

BACKGROUND

Peripartum Cardiovascular Collapse Following Cesarean Delivery in a Parturient with Severe Biventricular Failure and Pulmonary Hypertension

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- **Severe cardiomyopathy + pulmonary HTN** → high maternal mortality risk
- Peripartum physiology:
 - **Autotransfusion after delivery** ↑ preload
 - Relief of **aortocaval compression** → ↑ venous return
- In pHTN:
 - ↑ preload → **RV overload** → **septal shift** → ↓ LV filling
 - → risk of **acute biventricular failure & collapse**
- Even with support, **rapid decompensation can occur**



35F, G8P4 at 31 Weeks — Cesarean for Decompensation

Cardiac History

- Dilated CM, EF 20%, severe MR, mod TR
- Chronic thromboembolic pHTN (PA ~70s/30s)
- Factor V Leiden, recurrent DVT/PE, MI ×2, stroke ×2

Pre-op Status

- Milrinone infusion, escalating O₂ needs
- Cesarean indicated for maternal decompensation

Anesthetic Approach

General anesthesia: ketamine + propofol + remifentanyl + rocuronium

Invasive Monitoring (Pre-induction)

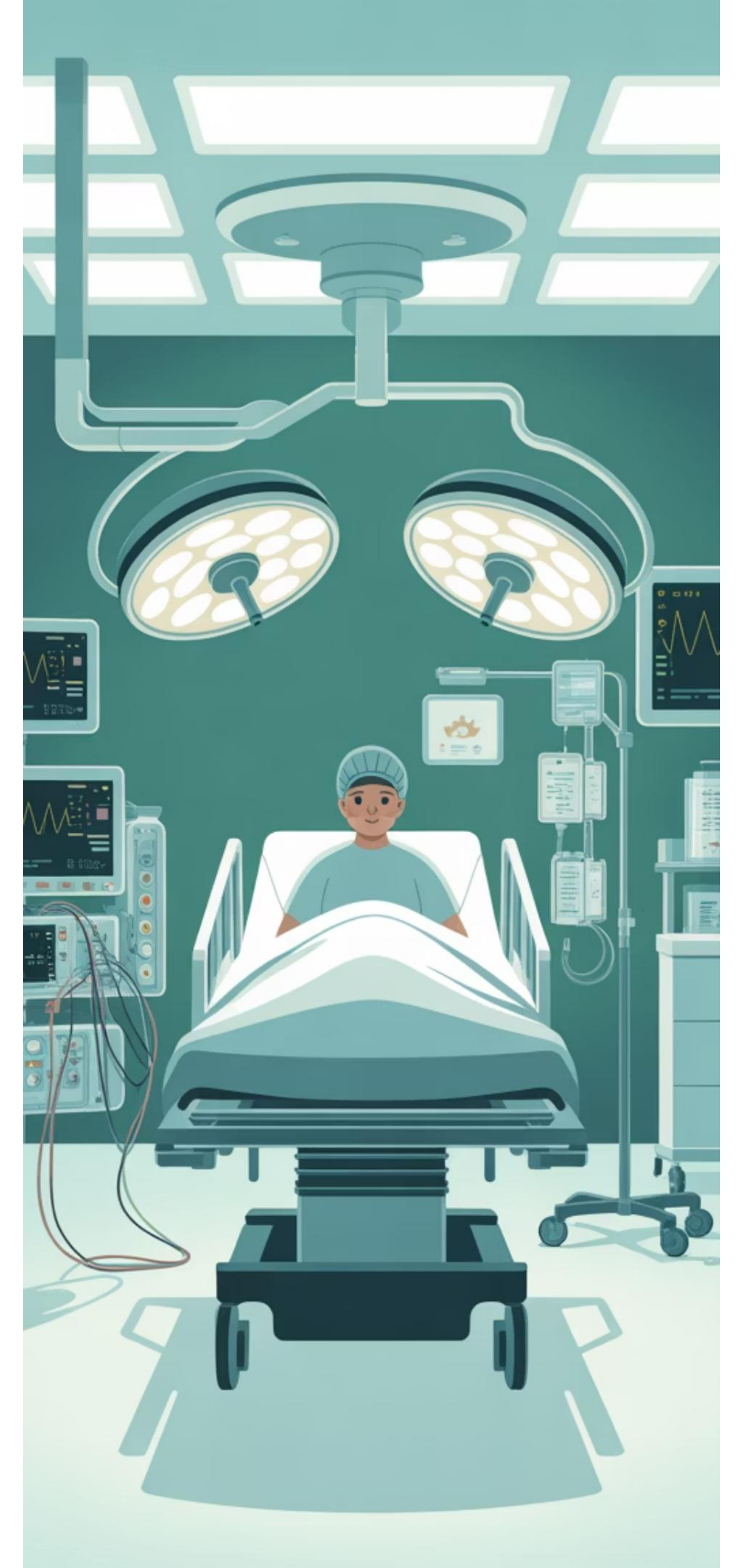
- A-line, PA catheter, large-bore access
- Groin prepped for VA ECMO

Intraoperative Course

Rising PA pressures, tachycardia (120→150s), progressive hypotension. During closure: global hypokinesia → PEA arrest. ROSC after 3 rounds ACLS.

Outcome

Acute BiV failure from postpartum preload surge → VA ECMO + Impella → CVICU



Key Lessons from This Case

Autotransfusion Is the Trigger

Postpartum preload surge is **potentially catastrophic** in pHTN — anticipate before delivery.

Cardiovascular collapse

Acute BiV failure → RV failure → septal bowing → LV underfilling → worsening of pulmonary hypertension

Monitoring Alone Is Not Enough

Invasive lines and echo are essential — but **do not prevent** decompensation.

Plan for MCS Before the Crisis

Immediate ECMO/Impella availability must be **confirmed pre-incision**.

GA Preferred in Unstable Patients

Anticoagulation + MCS risk makes neuraxial contraindicated. **General anesthesia** is the safer choice.