

ANESTHETIC MANAGEMENT IN A PARTURIENT RECOVERING FROM GUILLAIN-BARRE SYNDROME. SHOULD WE DO NEURAXIAL?

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Background:

- Guillain-Barre (GB) is a rare, acute demyelinating disease of the peripheral nerves resulting in progressive motor weakness. Pregnant patients have a higher risk of neurological deficits, respiratory failure, and mortality rates from 10% to 35%¹.
- The risk of GB is less frequent during pregnancy, but it increases for the mother during the postpartum period, similar to most auto-immune diseases processes.
- The benefit of regional anesthesia is that it avoids the deleterious effects of muscle relaxants and allows the pregnant female to be aware during her delivery.
- The use of depolarizing paralytics such as succinylcholine in the setting of postsynaptic receptor proliferation can lead to hyperkalemia, possibly resulting in cardiac arrest in severe cases. There is also resistance and concern for prolonged paralysis following the administration of non-depolarizing neuromuscular blocking agents such as Rocuronium.

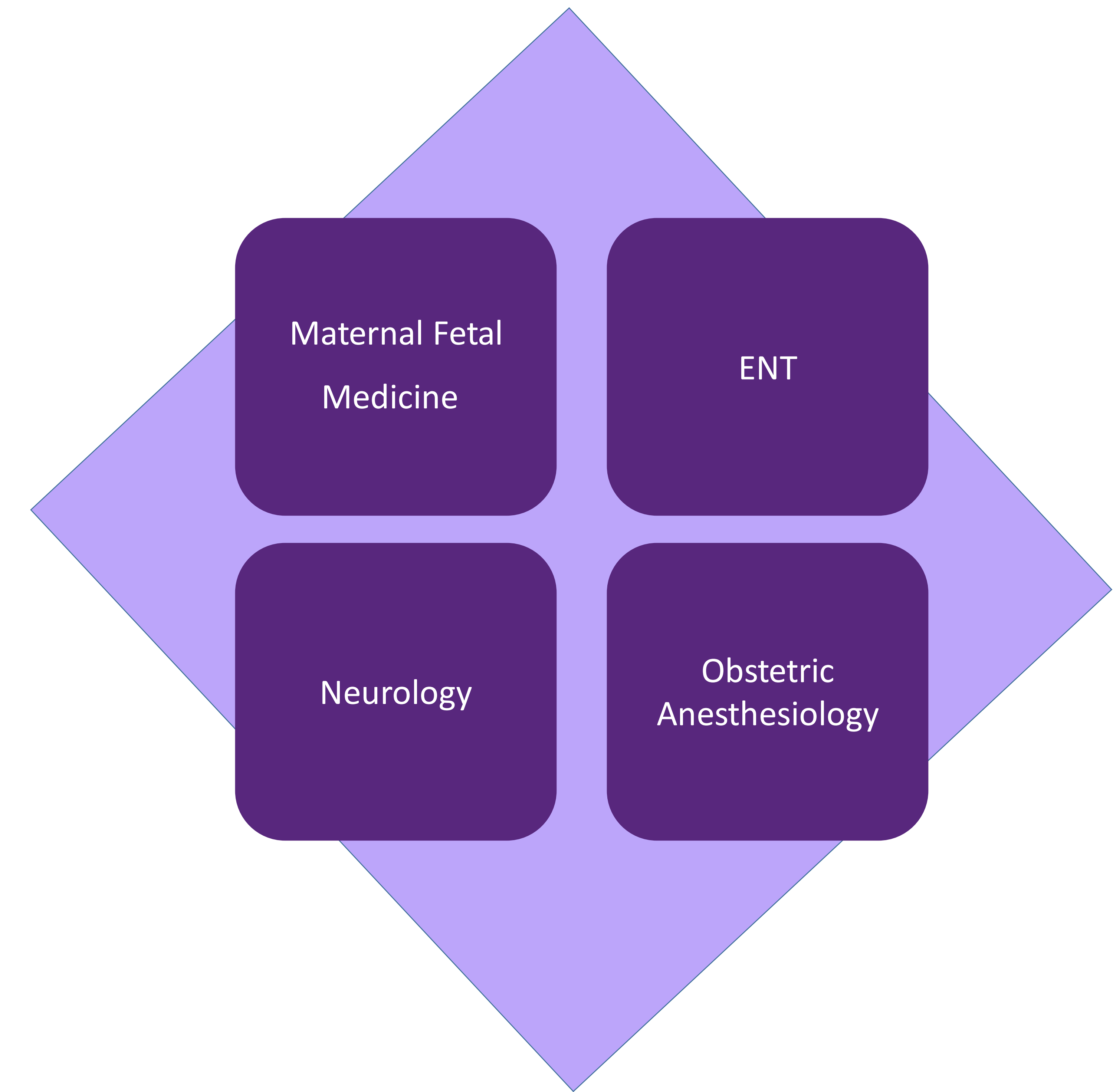


Case Presentation and Timeline of Events

- 30-year-old female G1P0 at 37 weeks gestation presented to L&D for Fetal Growth Restriction
- The parturient was hospitalized at 13 wga after suffering from Lyme disease and influenza, and GBS was confirmed. The patient underwent five rounds of IVIG and plasmapheresis and subsequently had a PEG and tracheostomy placed due to progressive muscle weakness and respiratory failure. During her 40-day hospital course, the Trach and PEG were decannulated. Patient was discharged on DVT prophylaxis dose Lovenox (40mg daily) due to her limited mobility.
- Upon presentation to the unit, the patient was ambulatory with a walker. Lovenox was stopped a few weeks prior to presentation as advised by the Obstetric team.
- After a multidisciplinary meeting and in-depth sympathetic counseling, it was determined to proceed with vaginal delivery and labor analgesia via lumbar epidural.
- Fiberoptic airway assessment, performed by ENT, revealed normal laryngeal anatomy. Patient was counseled on the risks/benefits of Epidural placement and elected for procedure. An uneventful lumbar epidural was placed at L3/4. No dural puncture was performed. An initial 5ml bolus was given from pump containing 0.1% Bupivacaine with 2mcg per ml Fentanyl. PCEA was started at 8ml per hour infusion. During the 6 hour labor process the patient required an additional 5ml Bupivacaine/Fentanyl bolus from the pump and a 100mcg Fentanyl Epidural bolus via Epidural catheter.
- Patient had a successful vacuum assisted vaginal delivery (VAVD) and a healthy neonate was born.
- Post-delivery the Epidural catheter was discontinued and the patient was transferred to regular floor care.
- POD Day #1: Patient was evaluated by Obstetric Anesthesia team and found to have a complete uneventful recovery from Epidural block.
- POD Day #2: Patient discharged home and had returned to neurological baseline.
- 10 days post-partum: the patient was admitted to the general neurology unit for increased numbness and weakness to the lower extremities with associated headache and nausea. The team was concerned about relapse of GB syndrome and nerve injury associated with epidural procedure causing lower extremity symptoms.
- MRI of lumbar spine showed no acute abnormal pathology. Patient was restarted on Prednisone and was discharged.
- Approximately 1 month Post-Partum: The patient was re-admitted with perioral and tongue numbness causing dysarthria and dysphagia with continued lower extremity weakness. 3 days of IVIG was initiated.
- Patient had continued symptoms, MRI of head was performed followed by CT with contrast. This showed a new diagnosis **of venous sinus thrombus extending from the mid right transverse sinus, sigmoid sinus and proximal right internal jugular vein. Patient was started on anti-coagulation (therapeutic IV heparin), then transitioned to eliquis and discharged to an acute rehab center.**

Key Points:

- Guillain-Barre (GB) is extremely rare, and no well-known strategies exist for delivery or the safest anesthetic methods.¹
- Vaginal delivery is possible and the disease does not warrant Cesarean section or expedient delivery.²
- There is limited evidence and recommends regarding regional anesthesia in patients with GB syndrome. With limited case reports and evidence, the obstetric anesthesiologist must weigh all pros and cons as with any patient, particularly in those with GB.
- Normal pregnancy is associated with a shift from cell-mediated to humoral immunity.³
- Elaborate counseling with clear explanations should be provided to avoid psychological distress.



References:

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