

Management of a Previabile Patient with Severe Aortic Valve Endocarditis with Aortic Valve Insufficiency Requiring VV-ECMO for Bronchospastic Respiratory Failure

Ian Funk, MD¹, Afif Kraitem, MD¹, Elise Walsh Boos², MD, MSc, Kaitlyn Brennan, DO, MPH¹

¹Department of Anesthesiology, Vanderbilt University Medical Center, ²Department of Obstetrics and Gynecology, Vanderbilt University Medical Center

Background:

Clinical Problem: Infective Endocarditis in Pregnancy

- 1) Infective endocarditis (IE) in pregnancy is rare but associated with **10–15% mortality**
- 2) Pregnancy Physiology:
 - Increased cardiac output & plasma volume, and decreased SVR can mask or worsen valvular disease
- 3) Acute aortic insufficiency (AI) is poorly tolerated vs. chronic AI
- 4) **Aortic root abscess**
 - Rare in pregnancy
 - Increase risk of rupture with advancing gestation/postpartum
- 5) **Termination of pregnancy (TOP)**
 - Important option in previable patients with high-risk cardiac disease

AV Vegetation → Valve destruction → Acute AI

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LV volume overload → ↑ LVEDP

↓
Pulmonary edema + shock

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Pregnancy: ↑ CO amplifies ALL steps

Case:

19w Pregnant Patient with Severe IE

28F, 19w EGA

PMH: bicuspid AV, polysubstance use, anxiety

Presentation: dyspnea, chest pain, fentanyl withdrawal

Workup: *S. mitis* bacteremia, TTE: severe AI + multiple AV vegetations

Multidisciplinary decision: TOP via D&E

Intraoperative Course

- Induction: ketamine, midazolam, propofol
- Required dobutamine + norepinephrine
- TEE findings:
 - Severe AI, mobile vegetations
 - Aortic root abscess
 - Left pleural effusion
- LVEF 45–50%
- Complication: severe bronchospasm → ICU + ventilator

Postoperative Course

- Extubated POD1
- Later underwent **Bio-Bentall procedure**
 - Developed respiratory failure → **VV-ECMO (POD1)**
 - Extubated POD4, decannulated POD8
- Gradual cardiac recovery → discharge to SNF

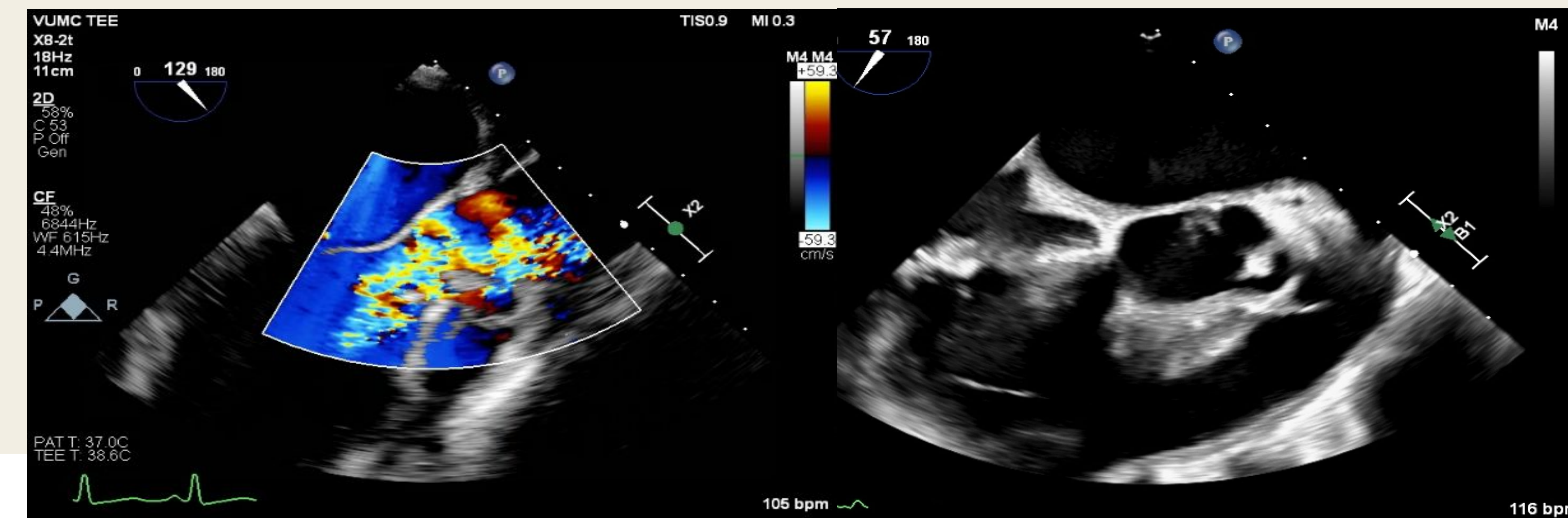


Fig 1: Intraoperative midesophageal AV LAX

Fig 2: Midesophageal AV SAX view

Teaching Points:

Clinical & Anesthetic Takeaways

- 1) **Acute severe AI $\neq$ chronic AI**
 - High risk for rapid decompensation in pregnancy
- 2) **Aortic root abscess**
 - Rare but critical $\rightarrow$ risk of rupture with $\uparrow$ CO and aortic dilation
- 3) **Anesthetic considerations**
 - Avoid afterload increase
 - Maintain forward flow (inotropes often required)
 - Be prepared for hemodynamic instability + possible respiratory failure
- 4) **Multidisciplinary care is critical**
 - Cardiology, cardiac surgery, MFM, anesthesia, ICU
- 5) **Termination of pregnancy**
 - Should be early, patient-centered, and clearly discussed in previable high-risk cases

Thank you!