

A Multidisciplinary, Multi-operator Approach to Neuraxial Anesthesia in Parturient with BMI of 101 kg/m²

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Background:

- Maternal obesity presents significant anesthetic challenges, especially during cesarean delivery.
- Neuraxial anesthesia procedures can be difficult due to obscured landmarks and increased distance between the skin and epidural space, which increase proportionately with BMI.
- Epidural & combined spinal epidural (CSE) anesthesia are the preferred methods of anesthesia for morbidly obese parturients due to increased operative durations & risks with general anesthesia
- Successful initial placement in patients with extreme obesity (BMI > 60 kg/m²) is not commonly reported
- Substantial testing of the anesthetic block is recommended before incision

Case: A 27-year-old G1P0101 AT 34+2 weeks' gestation with chronic HTN, OSA, and a **BMI of 101.49 kg/m² (251.7 kg)** presented for a **primary cesarean delivery**.

Prior to Case:

- Admitted due to superimposed preeclampsia with severe features
- Assigned ASA status of 4
- Mallampati score of III
- Thyromental distance of <5 cm



During the Case:

- Neuraxial anesthesia pursued
- After invasive monitoring, meticulous positioning, & adequate preloading
- CSE performed using multidisciplinary, multi-operator midline approach.
- Tissue retraction and ultrasound guidance facilitated landmark identification\
- Epidural space accessed with 16.5 cm epidural needle at a depth of 10 cm

Drug Delivery & Post-Op

- Epidural needle was manually held in place
- Successful intrathecal access and drug delivery with a 25G spinal followed by epidural catheter placement
- Intrathecal medications:
 - 1.6 mL .75% bupivacaine
 - 15mcg fentanyl
 - 150mcg morphine
- Procedure was atraumatic, completed in single attempt
- T4 level anesthesia obtained
- Surgery was uneventful with hemodynamic stability maintained with vasopressors & adjunctive sedation
- No anesthetic complications
- Discharged on postpartum day #3

Discussion & Teaching Points

- This case demonstrates that neuraxial anesthesia can be done safely & effectively performed in parturients with extreme obesity when meticulous planning and appropriate equipment are used.
- Early planning may mitigate risk & provide an efficient & efficacious anesthetic while avoiding general anesthesia.
- The addition of multiple providers to assist with positioning was key to successful neuraxial anesthesia.

References:

1. van den Bosch OFC, Fiset ME, Downey K, Maxwell C, Carvalho JCA. Anesthetic management of patients with class 3 obesity undergoing elective cesarean delivery: a single-centre historical cohort study. *Can J Anaesth* 2023;70:202–10.
2. Kim ST. Anesthetic management of obese and morbidly obese parturients. *Anesth Pain Med* 2021;16:313–21.