

Covid-19 complications affect both antepartum and postpartum care

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Case Presentation

39 yo G2P0101

- PMH: HTN, prior severe Covid-19 infection c/b prolonged intubation, tracheostomy, bilateral vocal cord paresis, subglottic stenosis, and PE now on prophylactic enoxaparin 40mg qd, breech presentation in current gestation
- POBHx: SVD s/p IOL for pre-eclampsia
- PSHx: tracheostomy and subsequent glottic dilation x3

Timeline

- Presents at ~23 weeks gestation with worsening dyspnea and stridor with rapid breathing.
- ENT clinic flexible laryngoscopy with worsened glottic and subglottic scarring and decreased patency of vocal cords during rapid breathing
 - Plan to take to OR for tracheal dilation and partial arytenoidectomy to improve respiratory status prior to eventual delivery
- Multidisciplinary meeting with ENT, MFM, and Anesthesia: patient will receive two doses of betamethasone and present for surgery at ~25 weeks gestation
- Tracheal dilation operative course: induction for general anesthesia; TIVA with Propofol; paralysis with succinylcholine infusion; Grade IIa view by ENT, intermittent intubation with 5.0 MLT as well as jet ventilation. Small respiratory reserve with short time to desaturations. Fetal monitoring with pre and post-intervention fetal tones by OB.
- Tolerated well, improved respiratory function after. Repeat flex laryngoscopy with good healing and improved glottic patency
- Repeat multidisciplinary discussion regarding delivery: plan to deliver at 38 weeks via primary LTCS with CSE after adequate time holding enoxaparin.
 - Discussed the risk of emergency c-section due to anticoagulation (preventing neuraxial) and potential difficult airway
 - Should an emergency c-section be required, would have emergency airway equipment immediately available, including multiple sized ET tubes as well as surgical airway materials.
- Delivery: planned, uneventful c-section completed after successful combined spinal epidural with isobaric 0.5% bupivacaine

Discussion/Considerations

Important considerations in the care of a complex parturient with glottic and subglottic stenosis on anticoagulation:

Whether to intervene:

- As gestation progresses, FRC decreases and maternal oxygen consumption increases causing what is a stable respiratory status at 20 weeks to progress to a tenuous respiratory status at 36 weeks+. A parturient with symptoms earlier in pregnancy will likely become more symptomatic as they progress.

Timing of intervention:

- Fetal viability and lung-maturity steroids, likely worsening desaturations with short apnea due to decreased FRC

Delivery plan/planning for emergent intervention

- Progesterone induced airway edema causing an already difficult airway to be potentially more difficult. Discuss necessity of anticoagulation to less impede neuraxial anesthesia. Availability of emergency airway equipment and advanced airway providers: ie staffing of L&D and whether ENT is in house after-hours

Multi-disciplinary approach involving anesthesia, MFM, and ENT is vital to a safe and successful delivery