

Complex Epidural Management in a Patient with Abdominal Compartment Syndrome After Hernia Repair Surgery: A Case Report

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Introduction

- Abdominal compartment syndrome (ACS) is a life-threatening condition characterized by increased intra-abdominal pressure, which can cause impaired blood flow to vital organs, leading to severe abdominal pain, organ dysfunction and even death.¹
- Quick diagnosis and intervention are critical to prevent irreversible organ damage.
- We summarize the postoperative course of a patient with a thoracic epidural for postoperative analgesia after complex ventral hernia repair who subsequently developed ACS.

Abstract and References



Case Report

- 72-year-old female underwent exploratory laparotomy and component separation for complex hernia repair and received a **T8 epidural** for postoperative analgesia.
- POD1: Hemodynamic instability requiring vasopressors leading to concern for bowel ischemia requiring exploratory laparotomy.
- POD 2: 0.1% ropivacaine with fentanyl epidural infusion was started.
- POD3-6: Dose adjustments were made based on pain levels and hemodynamics.
- POD 7: Pain worsened despite increased epidural infusion volume. Surgical team **suspected ACS** and re-explored the abdomen.
- Concurrent diagnosis of Heparin-Induced Thrombocytopenia (HIT) complicated epidural removal.
- After surgical decompression, the patient's pain was controlled with a multimodal regimen, and she had an improved post-operative course. The epidural was removed on **POD 14** after recovery of HIT.

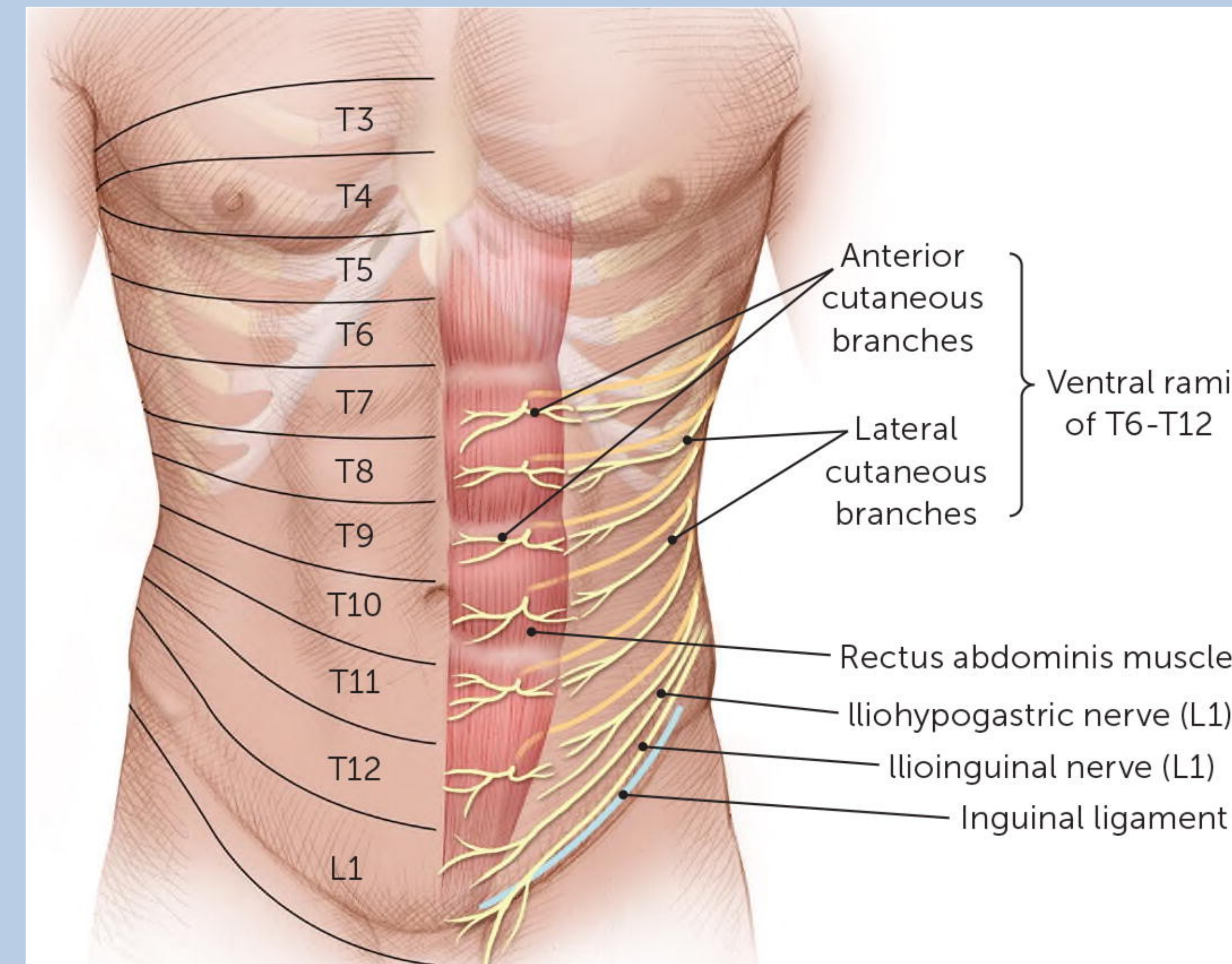


Figure 1: Abdominal dermatomes and nerve supply

Discussion

- Epidural analgesia is effective for postop analgesia reducing opioid use and lowering risk of ileus with fewer pulmonary complications⁴
- Epidurals also thought to lessen intraabdominal pressures (IAP)².
- When the IAP is already elevated, any further decrease in systemic vascular resistance could exacerbate tissue perfusion deficits, worsen organ ischemia, and contribute to multi-organ failure.
- Careful monitoring of both blood pressure and IAP is essential to ensure that analgesia does not mask the clinical signs of ACS or contribute to worsening hypotension.³
- This case highlights that ACS is a critical condition requiring a high index of suspicion and careful monitoring for early detection, especially in patients receiving epidural anesthesia in whom clinical exam may be less revealing.

