



INTRODUCTION

- Rheumatic heart disease is the common cause for mitral stenosis (MS) in young people worldwide.
- Cardiovascular complications: among leading causes of mortality and morbidity.
Account for more than 1/3 maternal deaths.(1) 

- Physiologic changes: increased blood volume and Stroke volumes.
Increased Heart Rates



Associated with severe mitral stenosis
Higher prevalence of cardiac decompensation + pulmonary edema.

- Case presented: Severe mitral stenosis with pulmonary hypertension undergoing a C section.

1) Creanga AA, Syverson C, Seed K, Callaghan WM. Pregnancy-related mortality in the United States, 2011-2013. Obstet Gynecol. 2017;130:366–373.



CASE PRESENTATION

34 yo , G1 with a Mitral valve repair 9 years prior (RHD from childhood).

- Developed **severe mitral stenosis** post-repair
- Progressive **dyspnea** during pregnancy → **orthopnea** in 3rd trimester

Cardiac Assessment:

- Normal sinus rhythm
- Mitral gradient: **12.6 → 15.4 mmHg** (3 months)
- BNP: **1045 ng/L**
- Medical stabilization: metoprolol, aspirin, furosemide

Multidisciplinary Decision

- Worsening functional status → **C-section at 34 weeks**

Anesthetic Management

- Epidural anesthesia (slow titration: lidocaine + epinephrine) → **T6 bilateral block**
- Arterial line + 2 large-bore IVs
- Dexmedetomidine infusion (0.5 → 0.25 mcg/kg/h)
- **Fluid restrictive** strategy
- HR maintained at **60 bpm** | BP **120/65 mmHg** (norepinephrine 4 mcg/min)

Intraoperative Challenge

Post-delivery: **>20% BP drop** → norepinephrine ↑ to **8 mcg/min** → rapid response → tapered
EBL: **800 mL**

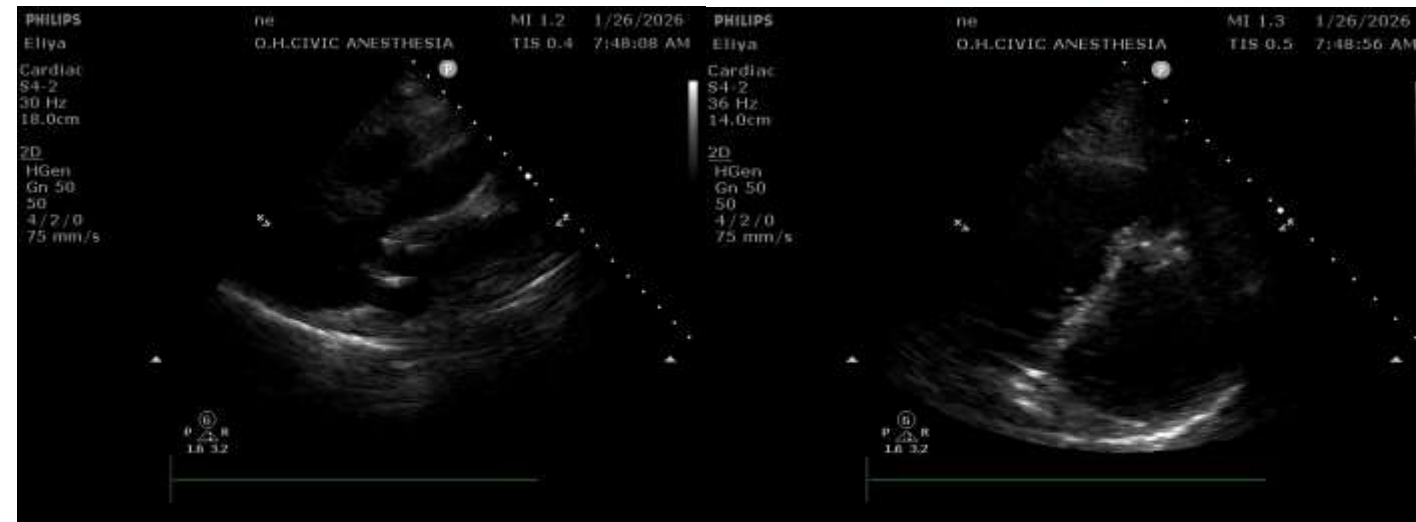


Fig 1 and 2 : POCUS scans showing mitral calcification and
right sided overload/ overpressure



DISCUSSION

The Hemodynamic Conundrum

- Dual pathology: **Mitral stenosis and regurgitation** associated with PHTN → conflicting hemodynamic goals.
- Strategy: fluid restriction + norepinephrine + dexmedetomidine → tight hemodynamic control.
- Critical moment: **post-delivery** volume shift → controlled with vasopressor titration.

Role of Epidural Anesthesia

- Slow titration → **avoided significant hypotension** at induction.

Key to a safe and controlled anesthetic approach



Multi disciplinary team approach: Of utmost importance.

POCUS

- Valuable bedside tool for **real-time hemodynamic assessment**.
- Signs of severity identified early.
- **Doppler** used to guide and monitor mitral gradients and cardiac function.

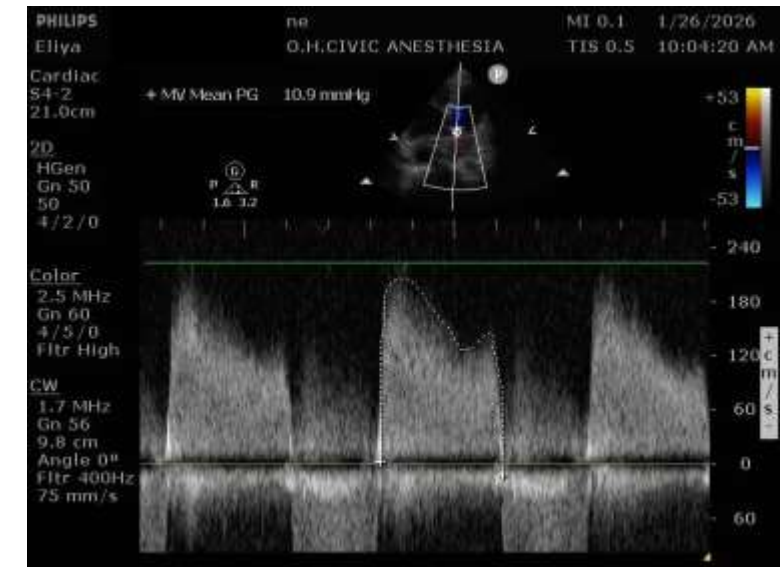


Fig 3: Continuous wave doppler revealing a decrease in the transmitral gradient after delivery and carbetocin injection.