Successful Management Of Patient With Ischemic Cardiomyopathy Undergoing C-section Through A Multi-disciplinary Approach

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Introduction

- With the high maternal mortality rate in the U.S. and cardiovascular disease as the leading cause, multiple societies have called for improved multi-disciplinary care including obstetric, cardiac, anesthesiology, and nursing teams to help guide safe care for patients with complex comorbidities

Case Presentation

- 31yo G3P0111 at 29 weeks with a past medical history of prior c-section, uncontrolled type 1 diabetes, severe gastroparesis, and ischemic cardiomyopathy due to chronic total occlusion of the LAD presented for repeat c-section in the setting of worsening heart failure
- Pt had multiple admissions during pregnancy for DKA and initially presented with similar symptoms of nausea, vomiting, and lethargy, but was also found on this admission to have persistent tachycardia, hypotension, and increased LFTs indicating hepatic congestion due to worsening cardiac function

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Pre-Operative Echocardiogram

- TTE w/ globally reduced systolic LV function with an EF of 20-25% with otherwise normal RV size & function, and normal valvular function

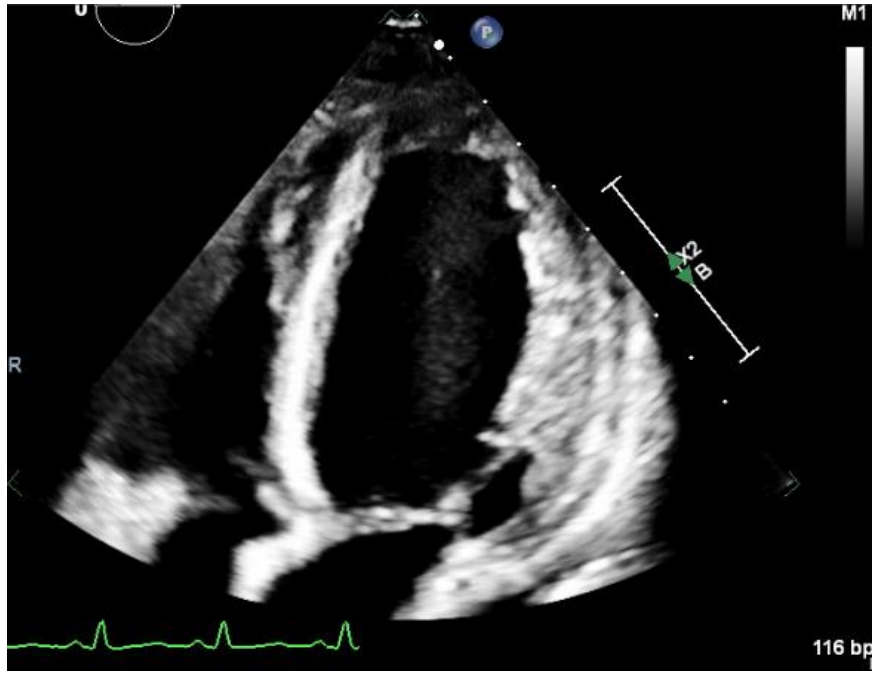

Figure 1. Transthoracic Echocardiogram, Apical 4 chamber view .

Delivery Planning

- Multidisciplinary team meetings with MFM, cardiology, cardiac surgery, NICU, CSICU, OB and cardiac anesthesiology, L&D nursing
- After multidisciplinary discussion, decision made for C/S in main OR at 30 weeks to avoid further decompensation with 3rd trimester cardiac physiology changes
- Cardiac surgeon would be readily available for ECMO cannulation in event of pt decompensation
- Given severity of nausea with continued emesis, decision was made to proceed with general anesthesia with pre-induction arterial line, central line and PA catheter for accurate hemodynamic assessment both intra- and post-operatively, an RSI induction, and TEE guidance intra-operatively

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OR Management

- Anesthesia plan: general anesthesia with RSI w/ VL performed, with hemodynamics stable through induction and intraop
- Intra-operative TEE re-confirmed pre-operative TTE findings with reduced LV systolic fxn with otherwise preserved RV, valvular fxn
- Intra-operative course c/b QBL 2L, but did not require transfusion based on lab assessment
- Extubated intra-operatively on small dose of inotropic support with epinephrine, weaned down successfully in ICU within 24h
- Cord gases were pH 7.35 venous/7.29 arterial and neonatal APGARs were 1/1/5 at 1/5/10 minutes respectively, requiring intubation by the NICU team with subsequent extubation 24 hours later.
- Pt was successfully discharged home 1 week post-delivery

Discussion

- Using a multi-disciplinary approach and appropriate pre-operative planning, we have demonstrated the positive impact on maternal and fetal outcome in a patient with significant cardiomyopathy and multiple comorbidities.

Sources

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