

C-39 Against the Odds: Management of a Parturient With a Mechanical Aortic Valve and Aortic Stenosis

Moderator(s)/Facilitator(s): Margaret O'Donoghue, M.D., Maria Santa Cruz, D.O.

Objective

After completion of this session, the participant will be able to:

- Select a safe anesthetic delivery plan for a parturient with significant valvular disease.

Case Stem Question

38 year old female G1P0 at 20 weeks and 6 days gestation presents to her obstetric anesthesia consult to discuss her options for delivery and anesthetic management.

PMH: Morbid obesity (BMI 60 kg, m²), severe aortic valve stenosis status-post mechanical

valve replacement 10 years ago, moderate persistent asthma

PSH: Laparoscopic cholecystectomy, TAVR (10 years ago)

Medications: Warfarin 5 mg TID, Albuterol, and Ipratropium

Guiding Questions for Discussion

1. What are the options for anticoagulation in this patient? Does it vary depending how far along she is in her pregnancy?
2. What is her risk of prosthetic valve thrombosis and how is this affected by pregnancy? What complications may occur due to mechanical valve thrombosis?
3. How can we monitor her anticoagulation status based on what anticoagulation she is currently on? What labs will she need drawn prior to delivery?
4. How does the physiology of pregnancy increase the risk associated with aortic stenosis? What will the hemodynamic goals be for her during the remainder of her pregnancy? How about on labor and delivery? What medications can we use to accomplish this?
5. Is this patient a candidate for neuraxial anesthesia? What is the safest delivery and anesthetic plan? What will be the best anesthetic plan if she presents for an emergency c-section?
6. If the patient experiences postpartum hemorrhage what are the options for management?

References

1. Anaesthetic considerations and anticoagulation in pregnant patients with mechanical heart valves. Bhatia, K. et al. *BJA Education*, Volume 22, Issue 7, 273 - 281
2. Jenneker M, Ramnarain H, Sebitloane H. A clinical conundrum: review of anticoagulation in pregnant women with mechanical prosthetic heart valves. *Cardiovasc J Afr*. 2022 Nov-Dec 23;33(6):322-328. doi: 10.5830/CVJA-2022-028. Epub 2022 Sep 8. PMID: 36162856; PMCID: PMC10031849.
3. Steinberg, Z, Dominguez-Islas, C, Otto, C. et al. Maternal and Fetal Outcomes of Anticoagulation in Pregnant Women With Mechanical Heart Valves. *JACC*. 2017 Jun, 69 (22) 2681–2691.
4. Federspiel JJ, Eke AC, Eppes CS. Postpartum hemorrhage protocols and benchmarks: improving care through standardization. *Am J Obstet Gynecol MFM*. 2023 Feb;5(2S):100740. doi: 10.1016/j.ajogmf.2022.100740. Epub 2022 Sep 2. PMID: 36058518; PMCID: PMC9941009.
5. Dos Santos F, Baris L, Varley A, Cornette J, Allam J, Steer P, Swan L, Gatzoulis M, Roos-Hesselink J, Johnson MR. Mechanical heart valves and pregnancy: Issues surrounding anticoagulation. Experience from two obstetric cardiac centres. *Obstet Med*. 2021 Jun;14(2):95-101. doi: 10.1177/1753495X20924937. Epub 2020 Jun 2. PMID: