

# AORTIC DISSECTION PRESENTING AS STROKE, A CASE REPORT

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## Learning Objectives

1. To recognize aortic dissection (AD) as a frequently misdiagnosed morbid condition.
2. To understand the proper diagnostic tests and management for AD.

## Introduction

- Aortic dissection is an uncommon and deadly disease.
- The mortality is high<sup>1</sup> and delays in treatment increase complications.<sup>2</sup>
- AD misdiagnosis is commonly seen in up to 39% of cases.<sup>3</sup>

## Patient Presentation

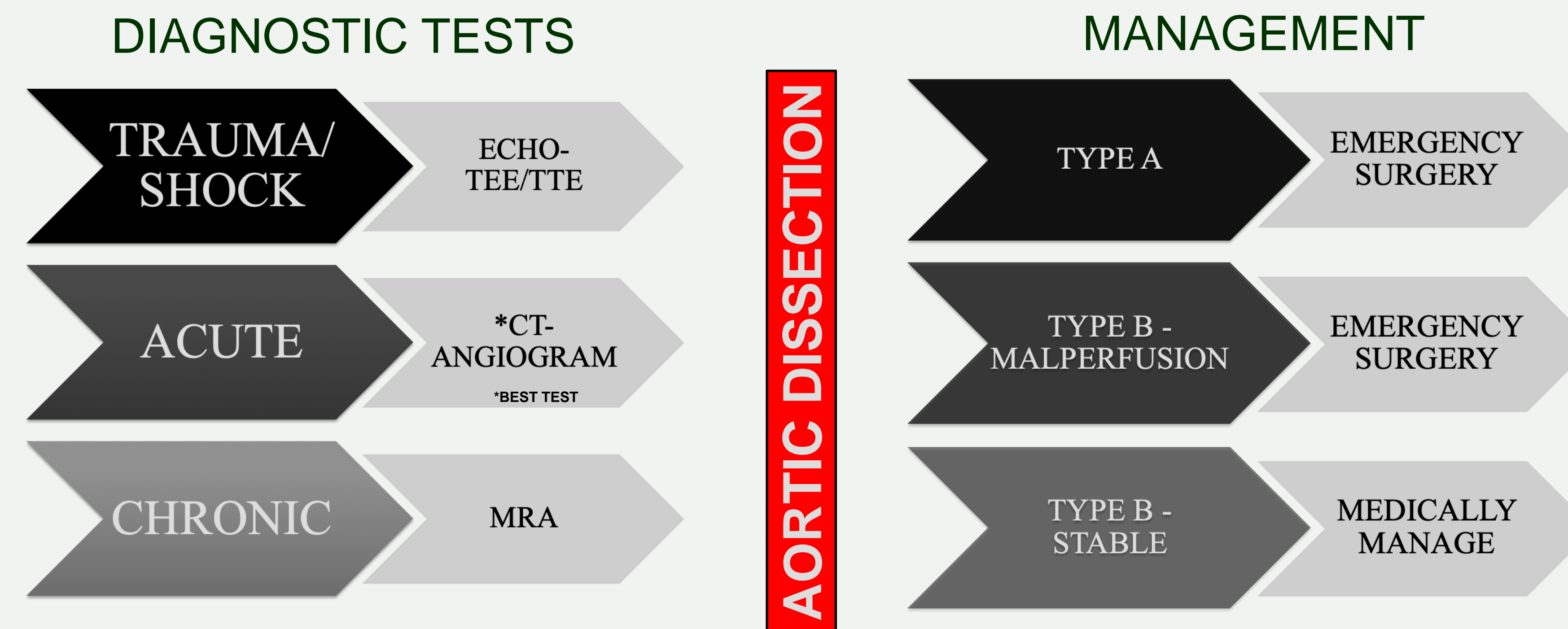
**A 55-year-old male arrived via ambulance to the ER with sudden onset of left-sided weakness, facial droop, and aphasia.**

- Blood pressure was elevated at 174/90 mmHg.
- Head CT showed no acute bleeding and tPA was given.
- Angiogram of head and neck revealed dissection of the aortic arch.

## Case Course

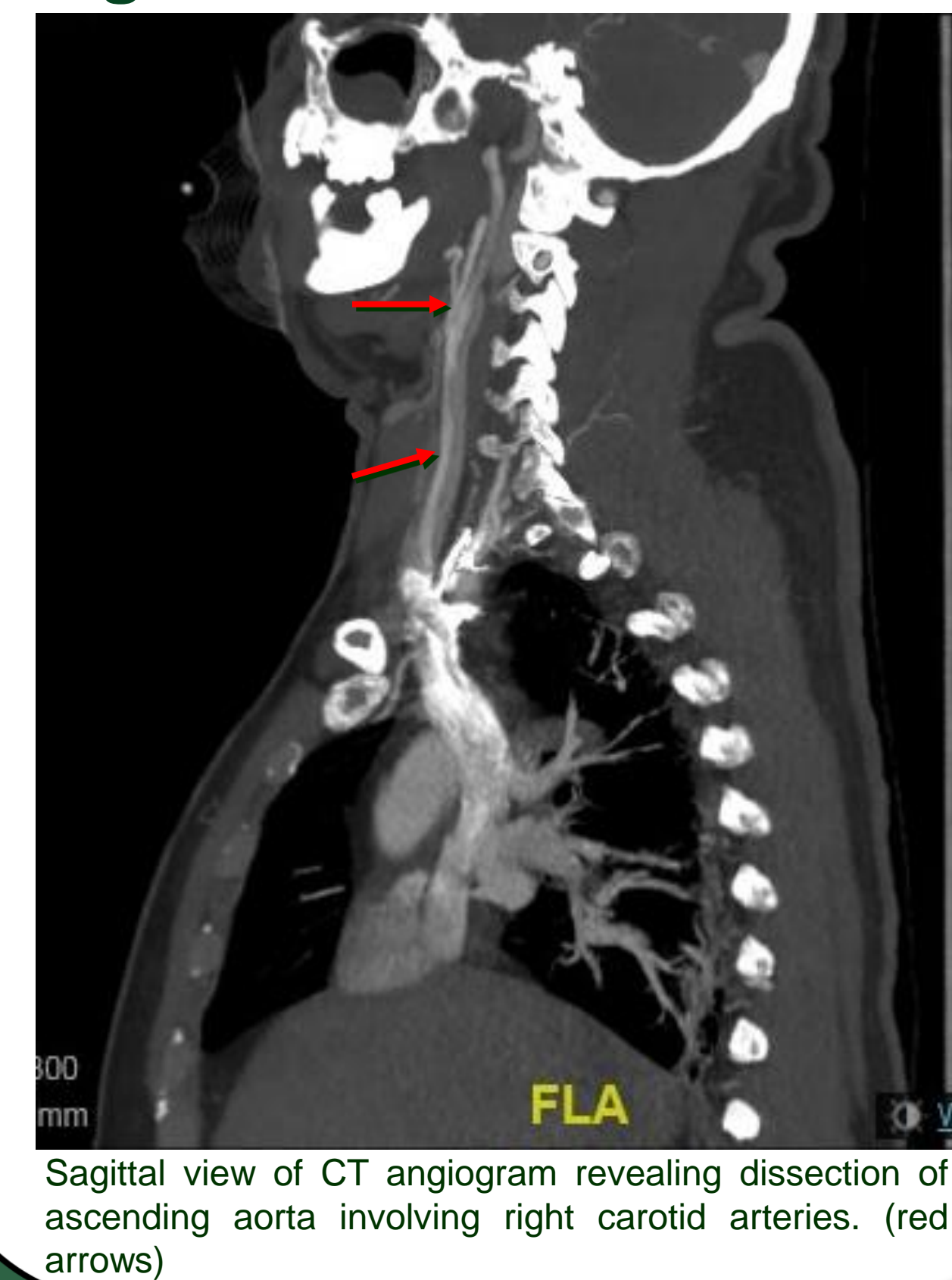
- Medically managed to reduce BP and to treat pain.
- Transferred to a nearby hospital and underwent emergent surgical repair.
- The surgery was successful however the patients' hospital stay was prolonged due to AKI complications and expired 3 weeks after presentation.

## WORKUP

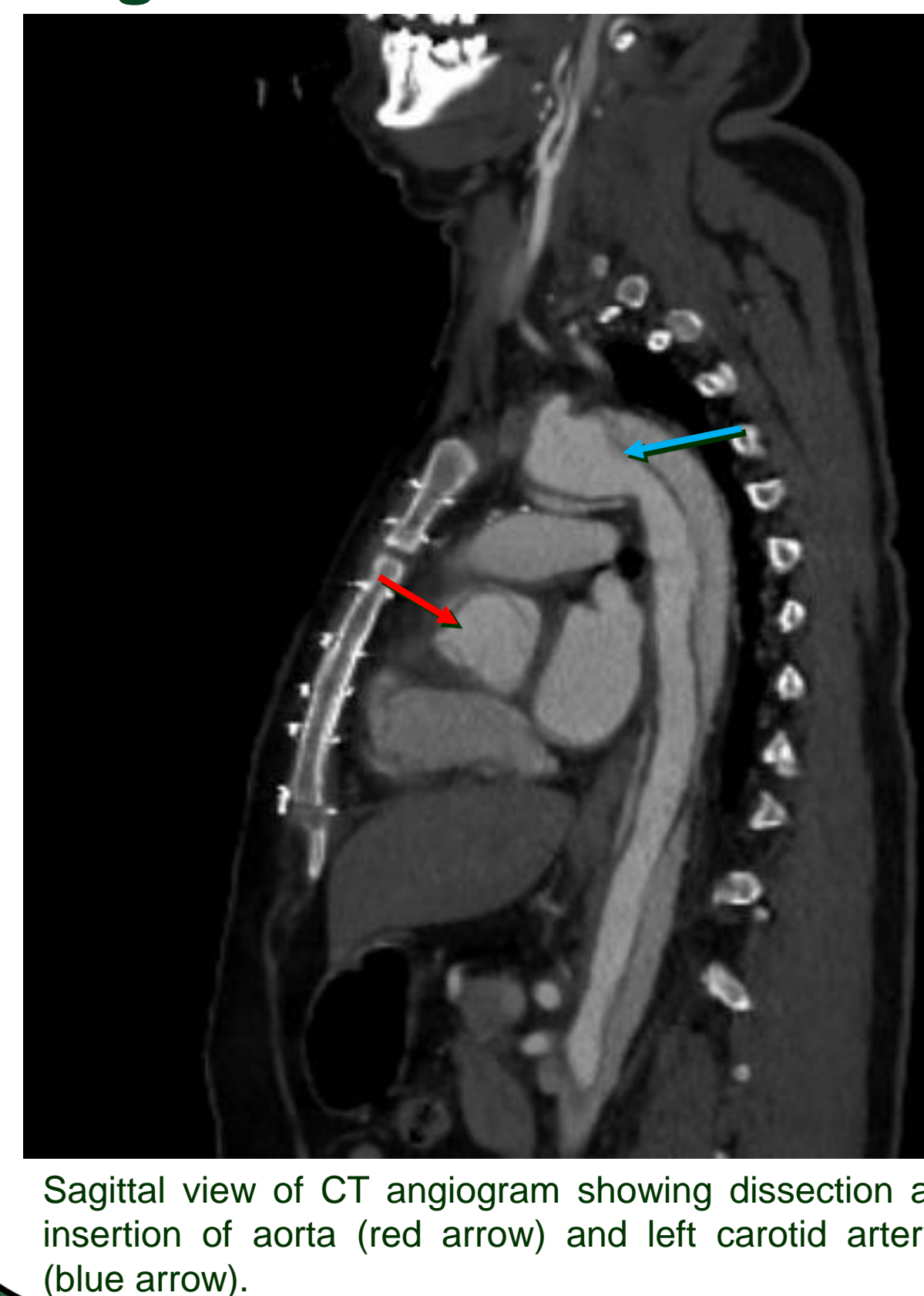


As per AHA guidelines<sup>4</sup>

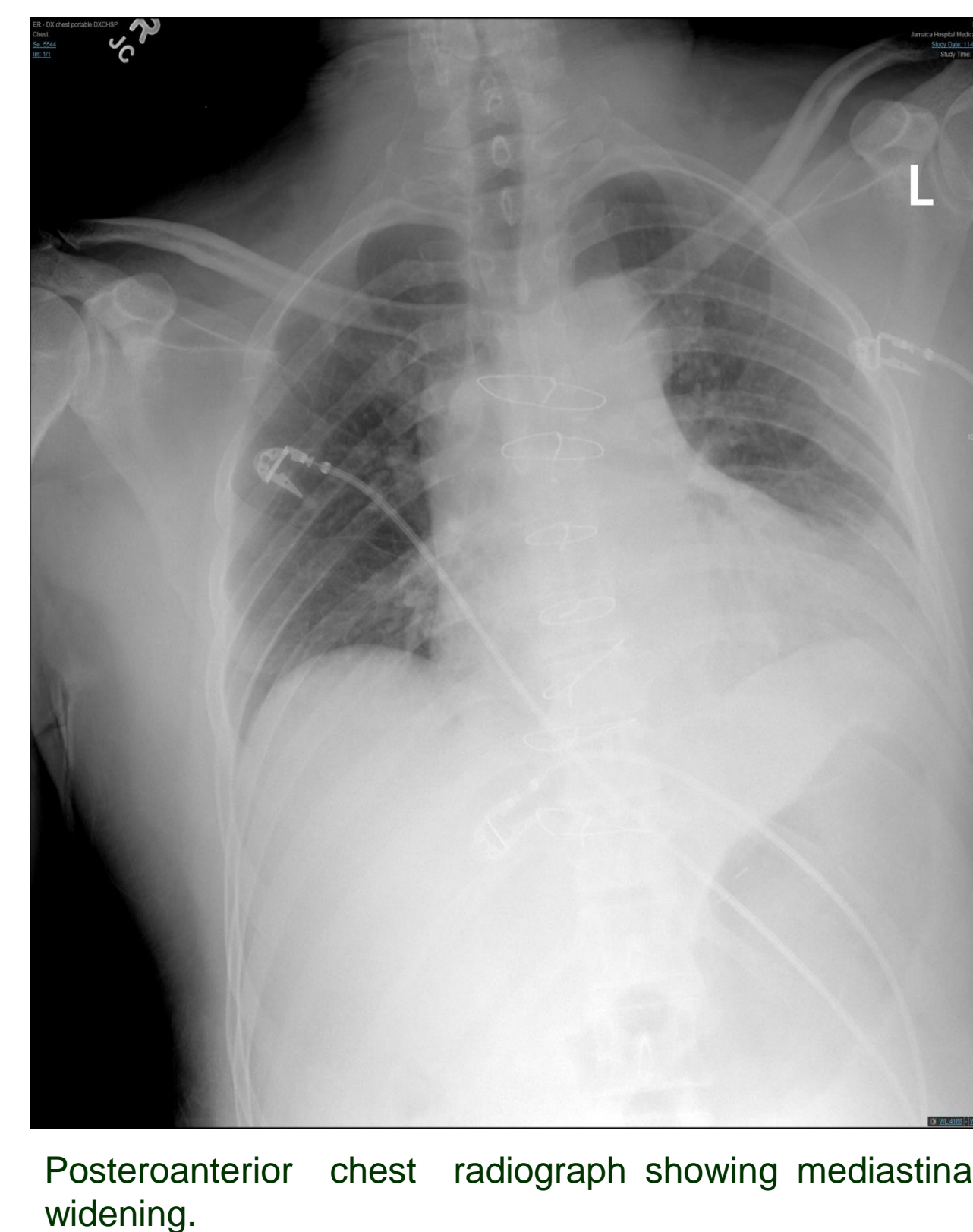
**Figure 1**



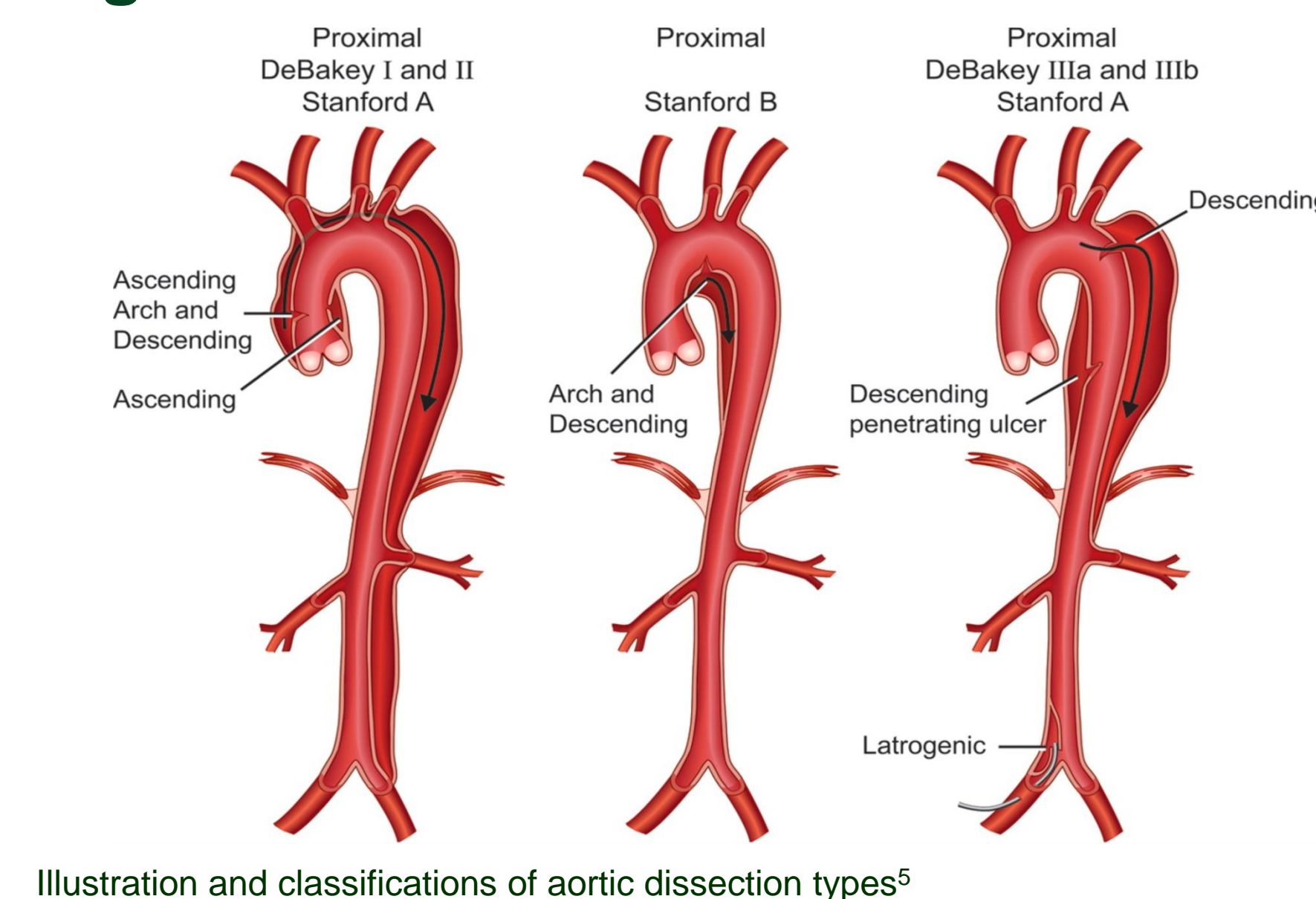
**Figure 2**



**Figure 3**



**Figure 4**



## IPAD DISPLAY

## Discussion

- AD can cause a stroke if dissection extends to the carotid arteries.
- Uncontrolled hypertension is the single greatest risk factor for AD.<sup>6</sup>
- Stanford Type A dissections are always surgical emergencies.<sup>4</sup>
- Stanford Type B is an emergency if a mesenteric compromise occurs.<sup>4</sup>
- Clinicians should maintain a high index of suspicion for aortic dissection in cases of stroke or chest pain.

## Teaching Points

1. Aortic Dissection is frequently misdiagnosed.
2. Physicians should rule out life-threatening cardiac causes of stroke.
3. Initial evaluation should include a bilateral tactile temperature of all extremities and pulses throughout.
4. Hypertension is the greatest risk factor for AD.
5. Do not miss an intervention opportunity when patients present with erectile dysfunction.<sup>7</sup>

## References

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- <sup>3</sup>Sutherland, Alexander & Escano, Jude & P Coon, Troy. (2008). D-dimer as the Sole Screening Test for Acute Aortic Dissection: A Review of the Literature. *Annals of emergency medicine*. 52. 339-43. 10.1016/j.annemergmed.2007.12.026.
- <sup>4</sup>Hiratzka LE, Bakris GL, Beckman JA, Bersin RM, Carr VF, Casey DE, et al. 2010 ACCF/AHA/AATS/ACR/ASA/SCA/SCAI/SIR/STS/SVM guidelines for the diagnosis and management of patients with thoracic aortic disease: executive summary. A report of the American College of Cardiology Foundation/American Heart Association Task Force on Practice Guidelines. *Catheter Cardiovasc Interv*. 2010;76(2):E43-8.
- <sup>5</sup>Christoph A. Nienaber, Janet T. Powell; Management of acute aortic syndromes, *European Heart Journal*, Volume 33, Issue 1, 1 January 2012, Pages 26–35, <https://doi.org/10.1093/eurheartj/ehr186>
- <sup>6</sup>Levy D, Le JK. Aortic Dissection. [Updated 2018 Nov 14]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2018 Jan-. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK441963/>
- <sup>7</sup>Raheem OA, Su JJ, Wilson JR, Hsieh TC. The Association of Erectile Dysfunction and Cardiovascular Disease: A Systematic Critical Review. *Am J Mens Health*. 2016;11(3):552-563.