

Introduction

- Burn patients can be hemodynamically unstable, have compromised ventilation, and are at high risk for infections.
- Regional anesthesia (RA) has proven useful in post-op analgesia (1), burn donor graft site management, and decreasing ICU duration (2).
- RA techniques are limited by coagulopathy, local anesthetic systemic toxicity or infection, though risk of meningeal infection after neuraxial is rare, even in the bacteremic patient (3).
- RA as a primary surgical anesthetic could be considered in critical, nonintubated patients for preservation of ventilation, slow titration, and an improved post-surgical period.

Case Presentation

A 68-year-old male patient presented with 23% TBSA severe burns to the face, groin, buttocks, and lower extremities undergoing NEXOBRID® (anacaulase-bcdb) debridement therapy to BLE. PMHx included atrial fibrillation on Eliquis, CHF with reduced ejection fraction, complete heart block s/p pacemaker, bilateral lung transplant on immunosuppression and CKD. Hospital course complicated by volume overload, acute-on-chronic kidney injury, pneumonia, and escalating non-invasive ventilatory support. A multidisciplinary meeting between the burn, pulmonology, transplant and acute pain services determined that RA was safer than GA to preserve ventilation. Performed lumbar epidural catheter under aseptic precautions after ensuring a normal coagulation profile. Patient tolerated the procedure well following maintenance of the blockade using titrated boluses of bupivacaine 0.25% along with vasopressor support. The epidural catheter was removed the next day, less than 24 hours after insertion.

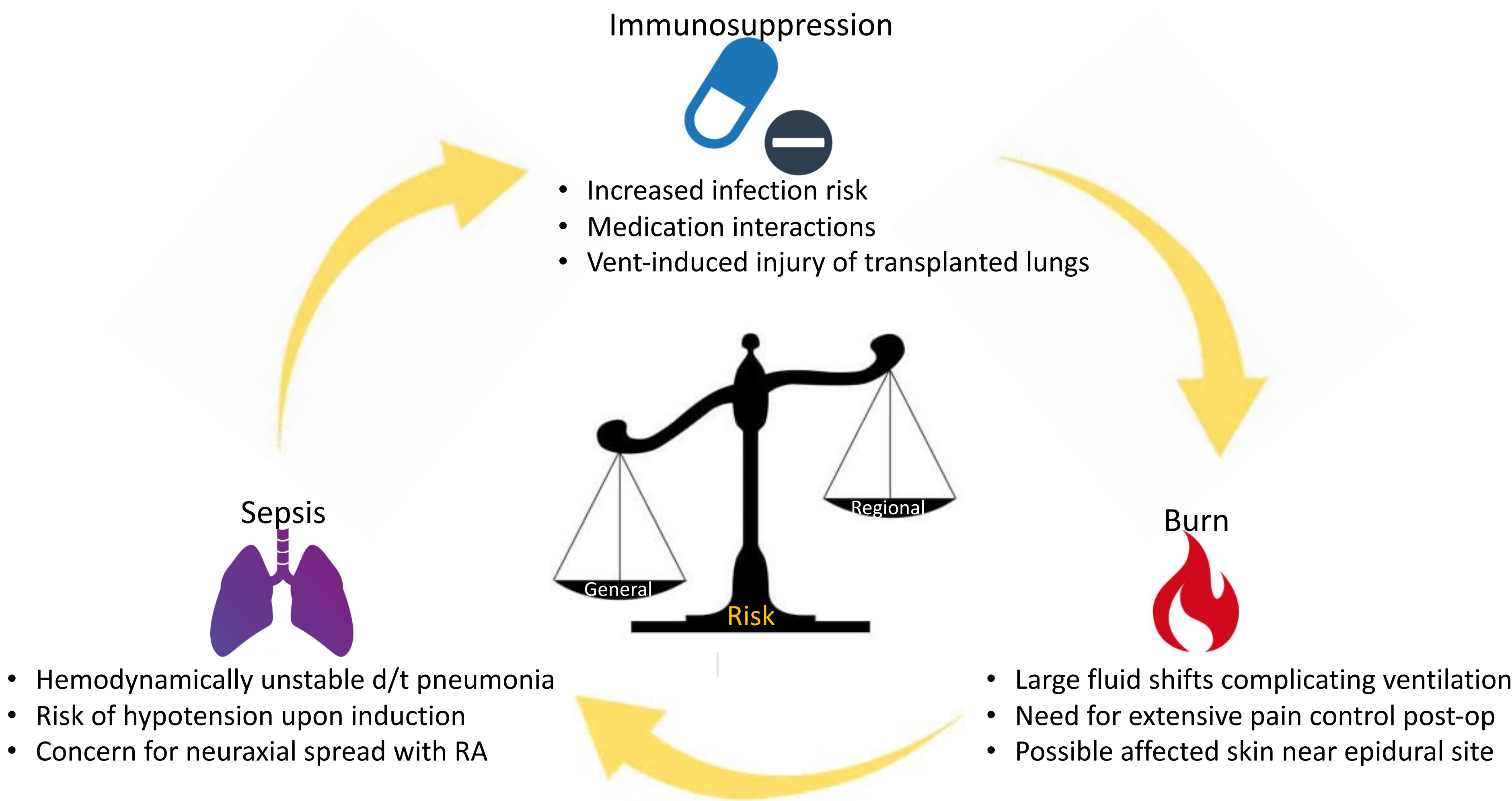


Figure 1: Patient factors influencing general vs. regional anesthetic. Ultimately, due to hemodynamic instability in the setting of extensive burn injury and sepsis, as well as concern for inability to wean from ventilator secondary to pneumonia and post-transplant status, a multidisciplinary team determined the risks of a general anesthetic far outweigh the risks of a regional technique.

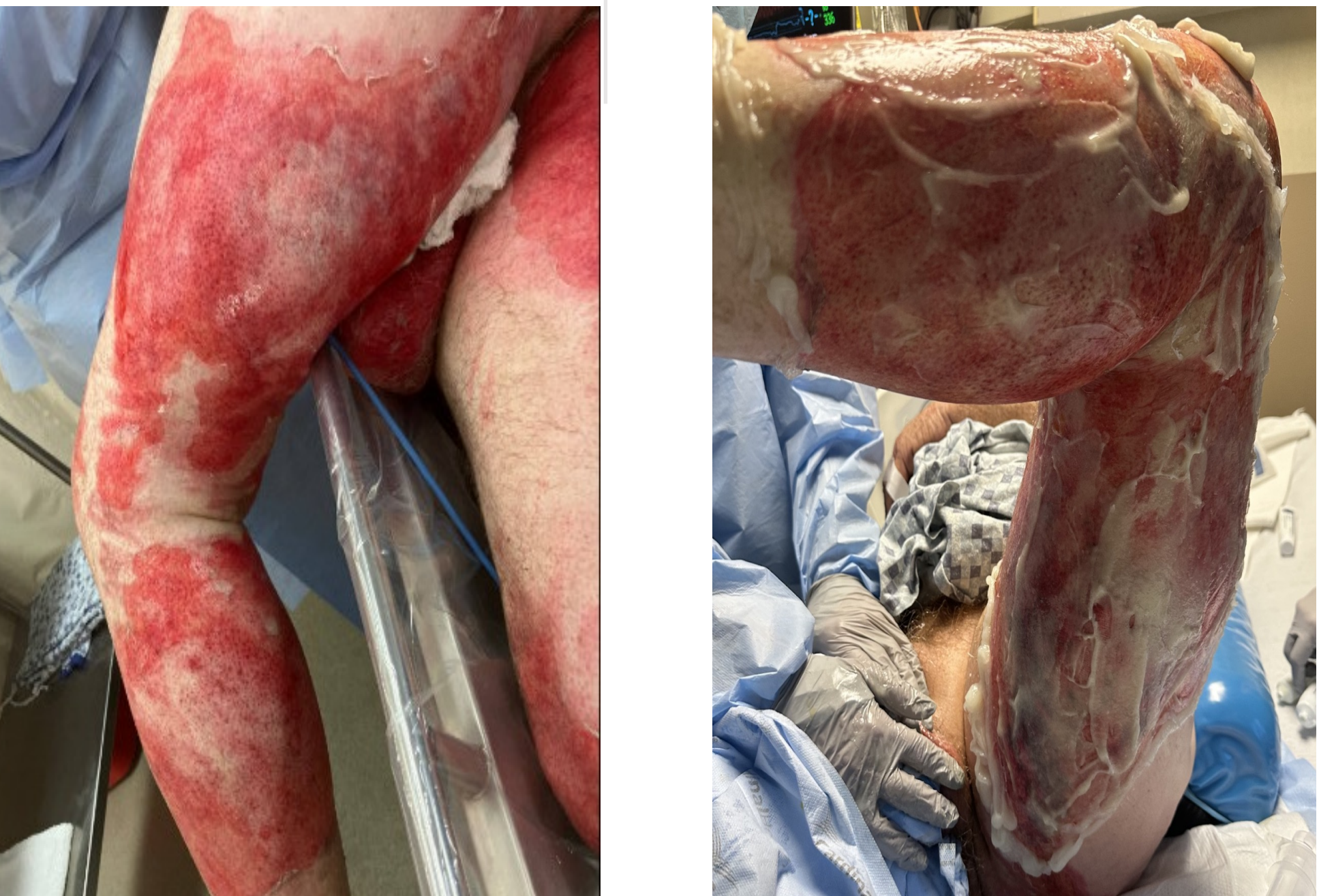


Figure 2: Left Lower extremity before and after chemical debridement therapy. Treatment performed with a proteolytic enzymatic mixture that is active for up to four hours after application.

Discussion

- Treatment of burn patients is complicated by frequent surgical operations, inhalation injury, pneumonia, and long durations of mechanical ventilation (4).
- This patient had additional considerations due to previous lung transplantation, as negative pressure ventilation is preferred over positive pressure to prevent ventilation induced lung injury, enhance recovery and limit respiratory complications related to the duration of mechanical ventilation (5).
- Also on antibiotics with a potential for systemic infection, considered a relative contraindication for neuraxial anesthesia – why balancing risks vs. benefits of regional anesthesia needs a multidisciplinary approach.
- To date there is limited evidence showing the use of RA in lung transplant burn patients.

References

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