Anesthetic Management for Cesarean Delivery of a Parturient with COVID-19 Infection while on Extracorporeal Membrane Oxygen Support

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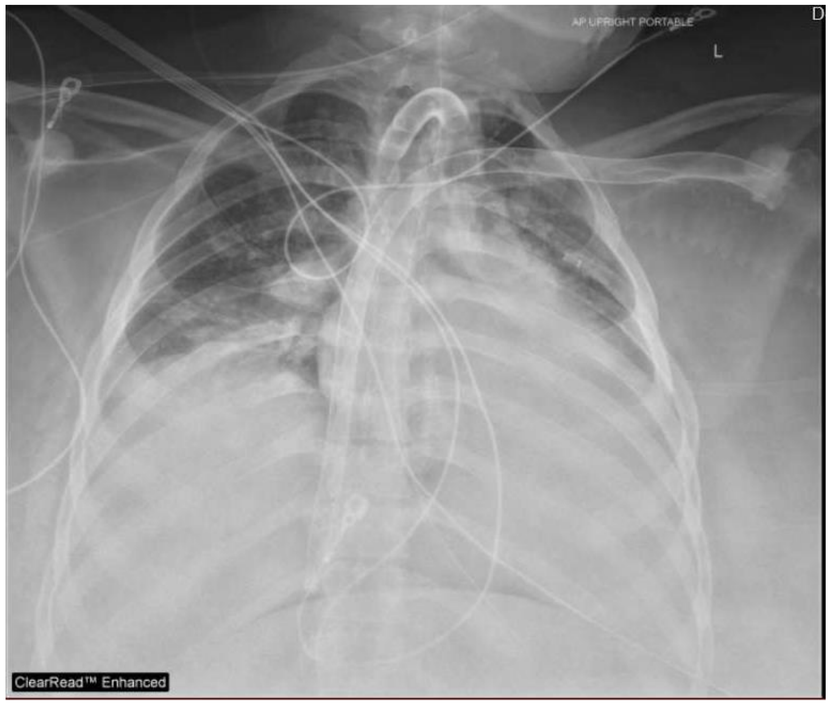
Background

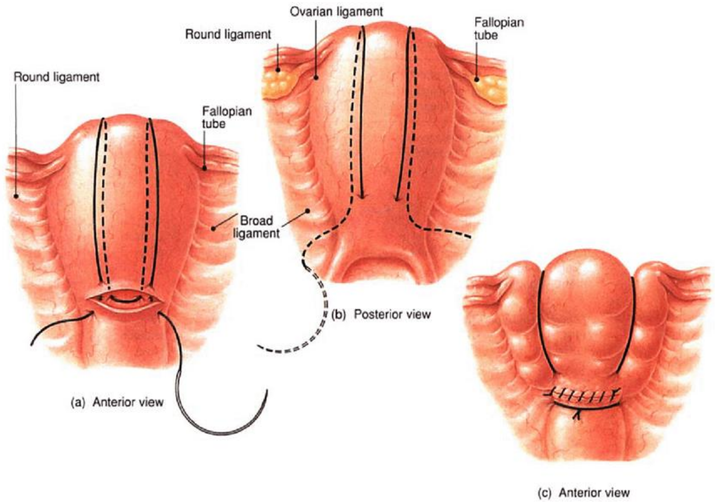
- COVID-19 infection can cause ARDS, sometimes requiring ventilatory and circulatory support
- The physiologic changes of pregnancy make parturients especially vulnerable to severe disease
- ECMO support is effective in these patients, but can lead to difficult medical and ethical decision making

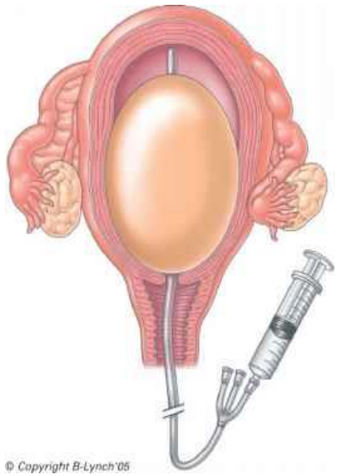


Case Presentation

25 year old G1P0 with BMI of 53 kg/m^2 presented at 26 weeks gestation with acute respiratory failure due to COVID-19

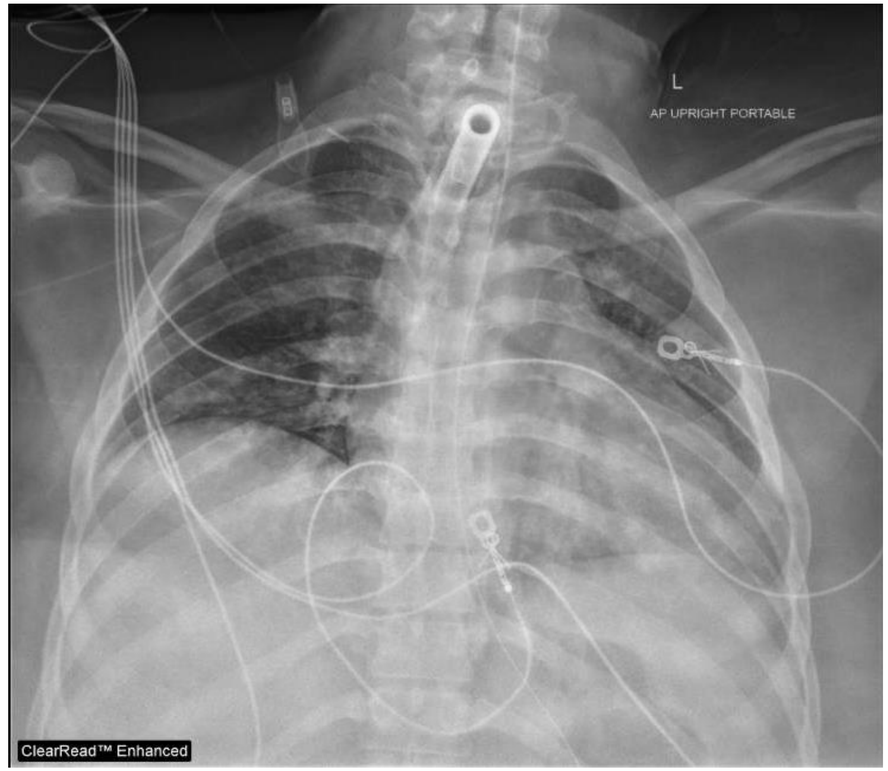
- Required intubation and transfer to Duke for VV ECMO cannulation
- Developed preeclampsia with severe features, requiring both nicardipine and labetalol infusions
- Oxygenation worsening despite sedation, paralysis, mechanical ventilation, and high ECMO flows
  - Decision made to proceed with urgent cesarean delivery at 28 weeks gestation
- After delivery, bleeding controlled with high-dose oxytocin infusion, 1 g tranexamic acid, and B-lynch suture
  - Prophylactic Bakri balloon placed if needed for PPH
- Decannulated from ECMO on PPD5 and discharged home on PPD15





Discussion

- Prior to the COVID-19 pandemic, ARDS was the most common indication for peripartum ECMO[1]
- Respiratory parameters in ventilated parturients tend to improve after delivery[2]
- Multidisciplinary team approach is necessary to best determine the timing of delivery and ensure the safety of these patients



References:
1. Naoum et al. Extracorporeal life support in pregnancy: a systematic review. JAHA 2020; 9:e016072.
2. Lapinsky et al. Obstetric delivery in mechanically ventilated critically ill pregnant women. Int Care Med Exp. 2015;3(1).