

A Multimodal Approach to the Postoperative Analgesic Management of a Pediatric Patient with Severe Obstructive Sleep Apnea Undergoing a Nephrectomy and Adenotonsillectomy

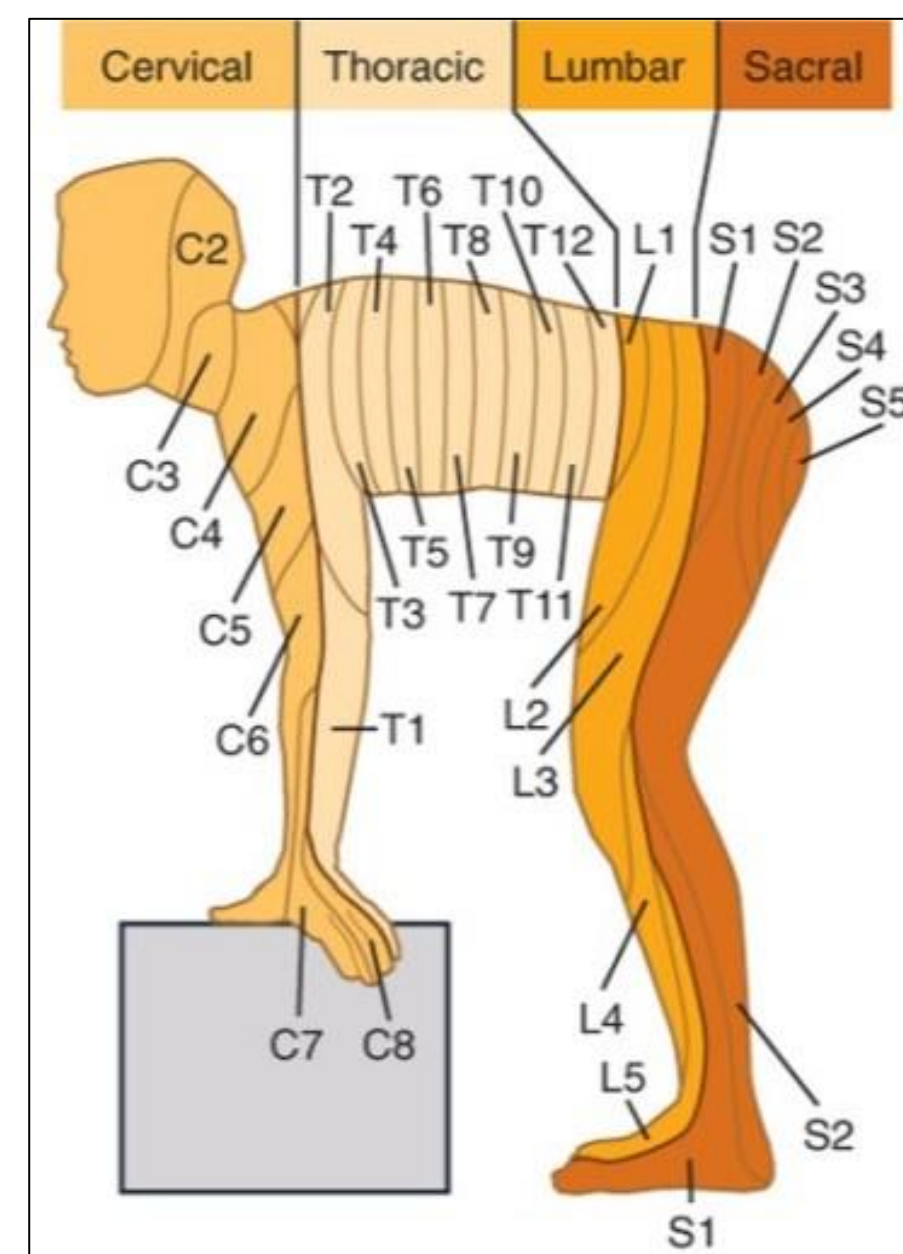
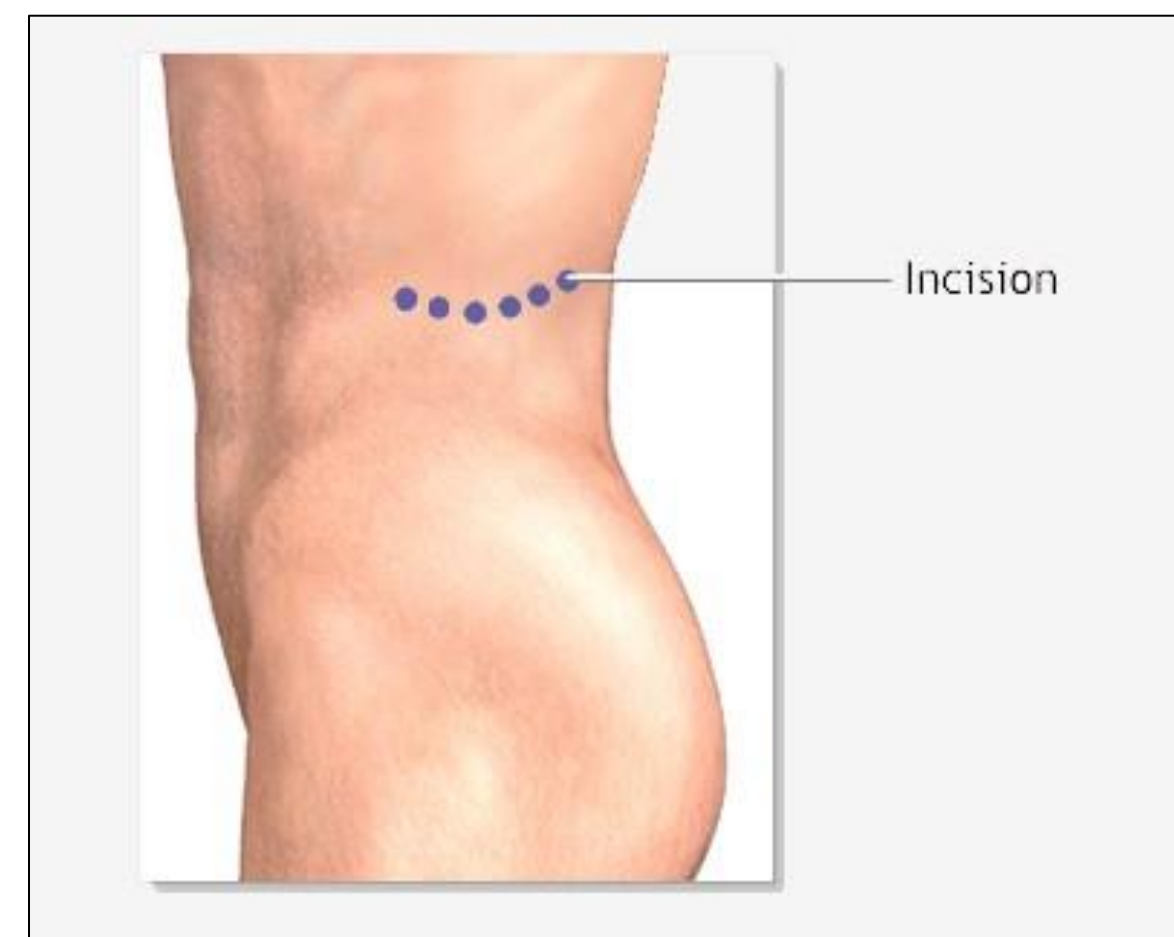
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Introduction

- Patients with obstructive sleep apnea (OSA) undergoing major surgery pose many challenges for pediatric anesthesiologists.
- Increased risk for postoperative respiratory complications such as laryngospasm, apnea, pulmonary edema, and perioperative death.¹
- Increased analgesic requirement after major surgery may further complicate their postoperative care.
- We describe the successful pain management of a patient with a transplanted kidney and severe OSA undergoing a nephrectomy and adenotonsillectomy (T&A).

Figures



Case Description

- A 3-year-old male status post kidney transplant and right nephrectomy presented for a left nephrectomy via mini laparotomy through a subcostal incision after right kidney histology showed nephroblastomatosis.
- Additionally, scheduled for a T&A due to severe OSA (Apnea Hypopnea Index of 10.2 and SpO₂ nadir of 78.3%).
- Previously, Upper airway obstruction during anesthetic induction that led to hypoxia/bradycardia requiring the initiation of PALS and a separate episode of cardiac arrest following extubation.
- High-volume caudal block was performed with 1.5cc/kg of 1/6% bupivacaine. 1mcg/kg of clonidine was added to increase block duration and provide postoperative sedation/analgesia for the T&A.
- Also received 30mg/kg of rectal acetaminophen and 0.5mg/kg of intravenous (IV) ketorolac.
- Postoperatively, uneventful PACU stay and was admitted to the surgical floor.
- Did not require IV opioids.
- Discharged on POD 1 after receiving only one oral dose of 0.1mg/kg hydrocodone/acetaminophen to aid with swallowing.

Discussion

- Successful multimodal analgesic approach for a complex patient undergoing multiple surgeries.
- Hong *et al.* showed that larger volumes with lower concentrations of local anesthetics provided better quality and longer duration of caudal analgesia.²
- A study by Chan *et al.* demonstrated that ketorolac did not increase the incidence of post-tonsillectomy hemorrhage in pediatric patients.³
- In addition, patients who received ketorolac had an earlier return to a solid diet and discontinuation of patient controlled analgesia without an increased risk of acute renal failure.⁴

References

1. Schwengel DA et al. *Anesthesia & Analgesia* 2009; 109(1): 60-75.
2. Hong JY et al. *Anesthesia & Analgesia* 2009; 109(4): 1073-8.
3. Chan DK et al. *The Laryngoscope* 2014; 124: 1789-1793.
4. DiBlasio CJ et al. *The Journal of Urology* 2004; 171: 1062-1065.