

Peripartum Temporary Left Ventricular Assist Device for Ischemic Cardiomyopathy

Wright, A.R., Ernst, L., Dean, L., Rajkumar, K. P.
Wake Forest University School of Medicine, Department of Anesthesiology

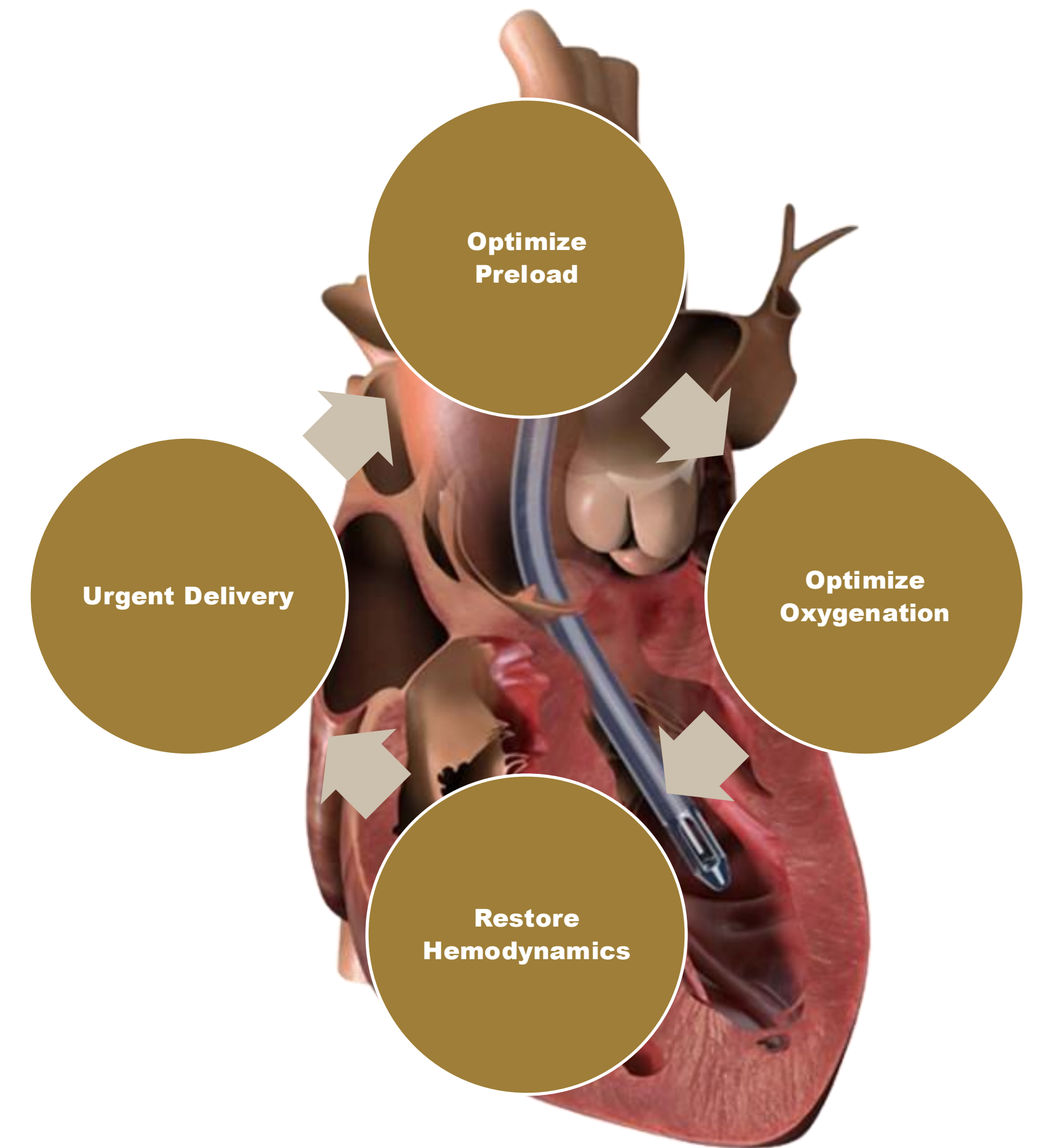
Background

Acute Myocardial Infarction (AMI) in Pregnancy

- Incidence of 18/100,000 obstetric admissions¹
- AMI is 3-4x more likely in pregnant patients compared to non-pregnant women
- Peripartum AMI presents unique challenges due to increased risk for coronary dissection and limitations in medical management.^{1,2}

Cardiogenic Shock in Pregnancy

- High maternal and fetal morbidity and mortality
- Mechanical Circulatory Support (MCS) increases survival⁴
- Options for MCS: Balloon Pump, ECMO, Temporary LVAD
- Temporary LVAD: Trade name Impella 5.5®



1. Markson F. Trends in the incidence and in-patient outcomes of acute myocardial infarction in pregnancy. *Am Heart J Plus*. 2023 Aug 24.
2. Elkayam U. Pregnancy-associated acute myocardial infarction. *Circulation* 2014; 129: 1695-702
3. Bauersachs J, Arrigo M, Hilfiker-Kleiner D, et al. Current management of patients with severe acute peripartum cardiomyopathy: practical guidance from the Heart Failure Association of the European Society of Cardiology Study Group on peripartum cardiomyopathy. *Eur J Heart Fail*. 2016;18(9):1096-1105.
4. Banayan J. Cardiogenic shock in pregnancy: analysis from the national inpatient sample. *Hypertens Pregnancy*. 2017;36(2):117-123.

New Surgical Circulatory Support System Outcomes - Scientific Figure on ResearchGate. Available from: https://www.researchgate.net/figure/The-Impella-55-in-the-left-ventricle_fig2_342172090 [accessed 2 Apr 2025]

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Case

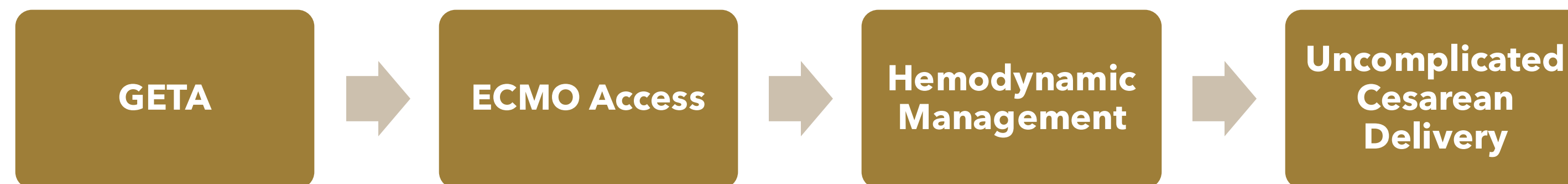
- 35-year-old G2P0010 at 17w3d presents with AMI due to occlusion of the left anterior descending artery (LAD)



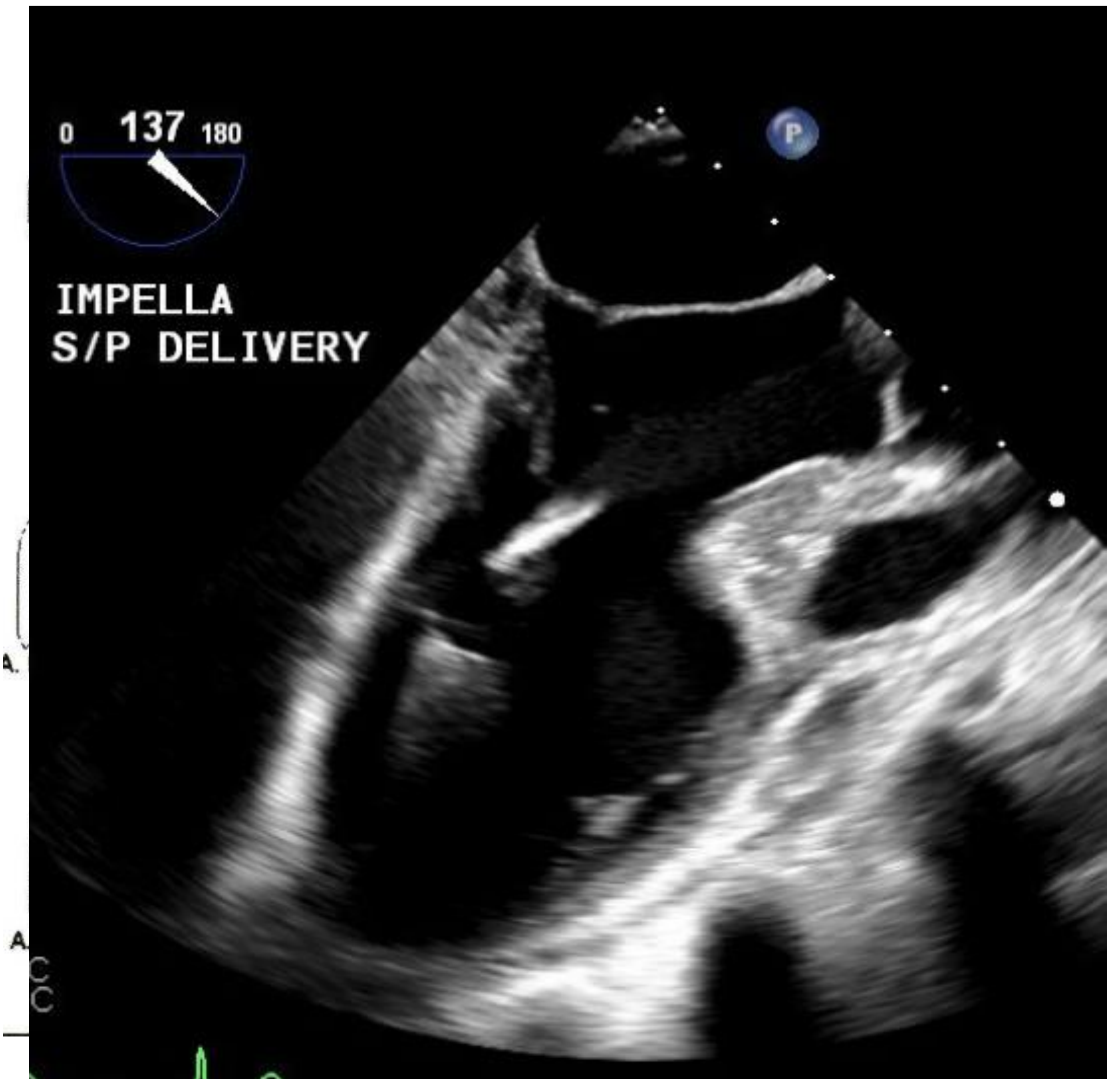
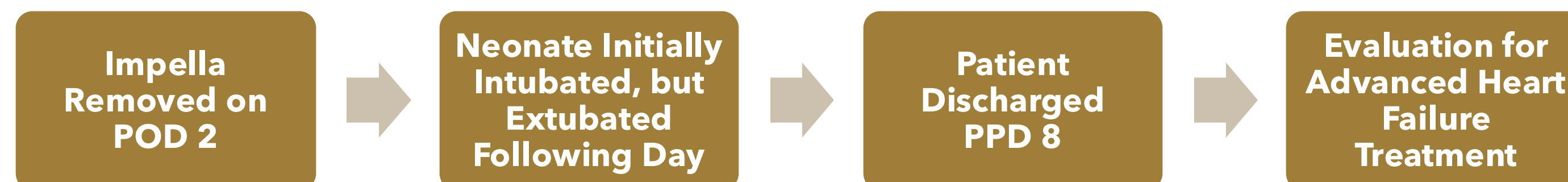
- At 24w5d her LVEF decreased to <15% with apical aneurysm.



- Multidisciplinary counseling led to the shared decision to proceed with delivery at 27w2d.



- Postpartum



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Discussion

