

A Post-Partum Acute Type A Aortic Dissection without Known Connective Tissue Disease

Regine Goh,¹ Mercades Meuli,^{1,2} Anne Shapiro,^{1,2} Brett Cronin,^{1,3} and Erin Martin^{1,2}

¹Department of Anesthesiology, University of California, San Diego, CA, ²Division of Obstetric Anesthesia, ³Division of Cardiothoracic Anesthesia

Introduction

Type A acute aortic dissection is a rare but life-threatening event with increased risk during pregnancy, typically in the 3rd trimester or early post-partum period. Here, we describe a case of a type A aortic dissection discovered two days post-partum in a woman with pre-eclampsia, who did not have known aortopathy or connective tissue disease.

Case Presentation

- ❖ 35 year old woman presented to L&D triage at 34 weeks and 5 days with mild range blood pressures, headache, and substernal chest pain radiating to her jaw and back.
- ❖ Medical history included chronic hypertension, pre-eclampsia in a prior pregnancy, prior C-section, and no known connective tissue disease. Prior echo showed no aortic pathology.
- ❖ On admission, EKG was normal and symptoms improved.
- ❖ She was diagnosed with pre-eclampsia with severe features and underwent an uneventful repeat C-section with spinal anesthesia.
- ❖ On POD1 she complained again of chest pain with mild range blood pressures and mild troponin elevation.
- ❖ Cardiology was consulted and initially attributed her symptoms to demand ischemia from hypertension, but ordered a transthoracic echo completed on POD2 which showed an acute aortic type A dissection. CTA was performed for surgical planning and she was rushed to the OR for repair.

Case Presentation (continued)

- ❖ She underwent an uncomplicated Type A dissection repair on cardiopulmonary bypass with ascending aortic and hemi-arch replacement and repair of the aortic valve by resuspension of the noncoronary/right coronary commissure.
- ❖ Her hospital course was uncomplicated and she was discharged on day 6 after the repair of the aortic dissection.
- ❖ Ultimately, outpatient genetic testing for an underlying aortopathy revealed a heterozygous variant of unknown significance of the MYLK gene, associated with autosomal dominant thoracic aortic aneurysms and dissections.¹

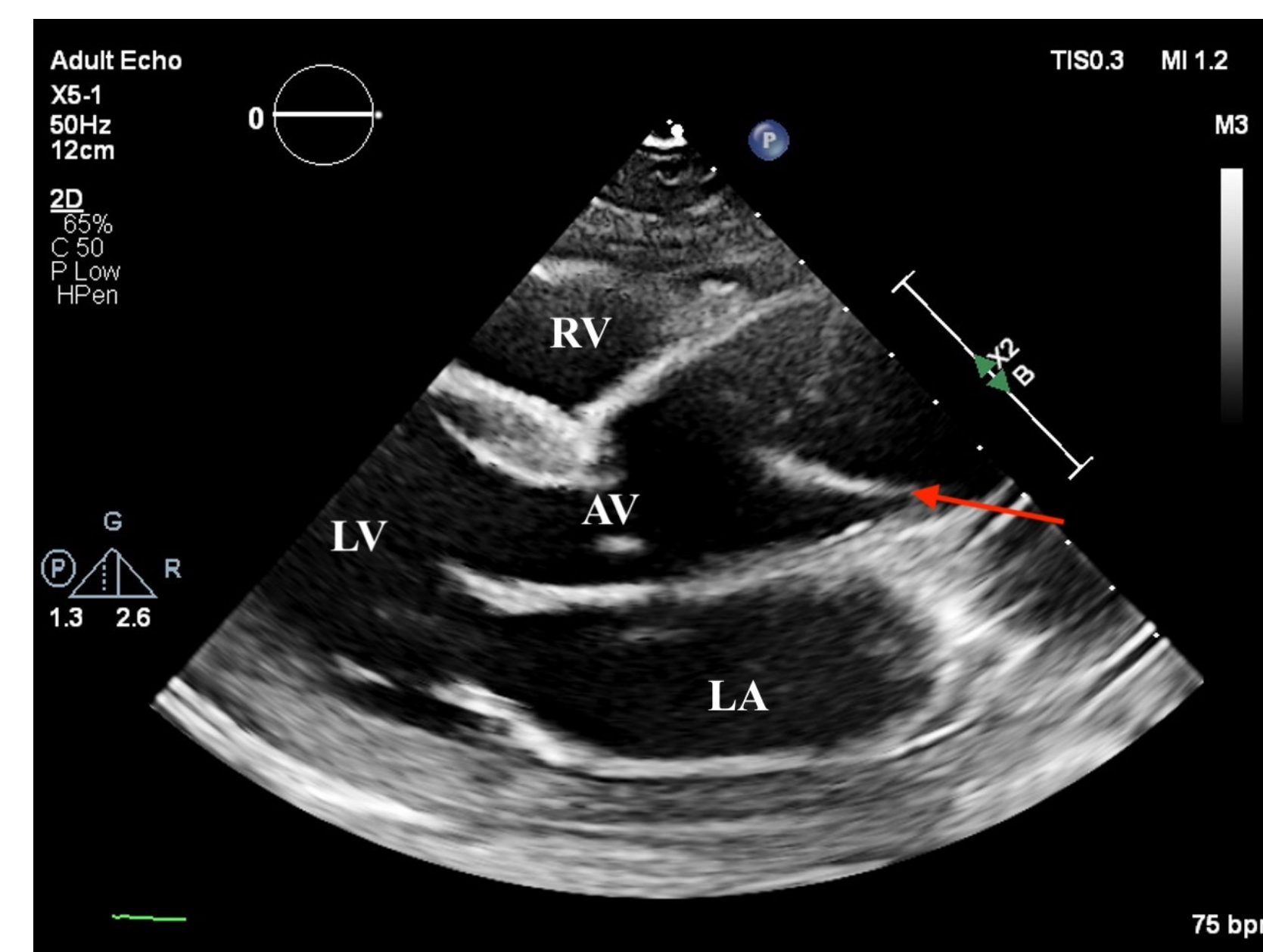


Figure 1 (Left) - Transthoracic echocardiogram - parasternal long axis (still image) with the dissection flap in the ascending aorta highlighted by the red arrow. Right Ventricle (RV); Left Ventricle (LV); Aortic Valve (AV).

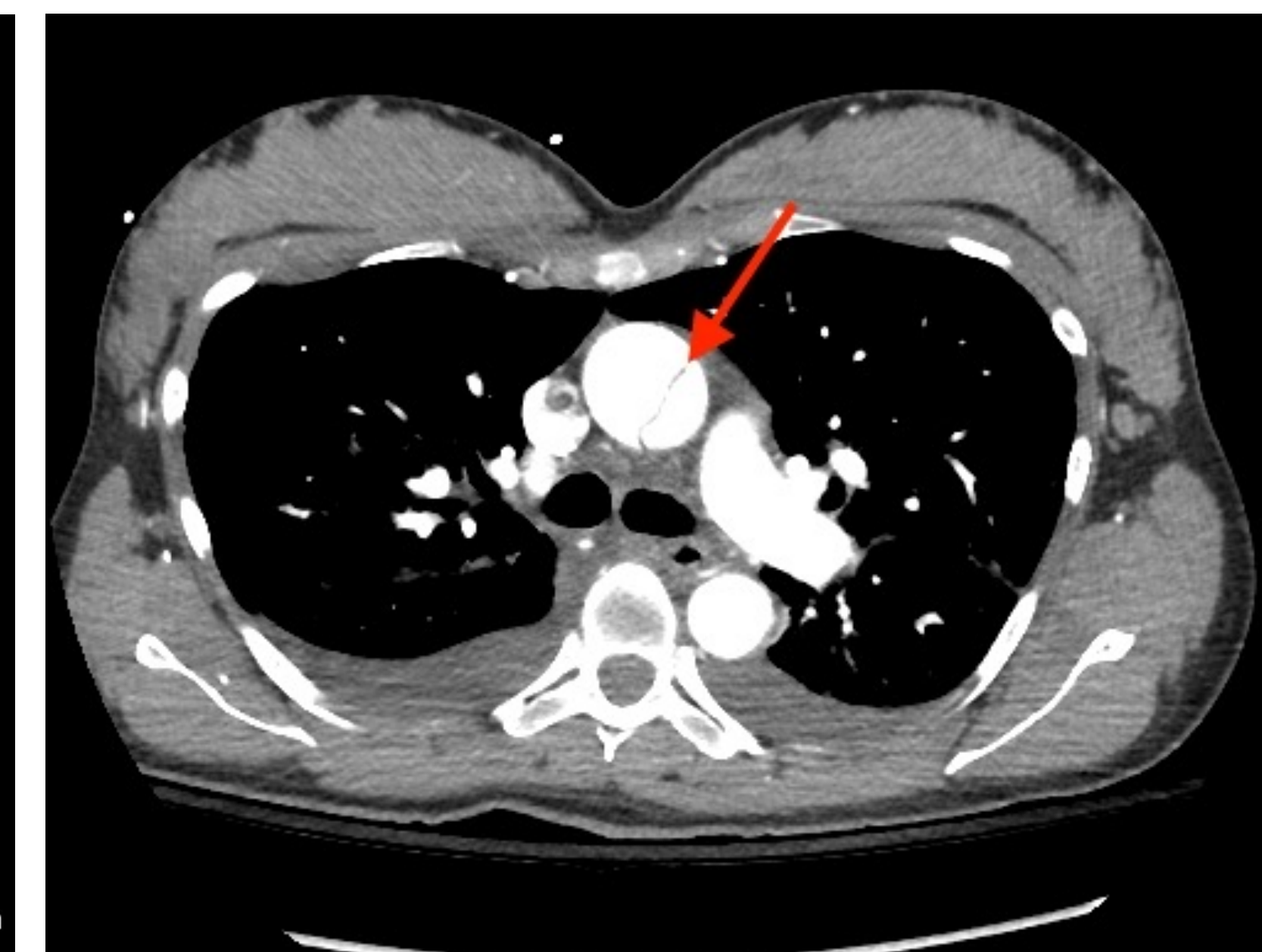


Figure 2 (Right)- Axial image from the CT angiographic acquisition of the chest with the dissection flap in the ascending aorta highlighted by the red arrow.

Discussion

- ❖ Pregnancy-related aortic dissection, although rare, represents 19% of aortic dissections in women < age 35 internationally.²
- ❖ Diagnosis of acute aortic dissection is often delayed, on average up to 18.5 hours, with 85% of all cases initially being misdiagnosed.³
- ❖ Maternal mortality from pregnancy-related aortic dissection increases 1-3% per hour after presentation and reaches 25% in the first 24 hours.⁴
- ❖ 75-90% of aortic dissection patients have a history or are hypertensive on presentation.⁵
- ❖ During pregnancy, hormonal changes occur in the aorta including loss of elastic fibers, which predisposes to aortic dissection.⁶
- ❖ Two cases of acute aortic dissection in the setting of preeclampsia in non-Marfan's patients were discussed by Huang et al, in which both cases had atypical signs but common symptoms of back pain and chest pain.⁷
- ❖ Women who are pregnant, complaining of chest pain, and are hypertensive should be worked up for aortic dissection in addition to pre-eclampsia.

References

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