Non-Ischemic Dilated Cardiomyopathy in Cesarean Delivery

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Introduction

- Cardiovascular disease is the leading cause of maternal mortality in the United States.
- Heart failure is commonly associated with peripartum cardiomyopathy.
- Patients who have preexisting cardiomyopathy are at risk of developing worsening systolic dysfunction as physiologic changes of pregnancy begin to manifest.

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Case Presentation

- G1P0 at 22w6d EGA with chest pain and dyspnea. MHx of diabetes mellitus type II, hypertension and NICM diagnosed one year prior after a bout of COVID-19.
- Physical exam: decreased breath sounds bilaterally and pitting edema.
- TTE: EF 25%, grade III LV diastolic dysfunction and moderate pulmonary hypertension. Admission with adequate diuresis and discharge

- Seven days later, the patient presented with chest pain and dyspnea.
- Physical exam: jugular venous distension, 4+ pitting edema and bilateral crackles. CXR: pulmonary edema. Labs: increased BNP to 2527 [1348 at previous admission].
- Echo: EF 15%, moderate RV enlargement with severely reduced RV function, PA pressures of 57, CVP of 15 and moderate tricuspid regurgitation.

- C/S at 25 weeks.
- Epidural: 20 mL of 2% Lidocaine, Radial arterial line
- Epinephrine infusion was started at 0.02 mcg/kg/min. Nitric oxide was applied via facemask immediately after delivery of the infant and remained on until the procedure was complete.
- Transfer to ICU

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- Discussion
  - An increase in cardiac output and total blood volume may cause increased myocardial stress, eccentric hypertrophy and a subsequent decline in cardiac function on an already weakened heart.
  - In patients with dilated cardiomyopathy and severely depressed ejection fraction, it is critical that neuraxial anesthesia is titrated slowly as to avoid a significant sympathectomy.
  - After delivery of the fetus, cardiac output can increase up to 80% proposing a hemodynamic challenge. Most important for these patients are preservation of inotropy and avoidance of large variations in blood pressure in order to ensure stability in the immediate postpartum period.

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