

IMAGES IN EMERGENCY MEDICINE**Cardiovascular****Adult male with constant pleuritic chest pain**Sean Dowling MD  | Wendi Li MD | Zachary R. Zuniga MD | Kenton L. Anderson MD

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Email: sdowling@stanford.edu**1 | PATIENT PRESENTATION**

A previously healthy 55-year-old male presents to the emergency department for acute onset, unprovoked, severe, sharp, non-radiating, pleuritic chest pain with associated shortness of breath; no fever, nausea, cough, or hemoptysis. On examination, he is afebrile and breathing comfortably on room air with a pulse rate of 119 beats/min, blood pressure 151/90 mm Hg, clear lung sounds, and equal bilateral pulses. Laboratory results are notable for white blood cell (WBC) count of 19.1 ($10^3/\mu\text{L}$) and high-sensitivity troponin of 7 (ng/L). Electrocardiogram and chest x-ray are normal. Suprasternal notch point-of-care ultrasound (POCUS) (Figure 1) demonstrates an intimal flap within the ascending thoracic aorta. Contrast-enhanced computed tomography angiography (CTA) subsequently reveals an intimal flap extending from the aortic root to the proximal left subclavian artery (Figure 2).

2 | DIAGNOSIS**2.1 | Type A aortic dissection**

The patient received heart rate and blood pressure control along with aggressive pain management. Cardiothoracic surgery took the patient for emergent repair with ascending and hemiarch replacement. Given no comorbidities or identifiable risk factors, the cause of the dissection remains unclear.

Type A aortic dissection is a rare and potentially catastrophic disease with non-specific signs and symptoms that can be difficult to diagnose in the emergency department.¹ Published guidelines estimate mortality as high as 40%, thus misdiagnosis or delayed diagnosis can be deleterious.² CTA is the imaging modality of choice in hemodynamically stable patients due to rapidity and accuracy.^{2,3} POCUS can also be a useful and specific diagnostic adjunct, since the supraster-

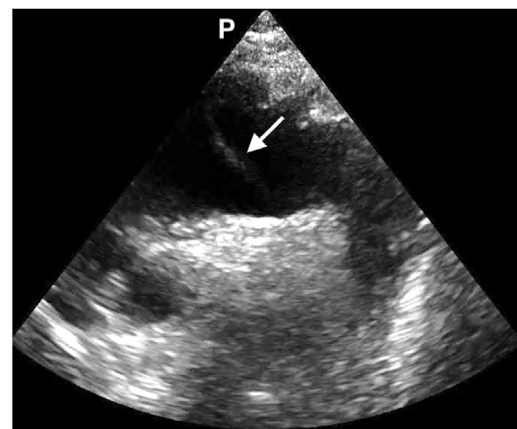


FIGURE 1 Point-of-care ultrasonography of the long-axis ascending aorta via the suprasternal notch window, demonstrating an intimal dissection flap (arrow).

nal view can rapidly visualize a dissection flap and allow for expedited management.^{4,5}

CONFLICT OF INTEREST STATEMENT

The authors declare no conflicts of interest.

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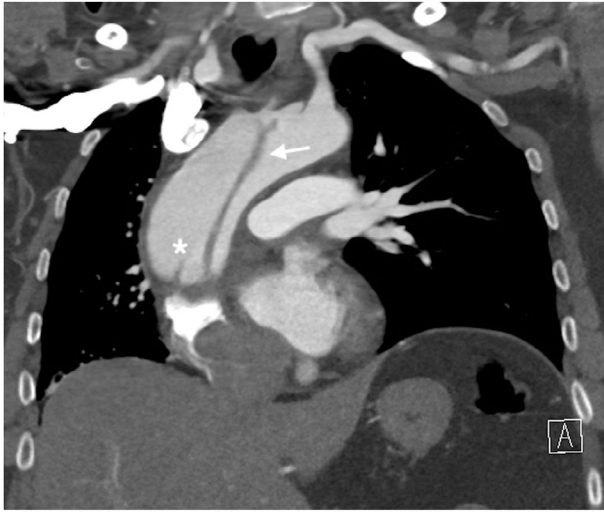


FIGURE 2 Computed tomography angiography demonstrating an intimal flap (arrow) extending from the aortic root (*) to the proximal left subclavian artery.

American College of Radiology; American Stroke Association; Society of Cardiovascular Anesthesiologists; Society for Cardiovascular Angiography and Interventions; Society of Interventional

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