

Optimal Analgesia for Outpatient Hip Arthroscopy

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Introduction

Hip arthroscopic surgery is occasionally performed as an outpatient procedure, but severe postoperative pain can delay and prevent patient discharge. Due to its complex innervation, complete analgesic coverage of the hip joint from peripheral nerve blocks can be quite difficult to achieve. Choosing the right combination of regional techniques and multimodal analgesic medications is crucial for adequate pain control, timely discharge, and patient satisfaction.

Here, we compare two analgesic strategies for a healthy 26-year old male with bilateral femoroacetabular impingement (FAI) and labral tears. He underwent bilateral arthroscopic hip procedures three months apart for his chronic hip pain.

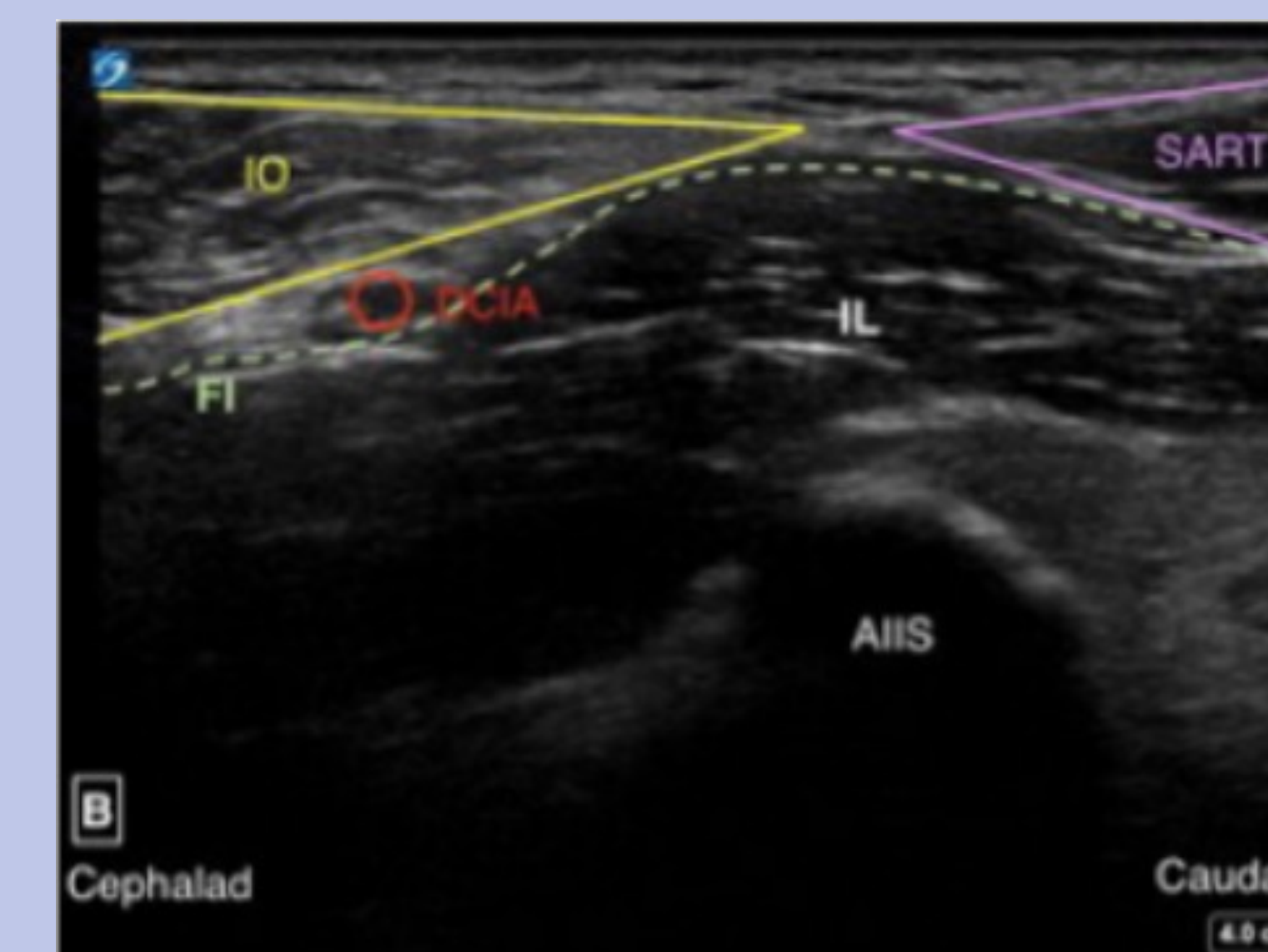
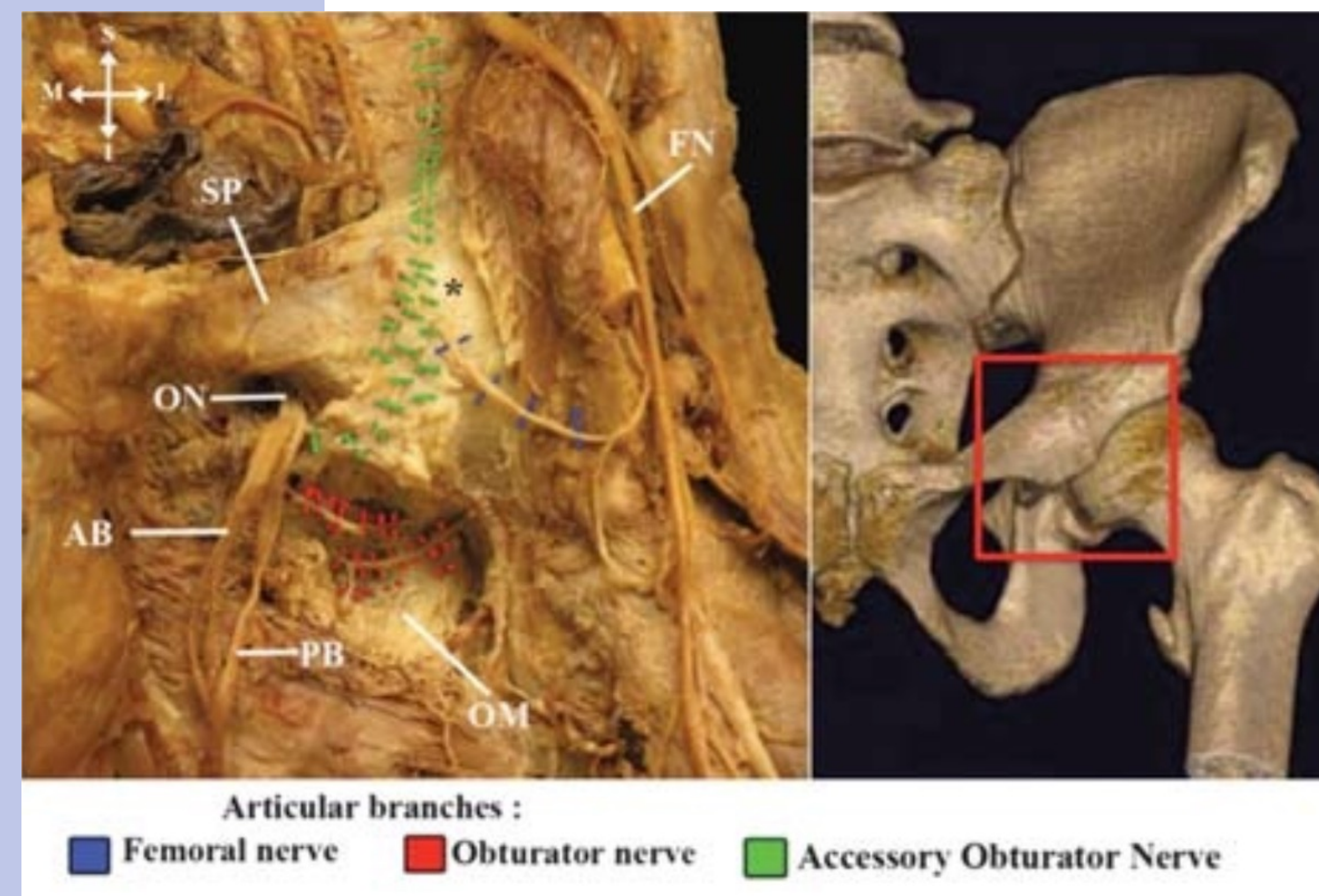
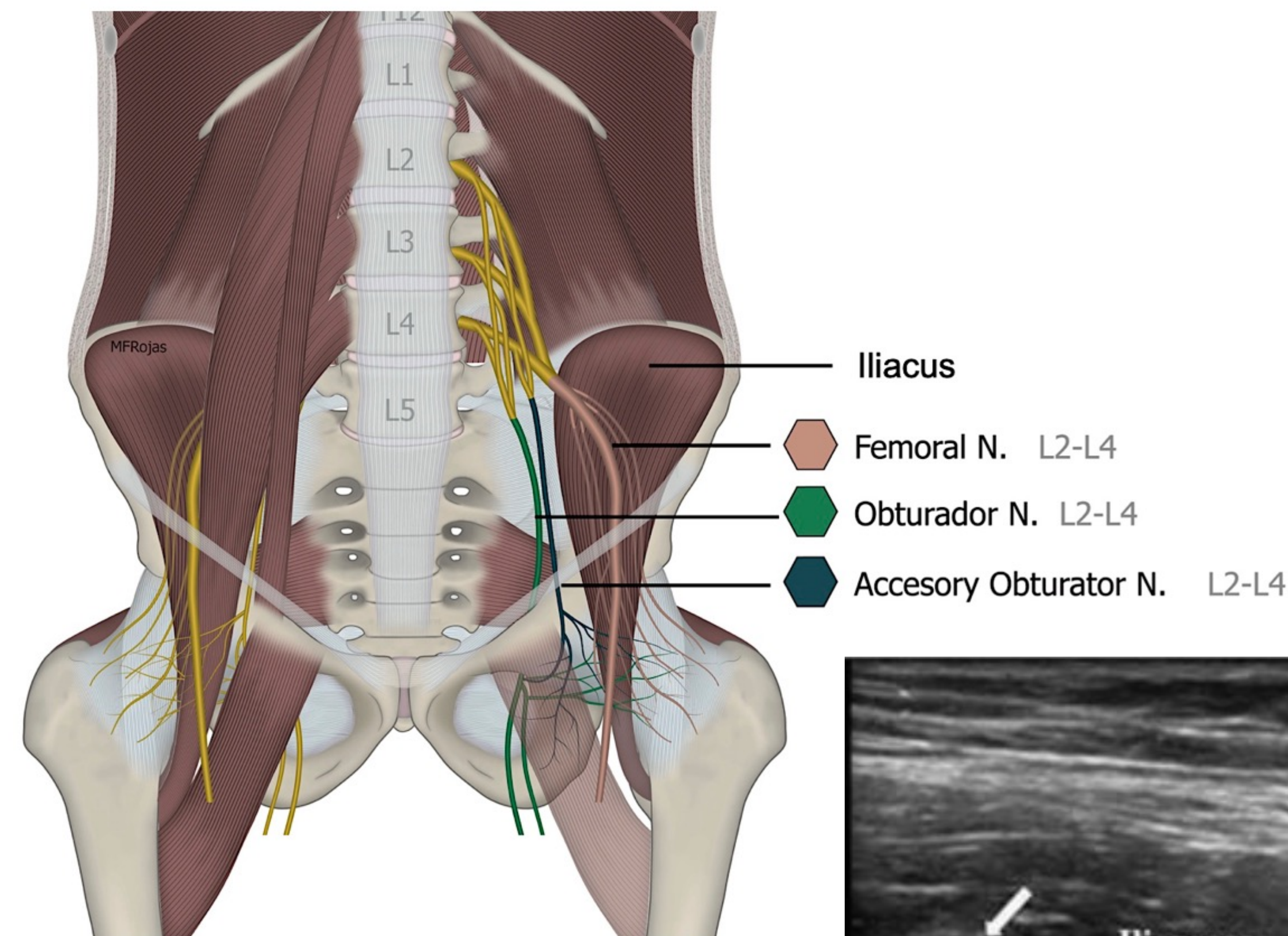
Surgery #1 – Right Hip Arthroscopy

- General anesthesia with preoperative lumbar plexus block
- Intraoperative analgesia: acetaminophen (1g), ketorolac (15mg), fentanyl (100mcg)
- Postoperative analgesia: oxycodone (10mg) and hydromorphone (1mg)
- Eventually discharged with 3/10 pain
- Patient recalls significant discomfort upon waking up in the recovery area and for the first 48 hours after discharge

Surgery #2 – Left Hip Arthroscopy

- General anesthesia with preoperative pericapsular nerve group (PENG) block and suprainguinal fascia iliaca (SIFI) blocks
- Intraoperative analgesia: acetaminophen (1g), ketorolac (15mg), fentanyl (100mcg) hydromorphone (2mg)
- Postoperative analgesia: oxycodone (10mg)
- Eventually discharged with 0/10 pain
- Patient reports significantly improved pain control throughout his postoperative course and was far more satisfied with his experience

Innervation of the Hip



Discussion

The hip joint receives innervation from multiple sources including femoral, obturator, and sacral plexus nerve components. For most hip surgery, the main pain sources usually arise from the anterior hip (femoral and obturator nerves). Sciatic blockade is rarely necessary unless surgery is performed posteriorly (e.g. hamstring reattachment surgery). Peripheral nerve block techniques to target the hip often incompletely anesthetize the hip which translates to areas of hotspots with regards to postoperative pain for these patients. Nevertheless, these blocks can still be useful adjuncts as part of a comprehensive multimodal analgesic regimen for these patients.

Lumbar Plexus Block

- ❖ Blocks femoral, lateral femoral cutaneous, and obturator nerves proximally
- ❖ Technically challenging, risk of complications such as neuraxial spread (both spinal and epidural) and bleeding
- ❖ Dense motor blockade

PENG and SIFI

- ❖ Target the many sensory nerve branches that supply the hip, including accessory obturator, high femoral branches, low femoral branches and lateral femoral cutaneous nerve.
- ❖ PENG specifically covers more proximal femoral articular branches and accessory obturator nerves that innervate the anterior capsule of the hip
- ❖ SIFI targets the femoral and lateral femoral cutaneous nerves proximal to the inguinal canal (caution – quadriceps weakness)

Achieving adequate analgesia for outpatient hip surgery patients is no easy task. Peripheral nerve blocks such as PENG and SIFI are great alternatives for pain control due to their safety profile and ease of placement, but they do result in incomplete coverage of the hip due to the complex nature of hip innervation. Nevertheless, when these blocks are combined with a robust multimodal pain regimen, patients can be discharged home safely, efficiently, and comfortably.

Resources

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