Successful Vaginal Delivery in the Patient with Acute Decompensated Cardiomyopathy

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BACKGROUND

- More than a quarter of pregnancy related deaths in the United States are a result of cardiovascular disease
- With an increasing incidence of acquired heart disease, delays in the diagnosis of heart failure in pregnancy can present a serious risk for the parturient, especially if there is concomitant atrial fibrillation
- It may be difficult to achieve rhythm control prior to delivery as not all antiarrhythmics are safe during pregnancy

Issue	Consequence	Plan
Catecholamine release	Tachycardia and arrhythmias	Early neuraxial analgesia/anesthesia
Decreased systemic vascular resistance	Decreased coronary perfusion	Vasopressors
Increased cardiac output	Heart failure	Inotropes, diuresis, mechanical support,
Decreased pulmonary vascular resistance	Increased pulmonary pressure	Pulmonary vasodilators

Table 1: Hemodynamic considerations in the pregnant patient with cardiomyopathy or heart failure. *Adapted from Meng, et al., IJOA 2024.*

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CASE REPORT

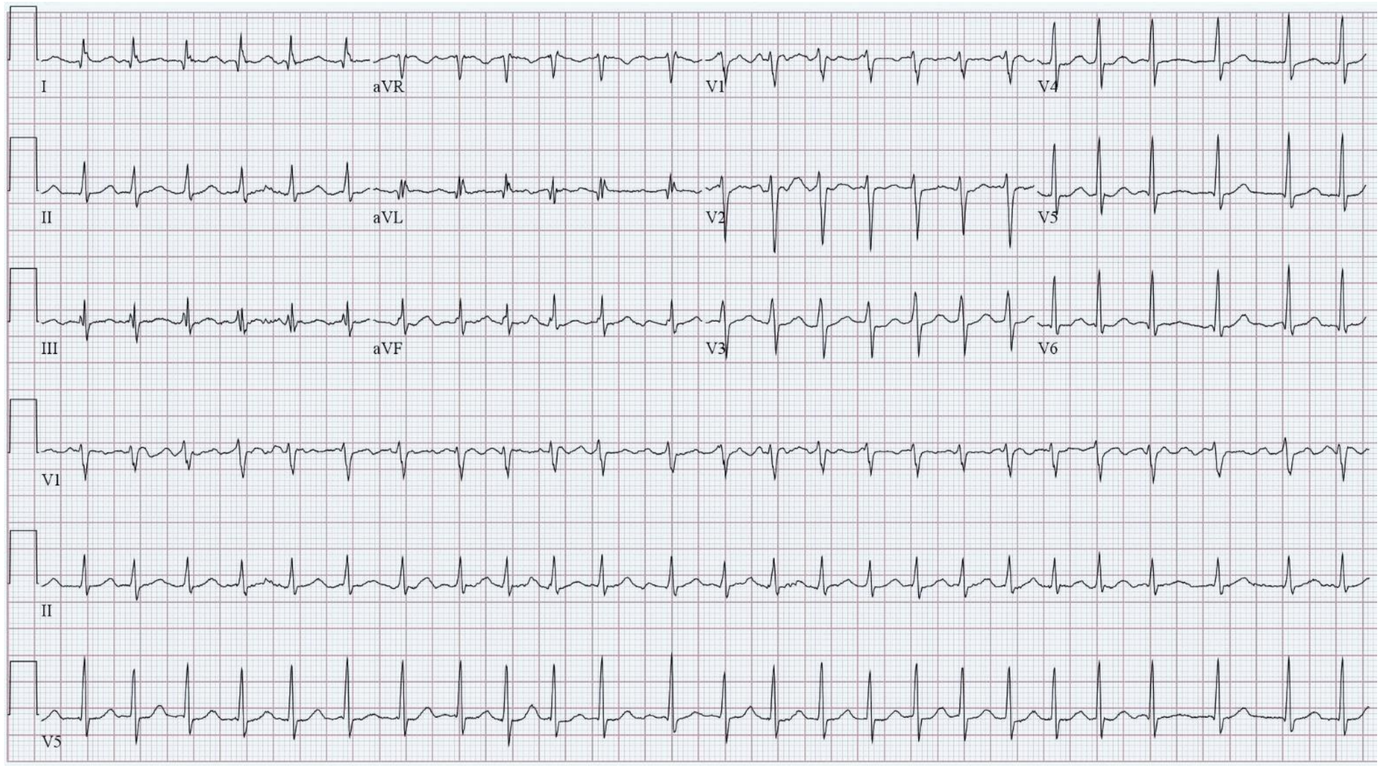
31 year old G6P4014 at 33 weeks with recent diagnosis of dilated CM, presenting in AFRVR

Treated with IV diuresis, heparin, metoprolol, and digoxin prior to induction of labor

Epidural ropivacaine 0.15% started at 10cc/hr with concurrent norepinephrine at 0.5mcg/min

Received IV furosemide and maintenance oxytocin infusion after vaginal delivery

Shortly after, patient was in AFRVR requiring digoxin. Successful TEE/DCCV done on PPD3



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TEACHING POINTS

- Not only is there an increased risk of aspiration during a TEE with a gravid uterus, but also DCCV necessitates uninterrupted anticoagulation afterwards
- As our patient was hemodynamically stable, we were able to focus on rate control and optimizing volemia
- Finally, given that this patient did not have close prenatal supervision for her cardiomyopathy, our multidisciplinary discussion was essential in peripartum planning, which ultimately led to a successful delivery and rhythm control was achieved in the postpartum phase

REFERENCES

1. American College of Obstetricians and Gynecologists' Presidential Task Force on Pregnancy and Heart Disease and Committee on Practice Bulletins—Obstetrics. Obstet Gynecol. 2019. PMID: 31022123.
2. Meng ML, Schroder J, Lindley K. Obstetric anesthesia management of dilated cardiomyopathies and heart failure: a narrative review. Int J Obstet Anesth. 2024 Nov;60:104251. doi: 10.1016/j.ijoa.2024.104251. Epub 2024 Aug 14. PMID: 39226639.