Cardiac Arrest and Resuscitation in a Parturient with Multiple Risk Factors

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Introduction

- Patient: 44-year-old G7P6 at 41w6d admitted for preeclampsia with severe features.
- Obstetric History: Prior cesarean section (CS), one successful VBAC, and limited prenatal care.
- Clinical Course:
- Chose TOLAC over repeat CS despite hypertensive complications.
- On admission, BP reached 192/112, requiring labetalol, magnesium sulfate, and fluid restriction.
- Epidural placed using fentanyl-bupivacaine for analgesia.
- Labor induction with oxytocin led to failure to progress, requiring urgent CS.

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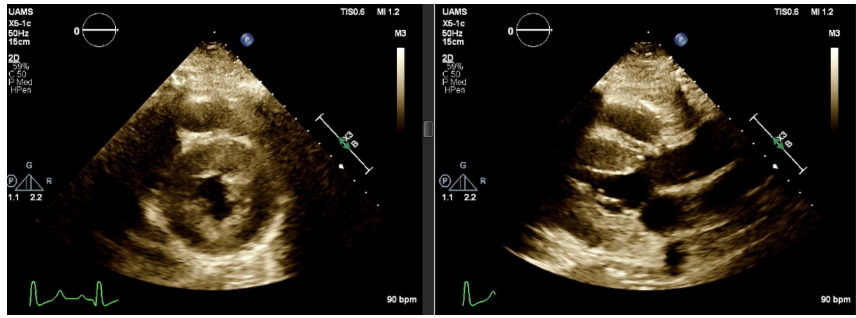
Peripartum Course

- Hypertension managed with labetalol, magnesium sulfate, and fluid restriction.
- Labor epidural placed with fentanyl-bupivacaine for analgesia.
- Epidural top-up for CS with fentanyl 100 mcg, lidocaine 100 mg, achieving T5 sensory block.
- Complications during CS:
    - Severe pruritus post-fentanyl → Treated with naloxone 40 mcg.
    - Agitation, acute dyspnea, hypotension (97/54), and bradycardia (HR 42) → Rapid deterioration.
    - GA initiated. 7.0 ETT placed with videoscope.
    - Oxygen desaturation (SpO_2 50–60%) despite confirmed airway placement and mechanical ventilation.
    - Emergency delivery within 5 minutes followed by maternal cardiopulmonary arrest. ROSC achieved after 3 rounds of CPR.
    - CVL and a-line placed.
    - Second cardiac arrest, ROSC regained after 2 minutes with aggressive volume resuscitation and vasopressor support.
- Resuscitation & Findings:
    - Four rounds of CPR (14 minutes) achieved ROSC.
    - Post-ROSC TTE:
        - Severe left ventricular hypertrophy (LVH).
        - LVOT obstruction and volume depletion.
    - Stabilized postoperatively with 5 PRBC, 3 FFP, phenylephrine, and vasopressin.

Discussion



POD1 TTE

- Pathophysiology:
  - Chronic hypertension led to LVH and LVOT obstruction, worsened by:
    - Supine positioning during CS.
    - Neuraxial sympathectomy, reducing preload and systemic vascular resistance.
    - Fluid restriction exacerbating hypovolemia.
- Differential Diagnosis Considered:
  - Amniotic fluid embolism (AFE) was suspected but ruled out due to absence of coagulopathy and TTE findings confirming LVOT obstruction.
- Key Management Lessons:
  - Preoperative echocardiography (TTE) is crucial for identifying high-risk parturients with undiagnosed cardiac pathology.
  - Avoid excessive fluid restriction in hypertensive parturients with potential cardiac dysfunction.
  - LVOT obstruction requires careful vasopressor use and adequate preload maintenance.
- Patient Outcome:
  - Stabilized postpartum with diuretics and hemodynamic support.
  - Extubated on PPD1, underwent laparotomy and bilateral salpingectomy for uterine atony.
  - Transferred from CVICU to L&D on PPD2
  - Discharged home neurologically intact on PPD5.
- Conclusion:
  - Recognizing HOCM-like physiology and hemodynamic instability in obstetric emergencies is critical.
  - Rapid resuscitation, multidisciplinary coordination, and individualized anesthetic management improve maternal outcomes.

References:

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