

Pregnancy-associated aortic dissection and anesthetic complications in Marfan syndrome

Grace DeSena, BA; Adam Wendling, MD

Department of Anesthesiology, University of Florida College of Medicine, Gainesville

Introduction

- Marfan syndrome is a connective tissue disorder that affects many organ systems.
- Aortic wall weakening and dural ectasia must be considered in the anesthetic management of parturients with Marfan syndrome.

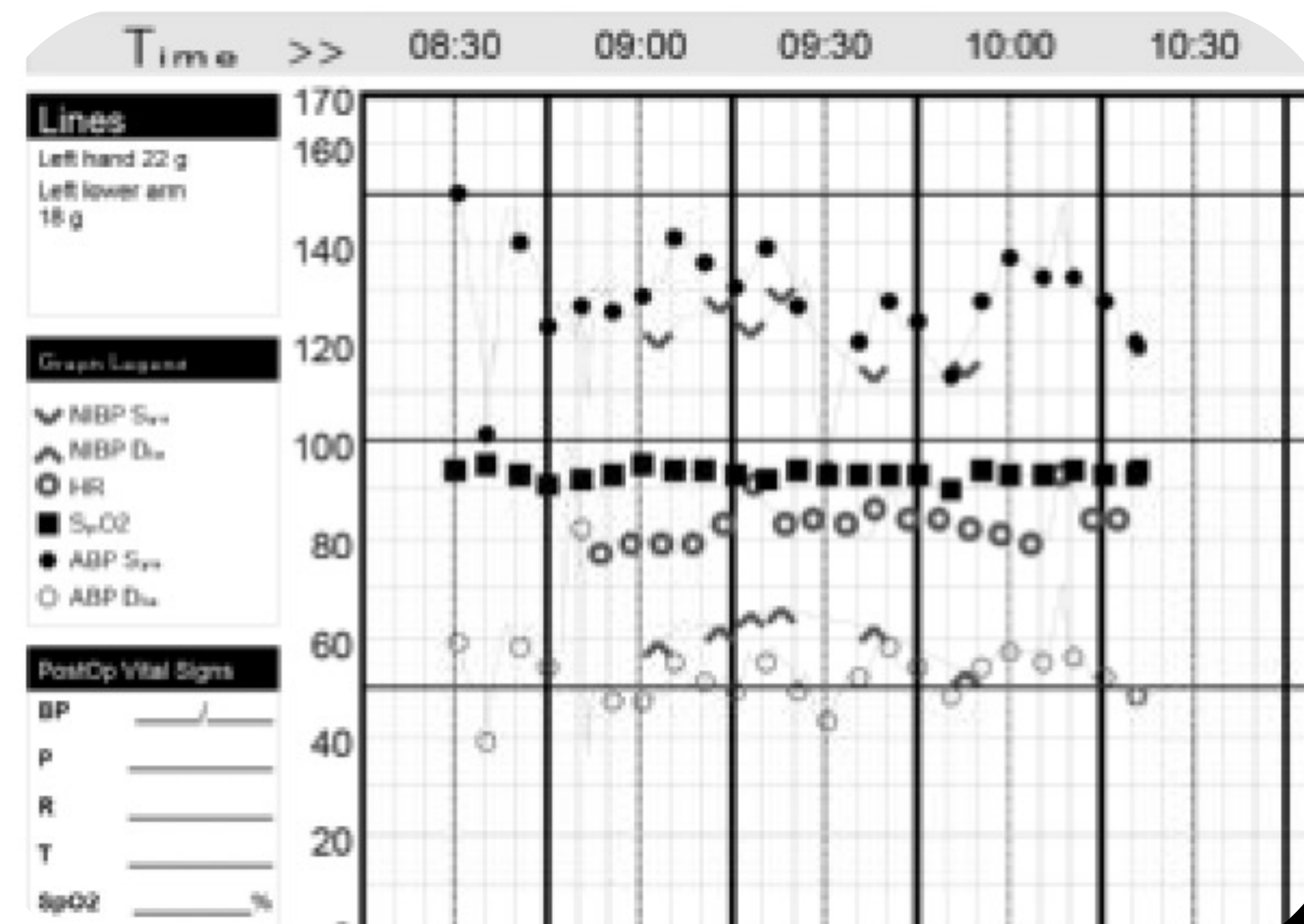


Figure 1. Intraoperative Vitals during CD

Case Presentation

- A 28-year-old G3P2002 with 21-week IUP and Marfan syndrome presented to the ED for chest pain radiating to her back that began during sexual intercourse.
- CT scan revealed a type III aortic dissection and TTE showed a 5.1 cm aortic root dilatation with severe aortic insufficiency.
- Her dissection was initially medically managed with labetalol, nifedipine, hydralazine, methyldopa, and clonidine.
- Cesarean delivery under epidural was performed at 25w 2d due to worsening hypertension from preeclampsia.
- Six months after delivery, she underwent aortic root and valve replacement.

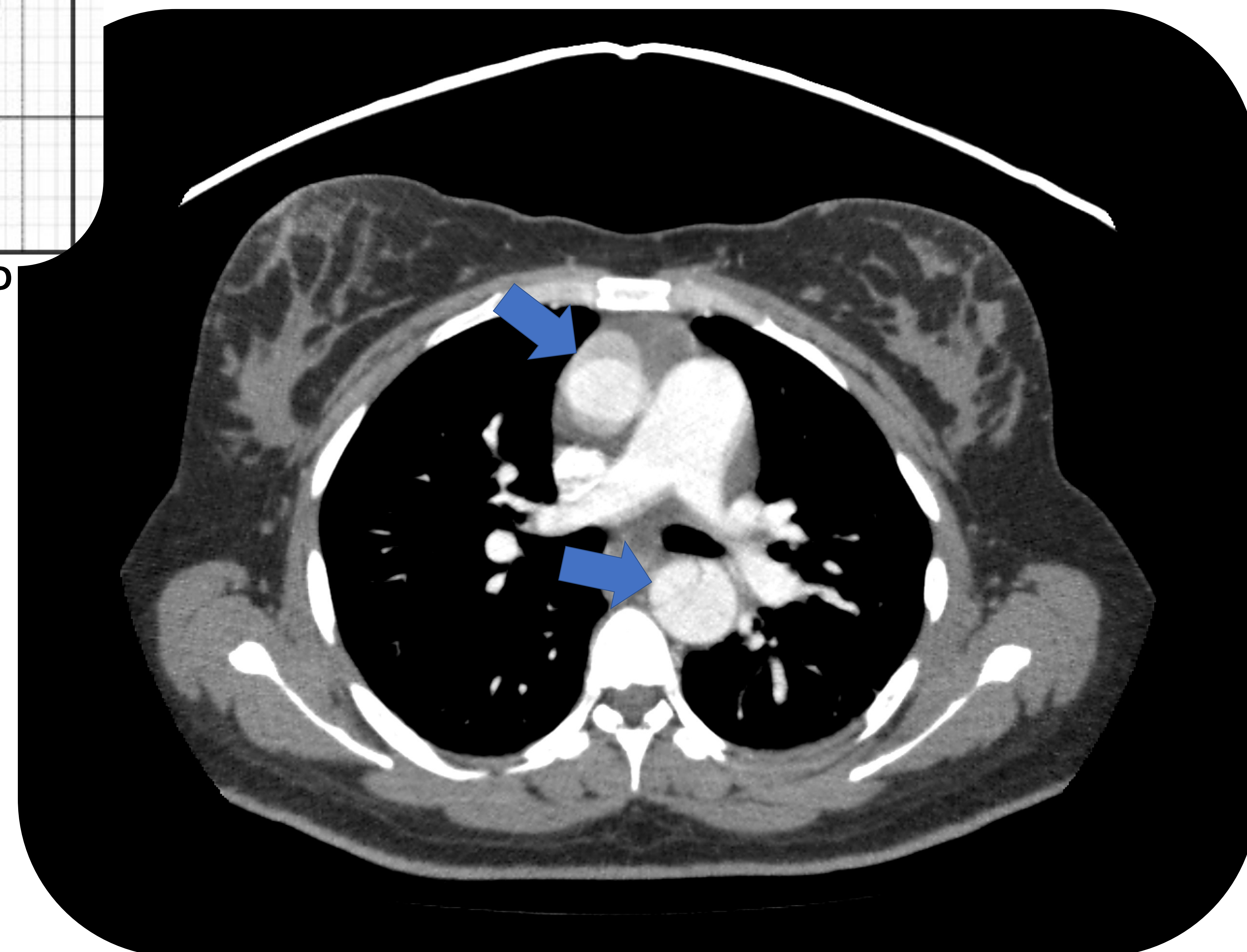


Figure 2. DeBakey Type III Aortic Dissection

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Discussion

- A multidisciplinary team is crucial for balancing the maternal-fetal conflict of increased risk of aortic rupture with continued pregnancy versus preterm delivery.
- Medical management of blood pressure in type III aortic dissections may be more difficult with preeclampsia, and general anesthesia and aortic root replacement carries a significant risk to mother and fetus.
- Neuraxial anesthesia is the preferred anesthetic management but can be complicated by underlying dural ectasia, seen in 63-92% of patients with Marfan syndrome.¹
- Dural ectasia increases the risk for dural puncture and is associated increased risk of incomplete or failed spinal anesthesia.²
- Moreover, general endotracheal anesthesia may be made even more difficult due to unusual airway anatomy and positive pressure ventilation can increase the risk of pneumothorax.
- While dural ectasia can lead to unintentional dural puncture with an epidural needle, this patient tolerated the procedure well without complications.
- Ultimately, this complex scenario needs careful planning and preparation to ensure best outcomes for mother and baby.



Figure 3. Dural Ectasia³

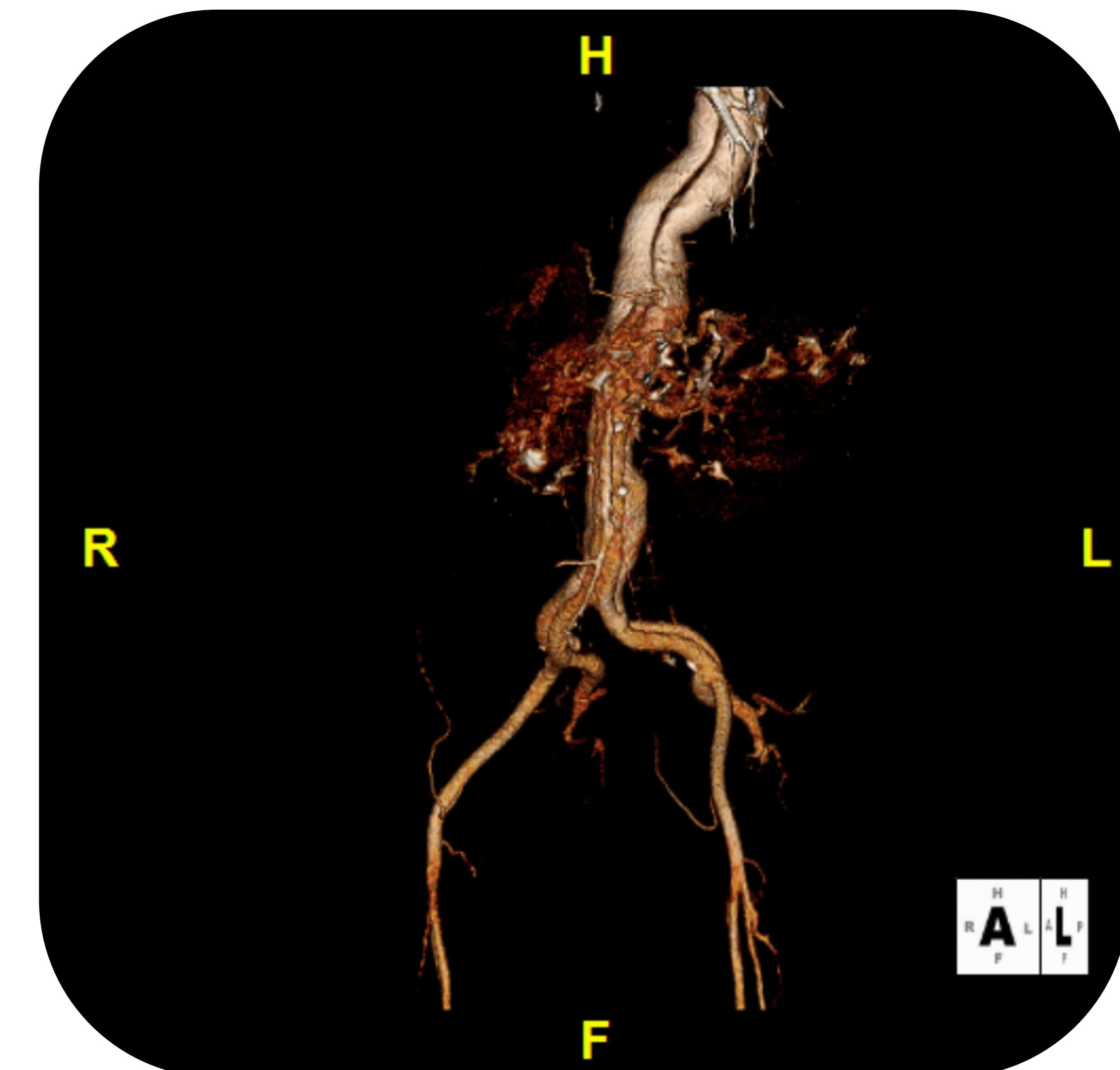


Figure 4. DeBakey Type III Aortic Dissection

References

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