

Anesthetic considerations for a patient presenting at term with newly diagnosed lymphoma complicated by large pelvic mass and neurologic deficits

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LYMPHOMA IN PREGNANCY

- ❖ **Incidence:** ~1:6000 pregnancies¹
- ❖ **Recommendations:** urgent delivery if near term to facilitate prompt initiation of chemoradiation
- ❖ **No prior cases** of pelvic lymphadenopathy obstructing vaginal delivery¹
- ❖ **Burkitt Lymphoma** known to be aggressive, very fast growing

LIMITED REPORTS OF ANESTHESIA FOR PARTURIENTS WITH LYMPHOMA

- ❖ **Case report of parturient with Burkitt Lymphoma involving the placenta:** Cesarean delivery performed, anesthetic plan not reported²
- ❖ **Case report of parturient with mediastinal lymphoma:** CSE performed for cesarean delivery, femoral vein access obtained for possible ECMO³ - not truly a comparable clinical scenario

LIMITED REPORTS OF NEURAXIAL FOR LYMPHOMA WITH CNS INVOLVEMENT

- ❖ **Case report of non-gravid patient with CNS lymphoma who received spinal anesthesia:** patient developed an epidural hematoma requiring laminectomy 3 weeks after spinal anesthesia for knee surgery. Surgical pathology revealed previously undiagnosed lumbar non-Hodgkin lymphoma⁴

Our Case

First reported ***successful*** neuraxial anesthesia for cesarean delivery in a parturient with acute lymphoma-related neurodeficits and a pelvic mass obstructing vaginal delivery, with ***no definitive guidance from the literature***

(1) Hodby K, Fields PA. Management of lymphoma in pregnancy. Obstet Med. 2009;2(2):46-51. doi:10.1258/om.2009.090007

(2) Gnecco C, Carlan SJ, McWhorter J, Ge L, Sanchez D, Madruga M. Burkitt's lymphoma with placental invasion diagnosed at cesarean delivery: a case report. J Med Case Rep. 2018;12(1):30. Published 2018 Feb 8. doi:10.1186/s13256-017-1548-0

(3) Mahmood A, Mushambi M, Porter R, Khare M. Regional anaesthesia with extracorporeal membrane oxygenation backup for caesarean section in a parturient with neck and mediastinal masses. Int J Obstet Anesth. 2018;35:99-103.

(4) Gottschalk A, Bischoff P, Lamszus K, Standl T. Epidural hematoma after spinal anesthesia in a patient with undiagnosed epidural lymphoma. Anesth Analg. 2004;98(4):1181-1183. doi:10.1213/01.ANE.0000101989.54746.4E

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Initial Presentation:

33yoF G4P2 at 37w5d with severe subscapular pain
PMH Tetralogy of Fallot s/p repair
Biopsy several days earlier of a breast mass, preliminary pathology concerning for aggressive lymphoma

Symptoms:

Difficulty ambulating, difficulty urinating, difficulty passing stool, bilateral lower extremity swelling, pain, and numbness

Physical Exam:

Neurologic exam - right pronator drift, weakness of right knee flexion and ankle dorsiflexion, diminished sensation to pinprick in bilateral anterior thighs, and BLE hyperreflexia
Pelvic exam - large, firm, fixed mass obstructing the pelvic outlet

Notable Labs:

Hgb 10.8g/dL (normal 11.7-15.5), CBC and coags otherwise wnl

Imaging:

CT PE negative for pulmonary embolism; however duplex reveals bilateral non-occlusive peroneal DVTs



Urgent neurology consult:

Presentation more consistent with peripheral nerve compression secondary to pelvic tumor burden (rather than cauda equina)

STAT MRI Pelvis and Lumbar Spine obtained:

9.7cm lymph node obstructing the pelvic outlet, no lumbar spine tumor/ lymphoma involvement

Anesthetic Plan:

Combined spinal epidural. CSF samples obtained

Delivery:

Cesarean delivery well tolerated with successful delivery of a viable female infant
Spinal block resolved with return to pre-op neurologic baseline

MRI Thoracic Spine obtained POD#0:

Large extradural mass at T3-T4 resulting in spinal cord compression

Treatment of Burkitt Lymphoma:

BLE numbness/weakness and urinary symptoms gradually improved after steroid and radiation therapy

- ❖ Initial concern for cauda equina
- ❖ Urgent delivery recommended to expedite treatment
- ❖ Given obstruction by the large palpable pelvic mass
Cesarean delivery planned



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Key Teaching Points

Clinical Presentation Novelty

First reported case of a parturient with aggressive lymphoma resulting in pelvic lymphadenopathy that obstructed vaginal delivery, requiring urgent cesarean despite acute lower extremity neurologic deficits, active DVTs, and no comparable cases in the literature to guide anesthesia decision making



When the literature offers no guidance, multidisciplinary consensus becomes the framework

Team Consensus Goals to Focus Care Clinical Reasoning

With the goal of **urgent delivery**, input from Neurology, Hematology-Oncology, Obstetrics, and Anesthesiology helped to guide a **time sensitive work-up**
Lumbar and pelvic MRI was crucial for OB surgical planning and determining the feasibility of neuraxial; completion spine and brain MRI for staging was deferred as the patient could not tolerate lying flat for extended periods - **further oncology and neurology work-up would wait until after delivery**



Targeted lumbar MRI to exclude lumbar cord involvement was the key decision gate for the anesthetic plan

Broader Clinical Relevance of Rare Case Replicable Framework

No published framework exists for neuraxial for urgent delivery in a parturient with acute neurologic deficits from suspected tumor compression. This novel case demonstrates a **replicable decision pathway**:
→ **Neurology consult** to characterize mechanism of neurologic deficits and aid in **thorough documentation** of deficits prior to and after neuraxial
→ **Targeted lumbar MRI** to exclude cord involvement at levels used for neuraxial
→ **Multidisciplinary risk-benefit and goal consensus** at every key decision point



Pre-existing neurologic deficits are not an absolute contraindication to neuraxial - clear documentation and multidisciplinary consensus are critical for time sensitive care in the absence of evidence-based guidance