

Introduction:

- We describe the successful clinical course of a patient with multiple severe cardiopulmonary comorbidities who underwent open inguinal hernia repair under regional anesthesia.

Case Presentation:

- 64-year-old male presents for open left inguinal hernia repair
- PMHx notable for:
 - HFrEF (LVEF <20%), Severe right heart dysfunction with mild PHTH (PAP 27mmHg)
 - COPD with known lung blebs
 - Abdominal aortic aneurysm (4.6 x 5.0cm)
 - Atrial fibrillation on Eliquis (held 3 days)
 - Poorly controlled Type 2 diabetes mellitus and HTN
- Prior Hx of difficult airway
- Anesthesia Plan:
 - Surgical anesthesia via peripheral nerve blockade
 - Secondary plans:
 - Preinduction arterial line with inhalational induction and LMA
 - Cancel case

Methods:

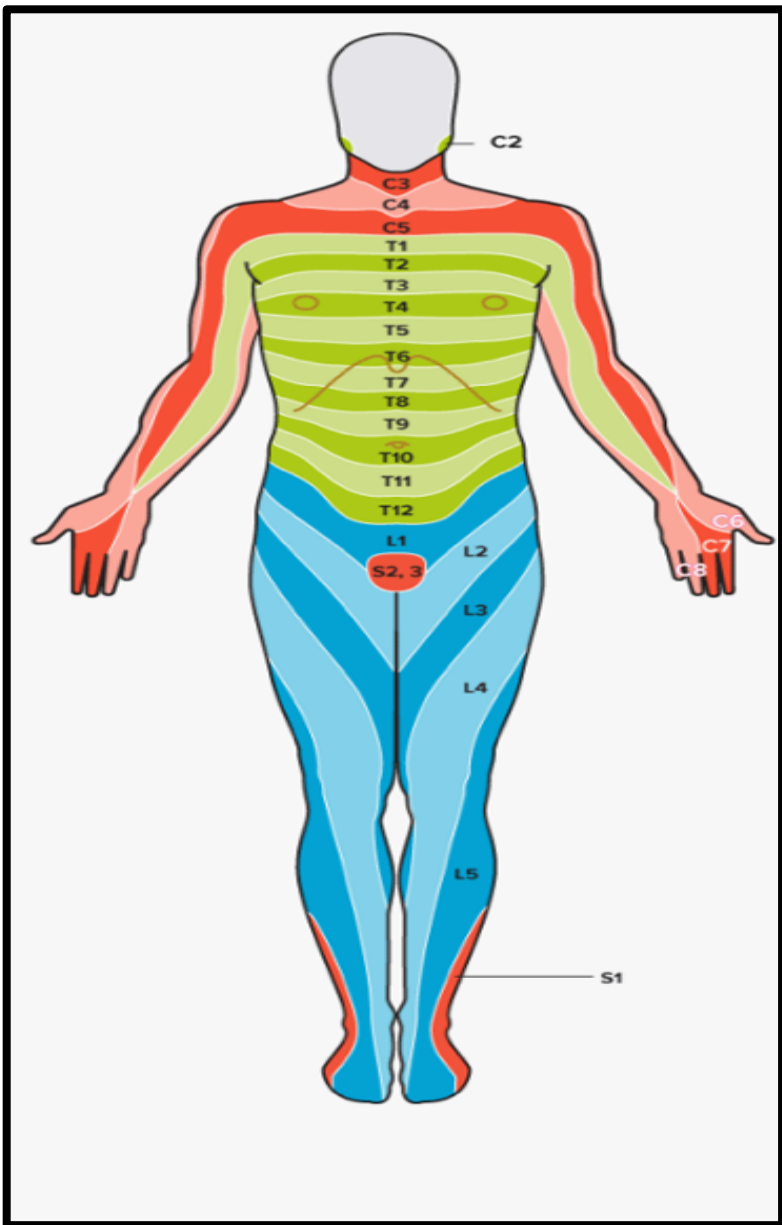
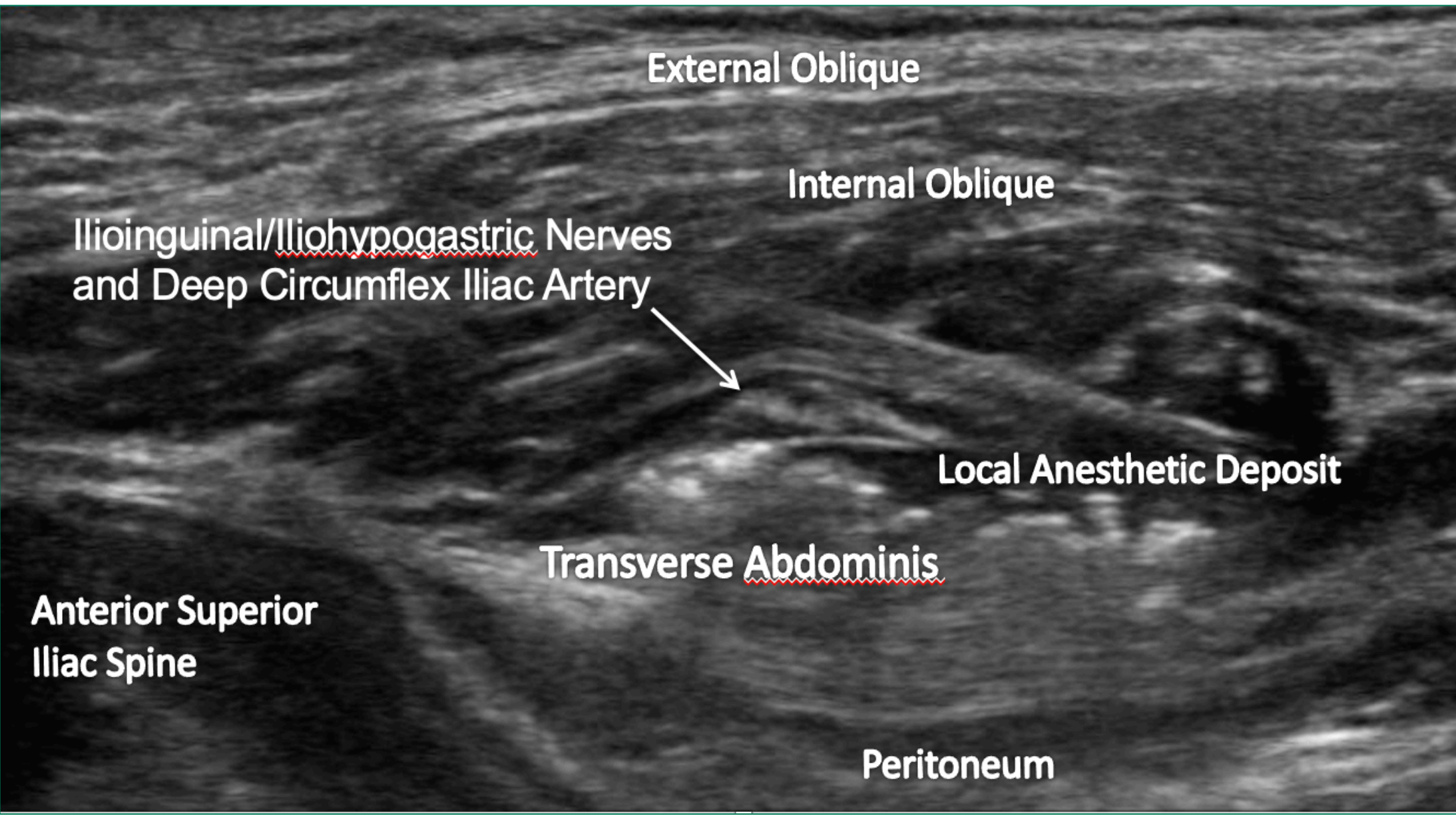
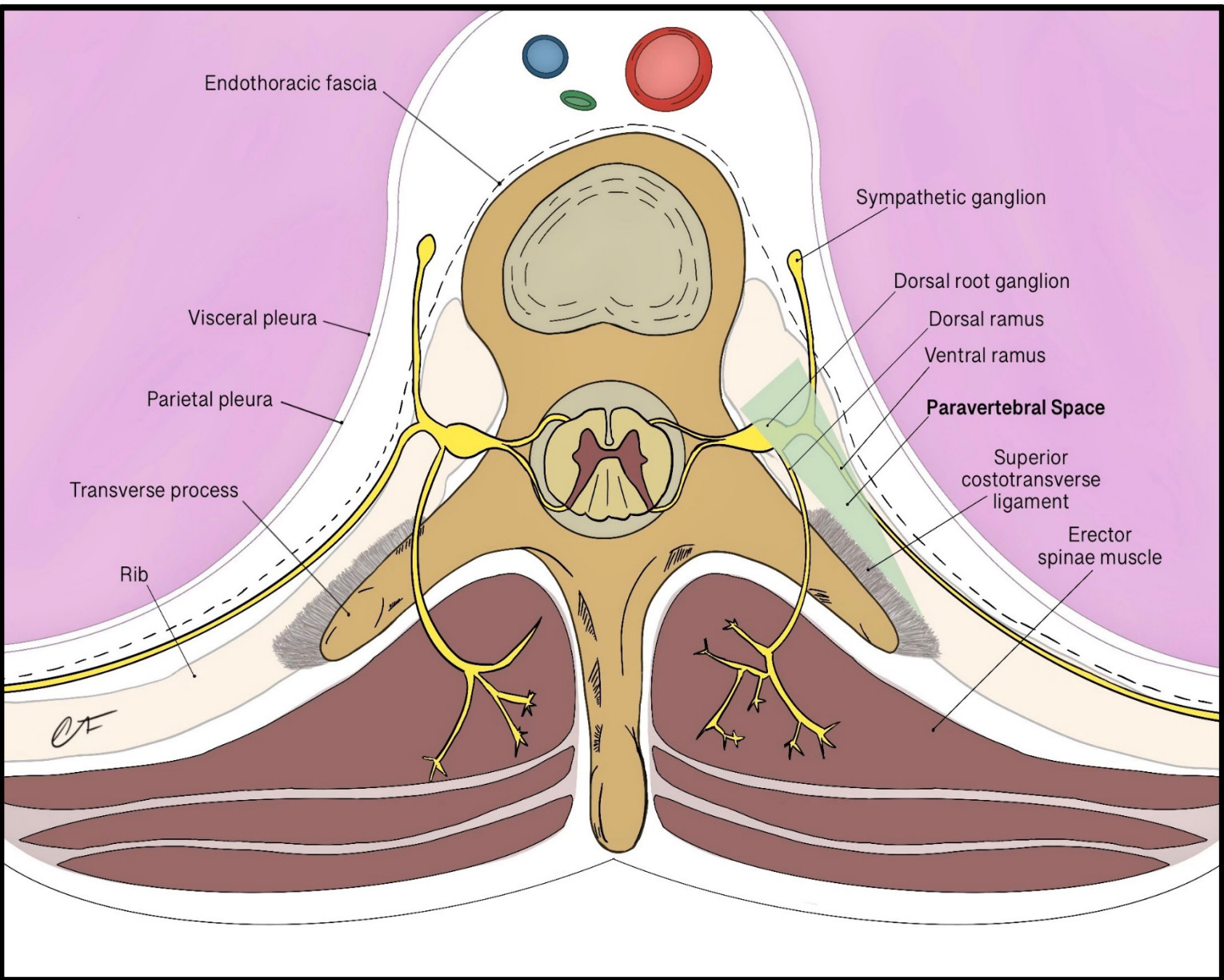
- Left T11, T12, and L1 landmark-based paravertebral blocks
 - 5 mL 0.5% ropivacaine per level
- Left ilioinguinal/iliohypogastric nerve block
 - 10 mL 0.5% ropivacaine without additives

Regional Blockade for Open Inguinal Hernia Repair in a patient with Severe Cardiopulmonary Disease: The Art of Tailored Anesthesia

Andrew S. Braun MD, Drake Wakefield DO, Asaf Gans MD

The University of Alabama at Birmingham
Department of Anesthesiology and Perioperative Medicine

Technique	Pros	Cons
General Anesthesia	• Akinesis • Amnestic effect • Patient comfort • Secured Airway	• Known difficult airway • Hemodynamic perturbations • Positive pressure ventilation with known lung blebs
Neuraxial Anesthesia	• No need for airway instrumentation • Shorter PACU stay	• Hemodynamic compromise • Possible epidural hematoma formation • Potential need to convert to general anesthesia • Unsecured airway
Regional Anesthesia	• Prolonged analgesic effect • Motor sparing blocks • Lower chance of hemodynamic compromise • No need for airway instrumentation • Shorter PACU stay	• Unpredictable local anesthesia spread • Potential need to convert to general anesthesia • Possible injury from needle placement • Possible hematoma formation



Discussion/Outcome:

- PVB provides fast and dense sensory deficit and has been used for both postoperative analgesia and surgical anesthesia for a variety of operative procedures⁴
- Expected outcome: surgical anesthesia in a T10-L2 dermatomal pattern³
 - Each PVB blocks level up and level down
 - Ilioinguinal/Iliohypogastric nerves derived from T12-L1
- The patient successfully underwent hernia repair without IV or oral sedation
- The patient suffered no postoperative complications in the post-anesthesia care unit (PACU) and was discharged home on the day of surgery

Conclusion:

- Anesthesiologists must **remain adaptable** and **develop skills** that will enable the care of patients with multiple comorbidities
- We emphasize the importance of **tailoring anesthetic plans** to patient needs as well as **considering alternate methods** of surgical anesthesia

References:
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3. Pawa, A., Wojcikiewicz, T., Barron, A. et al. Paravertebral Blocks: Anatomical, Practical, and Future Concepts. Curr Anesthesiol Rep 9, 263–270 (2019). <https://doi.org/10.1007/s40140-019-00328-x>
4. Ardon, A. E., Lee, J., Franco, C. D., Riutort, K. T., & Greengrass, R. A. (2020). Paravertebral block: Anatomy and relevant safety issues. Korean Journal of Anesthesiology, 73(5), 394–400. <https://doi.org/10.4097/kja.20065>