

Epidural Hematoma in a Patient With Dementia Following Thoracic Epidural Placement and the Challenges in Monitoring: A Case Report

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INTRODUCTION

- Postoperative Delirium is associated with increased mortality, prolonged length of stay, and worsening of cognitive decline¹
- Risk factors for postoperative delirium include uncontrolled postoperative pain and opioid use¹
- Epidural Catheters can improve postoperative pain control while minimizing postoperative opioid use but are associated with various risk include epidural hematoma^{2,3}

CASE REPORT

- 78-year-old female presented to the Emergency Department with abdominal pain and "poor coloring"
- Past medical History: Dementia, Hypertension, Diastolic Heart Failure, Chronic Kidney Disease Stage 3, COPD, Alpha-1-Antitrypsin Deficiency, Amyloidosis, Cervical Myelopathy with previous cervical fusion
- Work up revealed leukocytosis with CT abdomen showing severe sigmoid diverticulitis complicated by contained perforation adjacent to the sigmoid colon tracking along the left pelvic sidewall
- Abscess drainage and drain placement performed by Interventional Radiology
- Patient continued to have abdominal pain with worsening abdominal and cecal distension.
- Patient scheduled for exploratory laparotomy with sigmoid resection and end colostomy with Hartmann rectal pouch
- Thoracic epidural placed preoperatively for postoperative pain control
 - Platelets 389, PT/INR 12.8/1.1
 - Last dose of 40mg subcutaneous enoxaparin > 12 hours
 - Placement required multiple attempts by multiple providers as well as challenging due to patient cooperation and lateral decubitus positioning

Epidural Catheter Placements:

- 1) Can be utilized to minimize risk factors for postoperative delirium however,
 - 2) Can be associated with severe neurological complications
- ## Clinicians must consider the ability to monitor for these complications prior to placement



CASE REPORT CONT.

- POD 0 – Transferred to the ICU for hemodynamic and mechanical ventilation support
- POD 1 – Patient extubated and pain well controlled, however with worsening cognitive status which made neurological exams difficult to perform - Moving bilateral lower extremities spontaneously.
- POD 2 – Continued difficulty performing neurological exams; however, patient was no longer spontaneously moving bilateral lower extremities
 - MRI performed which showed T8-L2 large posterior epidural hematoma with significant mass effect on the thecal sac resulting in severe spinal canal stenosis



- Emergent Evacuation of thoracic epidural hematoma and spinal fixation with T6-12 PSIF, T6-L1 laminectomies with decompression
- POD 3-11 – Neurological exams continued to be difficult, however patient noted to have improved strength in bilateral lower extremities. Patient subsequently discharged to inpatient rehabilitation center.
- One Month Follow up – Patient noted to be doing well and walking with a walker.

REFERENCES

1. Bramley P, McArthur K, Blayney A, McCullagh, I. Risk factors for postoperative delirium: An umbrella review of systematic reviews. *International Journal of Surgery* 2021;93:106063. <https://doi.org/10.1016/j.ijsu.2021.106063>

2. Kreppel D, Antoniadis G, Seeling W. Spinal hematoma: A literature survey with meta-analysis of 613 patients. *Neurosurg Rev* 2003, 26:1-49. <http://dx.doi.org/10.1007/s10143-002-0224-y>

3. Li YW, Li HJ, Li HJ, Zhao BJ, Guo XY, Feng Y, et al. Delirium in Older Patients after Combined Epidural–General Anesthesia or General Anesthesia for Major Surgery: A Randomized Trial. *Anesthesiology* [Internet]. 2021 Jun 21;135(2):218–32. <http://doi.org/10.1097/ALN.0000000000003834>