

Neuraxial Anesthesia for Amputation of Sarcoma in Setting of Severe Pulmonary Comorbidities

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Introduction

Patients with pre-existing pulmonary dysfunction have increased risk of postoperative complications. Anesthetic agents as well as perioperative analgesics can significantly impact pulmonary function and respiratory drive, especially in patients with chronic lung disease.

Neuraxial or regional anesthesia can function as a primary anesthetic modality while also providing reliable analgesia in patients that are unable to tolerate the systemic impact of general anesthesia.

We present a case report demonstrating the utility of neuraxial anesthesia as a primary anesthetic technique for above-knee amputation for sarcoma in an elderly patient with numerous pulmonary comorbidities.

Clinical Images

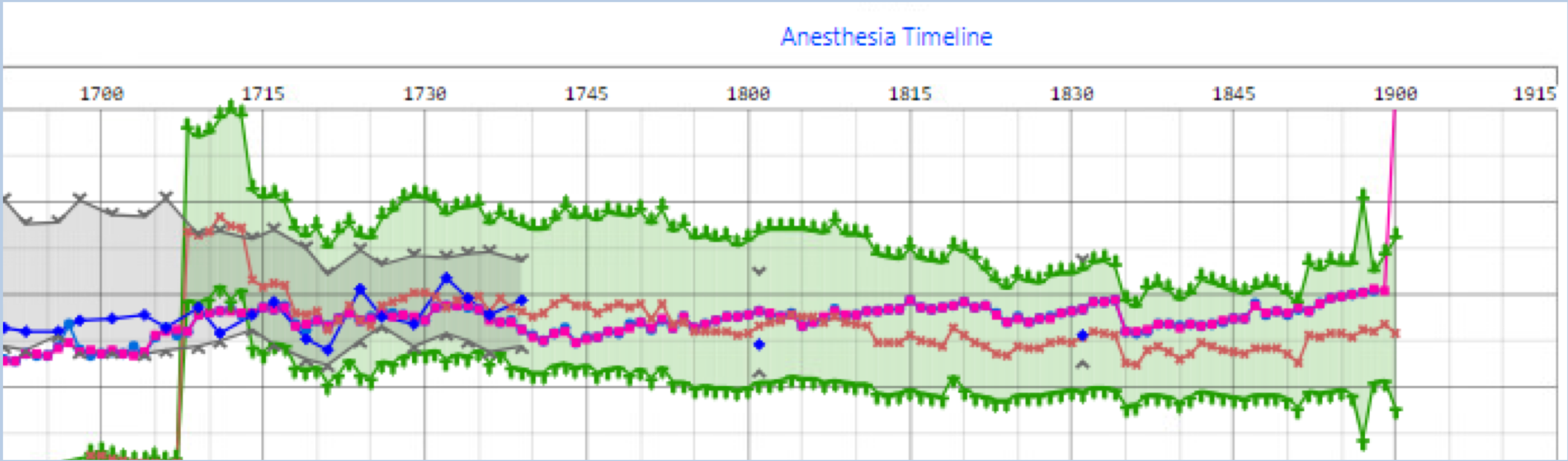


Figure 2: Anesthesia timeline depicting stable hemodynamics and oxygenation during intraoperative period with neuraxial anesthesia

Case Report

83 year-old female with cystic fibrosis c/b chronic bronchitis and COPD, chronic respiratory failure requiring home oxygen, PE (on apixaban), HTN, CAD, adrenal insufficiency, chronic back pain, and limited functional capacity → **newly diagnosed pleomorphic sarcoma of distal thigh requiring above-the-knee amputation.**

- **Preop evaluation: high risk of postoperative complications**
- Pulmonology: recommended direct postoperative ICU admission with possibility of extended mechanical ventilation.
- Multidisciplinary decision was made to avoid GA → **Neuraxial designated as primary anesthetic modality.**
- Apixaban held for 72 hours prior to day of surgery
- **T12/L1 epidural catheter, 2% lidocaine titrated to effect**
- Above-knee amputation completed in 70 minutes of OR time
- Stable hemodynamics, nasal cannula oxygenation, and low-dose propofol infusion. **No intraop opioids, no complications.**



Figure 1: X-ray depicting chronic bilateral bronchiectasis and small pleural effusions

- During the postop phase, epidural infusion with 0.075% bupivacaine-hydromorphone 2 mcg/ml.
- **POD 1-3: Excellent pain control**
 - POD4: Epidural removed with transition to multimodal regimen and tramadol PRN.
 - POD6: Discharged following an uneventful recovery period.

Discussion

Patients with chronic pulmonary dysfunction are at high risk for perioperative complications. In this case, we managed a complex elderly patient with history of cystic fibrosis, chronic bronchiectasis, COPD, and oxygen dependence. Perioperative care required careful planning and multidisciplinary efforts.

- High risk for complications from GA: prolonged postop mechanical ventilation, difficulty with emergence from sedative side effects, and uncontrolled pain due to limitations on analgesic modalities.
- Neuraxial anesthesia as the primary anesthetic helped mitigate these risks.
- Safely navigated surgery, in addition to excellent analgesia in the postoperative setting.

Careful planning with collaboration amongst orthopedic surgery, pulmonology, preop testing clinic, and acute pain team resulted in optimal care and excellent patient outcome.

Abstract &
References

