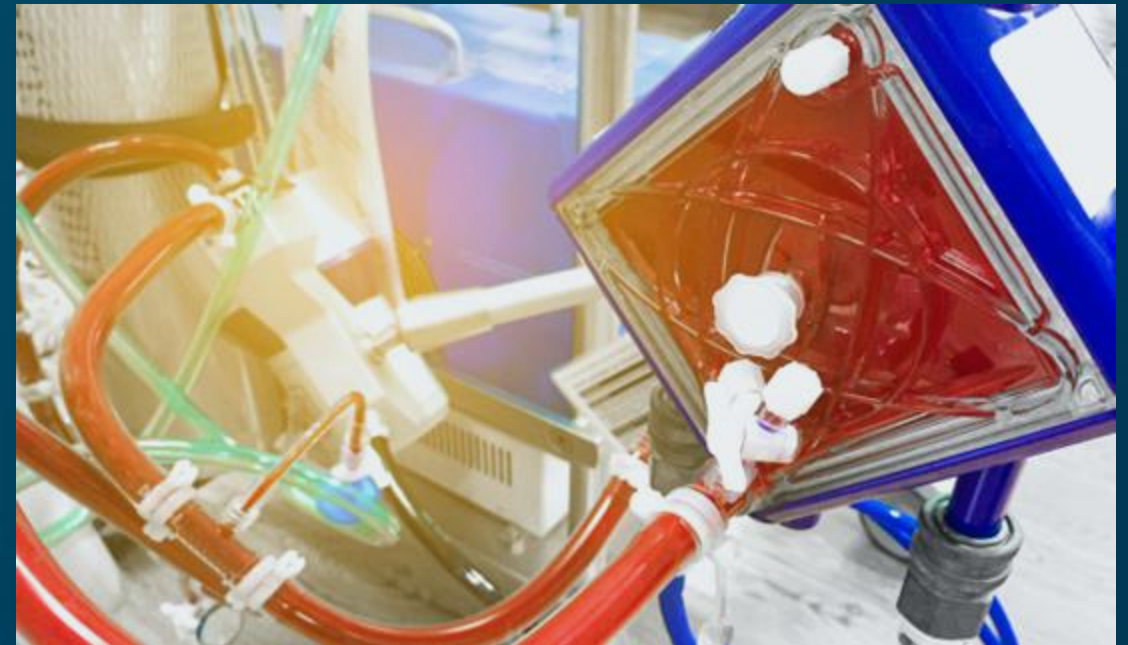


Peripheral V-A ECMO to facilitate cesarean delivery for a parturient in profound cardiogenic shock

Background:

- Cardiomyopathies are a leading cause of maternal morbidity and mortality
- V-A ECMO is a viable method of hemodynamic support for parturients in cardiogenic shock
- Pregnancy and Cesarean delivery provide unique challenges for ECMO management

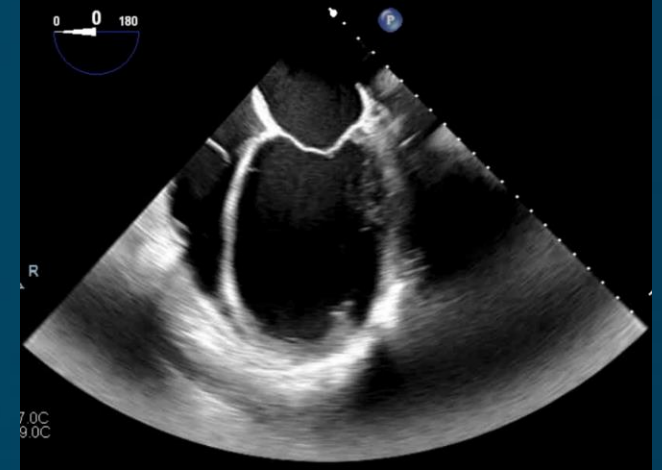


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Case Report:

31-year-old G3P2 presenting at 33w3d with 1 week of new-onset SOB/chest pain, tachycardia and new left-bundle branch block

- Found to be in cardiogenic shock with reduced ejection fraction



Pre-delivery:

- Admit to CCU
- TTE: LVEF 10-15%, moderate RV depression, LV dilation
- Inotropy w/ dobutamine
- Heparin gtt for LV thrombus prevention
- Furosemide diuresis

Day of Cesarean Delivery:

- Worsening LVEF ($\leq 10\%$)
- Increasing inotropic support
- Non-reactive NST
- **ECMO Consulted**
- Femoral V-A ECMO at bedside
 - Difficult due to gravid uterus, IVC compression
- To OR for CD under GETA
- Successful delivery
 - MFM, ECMO, Cardiac + OB/Critical Care Anesthesia, CT surgery

Post-Partum Support:

- PPD 0: Impella CP placed
- PPD 11: RVAD + Durable LVAD
- PPD 22: RVAD removed
- PPD 45: Discharge to home

Post-discharge transplant candidacy deferred at patient request

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Teaching Points:

1. ECMO cannulation may be difficult

- Consult ECMO team early
- Gravid uterus compresses IVC, obstructs femoral access sites
- Maintain LUD and consider pannus retractor

2. Indications for GETA while on ECMO include:

- Anticoagulation, acquired thrombocytopenia/VWD, intraoperative TEE

3. ECMO flows need thoughtful management during delivery

- Consider LV venting, pulsatility, post-delivery autotransfusion, post-partum hemorrhage.
- Additional staff with advanced training in ECMO may be required given physiologic and hemodynamic complexity involved.



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