Early Recognition and Anesthetic Implications of Pericardial Effusion in Pregnancy

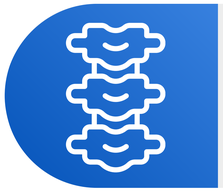
Pericardial effusion in pregnancy is rare, but can rapidly progress to **cardiac tamponade** due to increased blood volume and cardiac output, creating significant risks during labor and anesthesia. Management for cases becomes even more complex in the presence of multiple comorbid conditions. This case balances concerns of **preeclampsia**, which increases the risk of hemodynamic instability and seizures, and cervical spine abnormalities, which raise concern for a **difficult airway**.

Key Anesthetic Challenges:

Maintaining maternal hemodynamic stability

Ensuring fetal well-being

Managing anticipated difficult airway



Determining feasibility of neuraxial anesthesia

The Case

This case describes a 27-year-old G1P0 patient at 34 weeks and 5 days who was found to have **new-onset preeclampsia** and a large circumferential **pericardial effusion with early tamponade** physiology.

Relevant History:

- Congenital platybasia with prior C1–C2 fusion
- Cervical syringomyelia → limited neck extension → predicted difficult airway
- Cochlear implants → required ASL interpreter

Interventions

- Urgent pericardiocentesis:
  - 600 mL serosanguinous fluid removed
  - Drain placed
  - Suspected viral pericarditis
- Post-procedure
  - Severe chest pain → no re-accumulation on repeat imaging
- Given
  - Magnesium sulfate for seizure prophylaxis

Delivery Planning

- Multidisciplinary decision to proceed with delivery
- Anesthetic plan:
  - Early epidural placement
  - Avoid general anesthesia if possible
  - Prepare for awake intubation if needed
- Outcome:
  - Successful delivery without airway compromise
- Postpartum:
  - Treated with colchicine

Teaching Points

- Early Recognition & Cardiac Management
  - Pericardial effusion in pregnancy can rapidly progress to tamponade physiology
  - TTE findings (RV collapse + respirophasic variation) should prompt urgent drainage before delivery
  - Treatment for viral pericarditis (colchicine) should be deferered until postpartum
- Plan Anesthesia Proactively
  - Competing risks: preeclampsia, early tamponade physiology, difficult airway
  - Early epidural to avoid emergent anesthesia
  - Continuous hemodynamic and cardiac monitoring
- Anticipate a Difficult Airway
  - Platybasia + cervical fusion = limited neck extension
  - Pregnancy = edema, rapid desaturation, aspiration risk
  - Prepare for awake intubation or backup airway strategies

Key Considerations

Multidisciplinary Approach

Considering the complexity, it is important to implement early coordination of OB anesthesia, cardiology, neurosurgery, and NICU teams

Patient Education & Communication

Patient education about importance of an early epidural to avoid emergent general ensthesia. Additionally, ASL interpreter was required