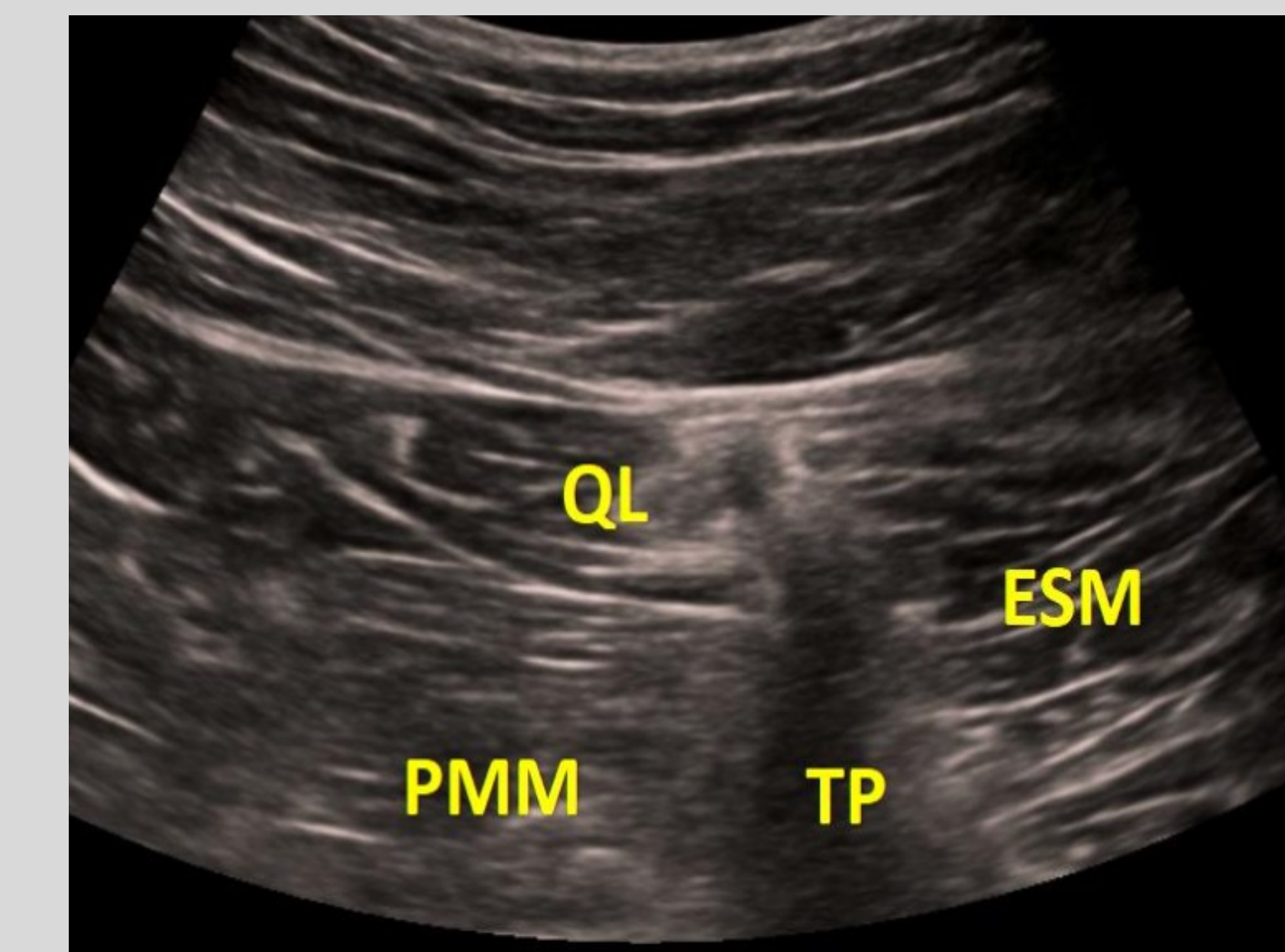


Figure 2. QL block with relevant anatomical structures. QL: Quadratus lumborum muscle, PMM: Psoas major muscle, ESM: Erector spinae muscle, TP: Lumbar transverse process

Abstract & References

