PULSELESS PREGNANCY: NAVIGATING CESAREAN DELIVERY WITH AN LVAD

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Incidence low, but increasing[1]
- 12 cases in literature[2]
- 8 live births
- 1 vaginal; 7 cesarean[3]
- Unknown anesthetic management

Complex anesthetic challenges
- Large fluid shifts
- Native vs mechanical cardiac output
- Anticoagulation

No management guidelines

LVAD Multidisciplinary Delivery Plan[4]

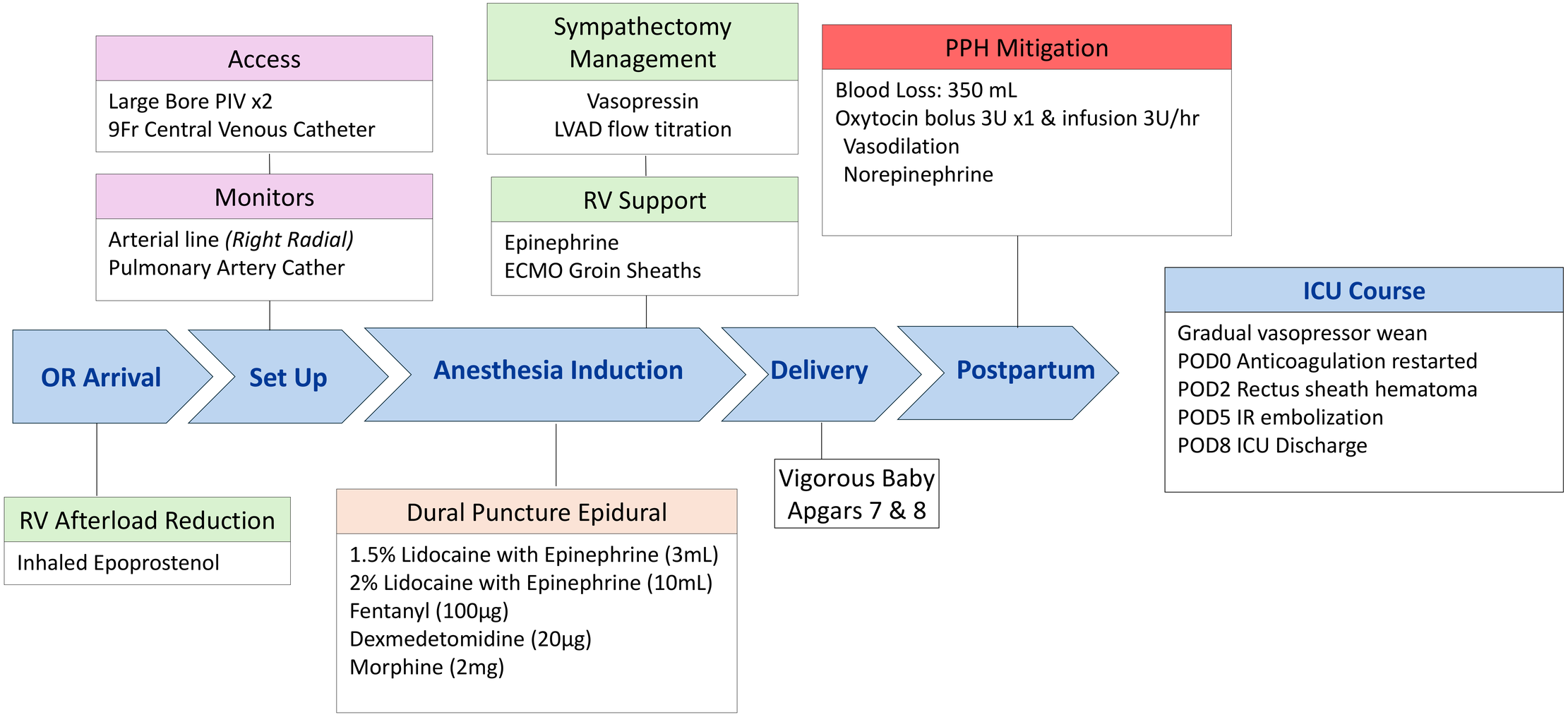
Who	35F G4P3 at 24 weeks GA with HeartMate 3 LVAD for PPCM
	PMH: BMI 50 +Anti-E antibodies Cardiac Risk: mWHO IV TTE LVEF 15%, mildly reduced RV systolic function (TAPSE 12mm), appropriately placed and functioning LVAD
	Hemodynamic Considerations ✓Preload dependent ✓Afterload sensitive ✓RV Failure ✓Arrhythmia Risk
	Teams: MFM, OB and CT Anesthesia, CT Surgery/ECMO, Critical Care, NICU, Nursing
What	Cesarean delivery (likely) for breech presentation
When	34 weeks GA (unless maternal concerns)
Where	Scheduled vs Emergent Delivery: L&D vs Cardiac OR
	Post-Delivery Care: L&D vs ICU
How	Neuraxial vs General Anesthesia
	Monitors/Access ❑Large bore access ❑Arterial line ❑CVC/PA catheter ❑TTE/TEE PPH Management ❑Uterotonic candidacy ❑Blood product availability ❑Uterine preservation techniques Contingency Planning ❑RV support ❑Advanced airway management ❑Massive hemorrhage

Brigham and Women's Hospital
Founding Member, Mass General Brigham

HARVARD MEDICAL SCHOOL

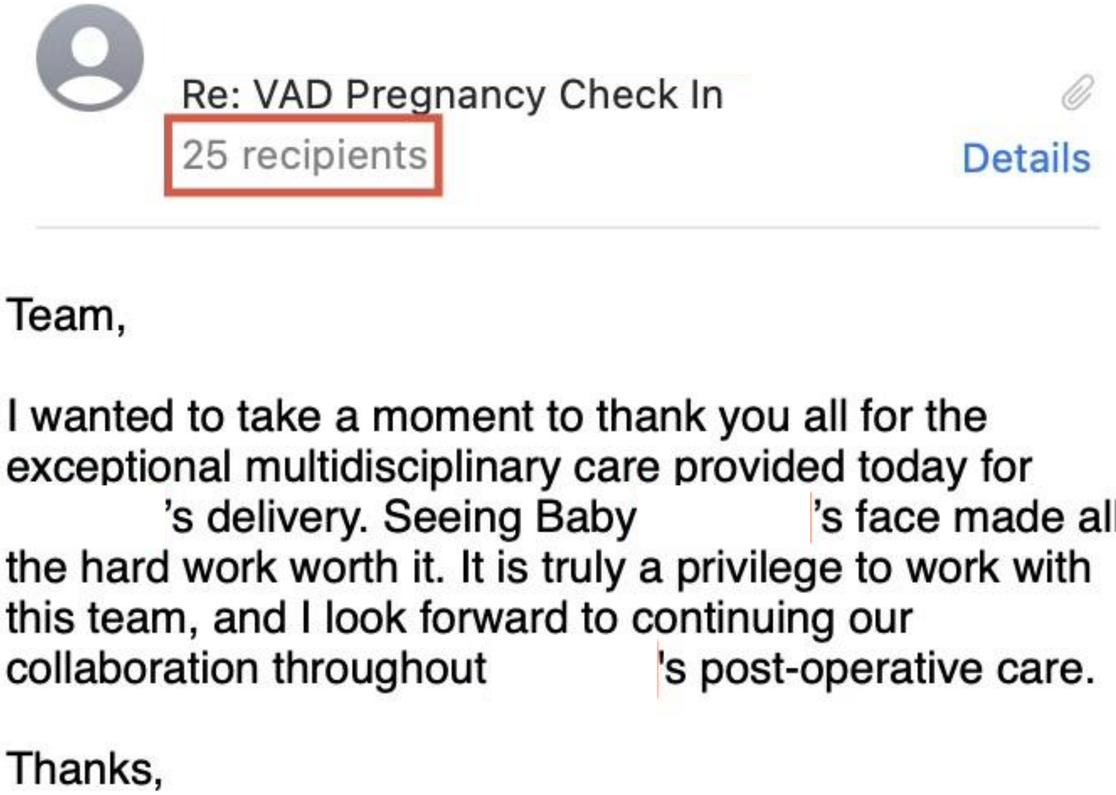
35F BMI 50 at 32 weeks GA with biventricular dysfunction, LVAD and breech presentation for primary cesarean section

Antepartum: 4 admissions for volume overload requiring continuous diuretic infusion & maximal LVAD support



Management Dilemmas

- Hemodynamic Optimization
  - Outpatient vs Inpatient
- Proactive Contingency Planning
  - Judicious Resource Allocation
- Neuraxial vs General Anesthesia
  - Inotropic & Mechanical Support
- Anticoagulation Timing & Strategies
  - Antepartum
  - Postpartum



Re: VAD Pregnancy Check In

25 recipients

Details

Team,

I wanted to take a moment to thank you all for the exceptional multidisciplinary care provided today for ’s delivery. Seeing Baby ’s face made all the hard work worth it. It is truly a privilege to work with this team, and I look forward to continuing our collaboration throughout 's post-operative care.

Thanks,

1. Pacheco et al. 2023 Obstetrics & Gynecology
2. Abraham et al. 2025 Annals of Cardiac Anaesthesia
3. Oren et al. 2024 ASAIO Journal
4. Adapted from Meng et al. 2023 Circulation