

Management of a Parturient with Aortic Stenosis & Worsening Aortic Coarctation

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Background

- Laboring patients with cardiovascular disease are at high risk for complications and poor maternal outcomes due to the marked changes in cardiac anatomy and physiology that occur in pregnancy^{1,2}.
- Pregnant patients with aortic stenosis or congenital coarctation of the aorta can experience an increased pressure gradient through the obstructive lesion.
 - As a result, there is an increased risk for complications such as myocardial ischemia and arrhythmias³.

Case Presentation

- **HPI:** 25-year-old G2P1 woman at 40-week gestational age presenting for a scheduled trial of labor after cesarean.
- **Significant past medical history:**
 - Previous Cesarean delivery
 - Bicuspid Aortic Valve c/b Mild-Moderate Aortic Stenosis
 - Congenital Aortic Coarctation s/p repair now w/ re-coarctation proximal to the left subclavian artery on TTE (minimum size 1.23cm with gradient of 45mmHg)

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Management

Set up a multi-disciplinary meeting with OB, Cardiology, & Anesthesia

Cesarean Delivery recommended by OB and Cardiology Team

Monitored on telemetry for 24 hours post-partum

NHYA: Class II
CARPREG-II Score: 4

Anesthetic Plan

Pre-Eclampsia with Severe Features

Anesthetic Plan

No significant hemodynamic, maternal or fetal complications

- 1. Pre-Neuraxial Left Radial Arterial Line:**
monitor perfusion post-obstruction to placenta
- 2. Non-Invasive Right Arm BP Cuff:**
monitor maternal cerebral perfusion
- 3. Dural Puncture Epidural with slow titration:**
 - 10cc of 0.125% bupivacaine
 - 0.625% bupivacaine with 2 mcg/cc fentanyl

- 1. Epidural slowly loaded with:**
 - 400mg 2% lidocaine with epinephrine
 - 100mcg fentanyl
- 2. Background Phenylephrine infusion:**
to keep BP at baseline

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Discussion & Takeaways

- This case demonstrates the importance of a multidisciplinary approach for caring for parturients with complex cardiovascular diseases.
- This patient had a high-risk for a major adverse cardiac event perioperatively, but with a multidisciplinary approach we were able to ensure a successful outcome.

References

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3. Regitz-Zagrosek V., et al: ESC Guidelines on the management of cardiovascular diseases during pregnancy. *Eur Heart J* 2011; 32: pp. 3147-3197