

CONTINUOUS PERICAPSULAR NERVE GROUP CATHETER IN A CHRONIC FEMORAL NECK FRACTURE WITH DELAYED SURGICAL MANAGEMENT: A CASE REPORT

Charlotte Pecot, Nicholas Wegener, John E. Rubin
Department of Anesthesiology, Weill Cornell Medical College, New York, NY

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INTRODUCTION

Hip fracture pain is associated with:

- Increased hospital length of stay
- Delayed mobilization
- Worse functional outcomes

Regional anesthesia improves pain but may cause motor blockade

Pericapsular Nerve Group (PENG) Block: Provides analgesia with minimal motor blockade

Continuous PENG block may provide analgesia while preserving mobility in a hip fracture patient with delayed surgical management

MATERIALS & METHODS

Consent for this case report was obtained from the patient for publication, consistent with the Weill Cornell Medicine Authorization for Protected Health Information for Research.

CASE REPORT

73-year-old ambulatory female presented to the emergency department with **four months of right hip pain after a fall**, exacerbated with **three weeks of acute worsening causing severe pain on any movement**

- **Imaging:** chronic displaced subcapital fracture of the right femoral neck with associated avascular necrosis and severe osteoarthritis
- **Laboratory evaluation:** elevated inflammatory markers
- **Hip arthrocentesis:** serosanguinous fluid with leukocytosis
- **Surgical intervention was delayed pending definitive cultures**

On presentation: single-shot ultrasound-guided femoral nerve block.

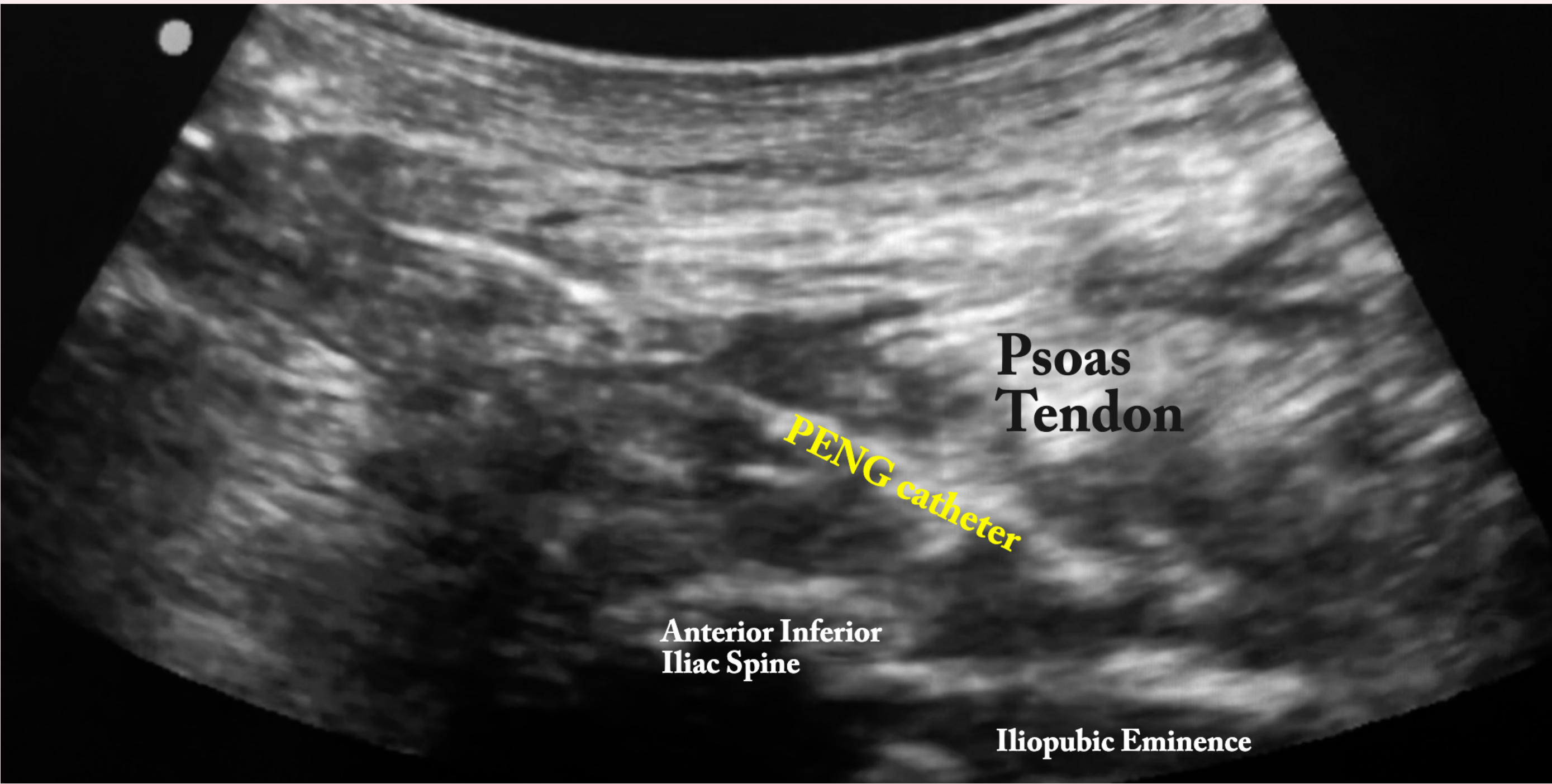
- NRS Pain Score with Passive Leg Raise: **8 -> 6**

Due to **ongoing pain, delayed surgery, and patient desire to continue to be ambulatory**, a **PENG block with catheter** was performed

- Multi-orifice catheter secured after visualizing lifting of the iliopsoas tendon
- Continuous 0.2% ropivacaine infusion initiated for ongoing analgesia
- NRS Pain Score with Passive Leg Raise: **6 -> 3**

The continuous PENG block substantially reduced pain, allowing ambulation and physical therapy, while awaiting surgical management

- With one dose adjustment for breakthrough pain, analgesia was maintained for five days until cultures returned negative
- The patient underwent uncomplicated total hip arthroplasty on day five after catheter placement and was discharged to subacute rehabilitation on post-operative day two



PENG Catheter Under Ultrasound Visualization

DISCUSSION

- This case highlights the feasibility of **continuous pericapsular nerve group blockade for prolonged, titratable anesthesia in a hip fracture patient with delayed surgical management**
- With minimal motor blockade, sustained pain control was achieved during an extended preoperative period while awaiting definitive treatment.
- **Continuous PENG blockade may represent a valuable regional anesthetic alternative in patients with complex hip pathology**

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