Case Report

Pulse matters: The clue that saved a life

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Abstract

Background: Acute Aortic Dissection (AD) remains one of the most challenging diagnoses in the emergency department due to its ability to mimic other life-threatening conditions, including acute coronary syndrome (ACS), syncope, stroke, and limb ischemia. In cases of painless presentation, the risk of misdiagnosis is high, potentially leading to catastrophic outcomes such as inappropriate thrombolysis.

Key words: Acute Aortic Dissection (AD); Syncope; Acute coronary syndrome (ACS)

1. Introduction

Acute Aortic Dissection (AD) is a great masquerader as it can present as ACS, syncope, acute ischemic stroke, limb ischemia or shock especially in painless presentations. Misdiagnosis may lead to catastrophic thrombolysis. Careful bedside examination including pulse asymmetry and inter-arm BP difference remains crucial. Early clinical suspicion and POCUS can help Emergency Physicians(EPs) avoid fatal errors and improve outcomes.

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2. Case presentation

60-year-old female, with no comorbidities, developed giddiness and chest pain. 5 mts later she developed left hemiparesis, she presented 90 min later to ER.

On arrival, Patient had no chest pain

On examination

Bp	120/60
PR	78
RR	24
SpO2	96RA
RBS	138
ECG	NSR

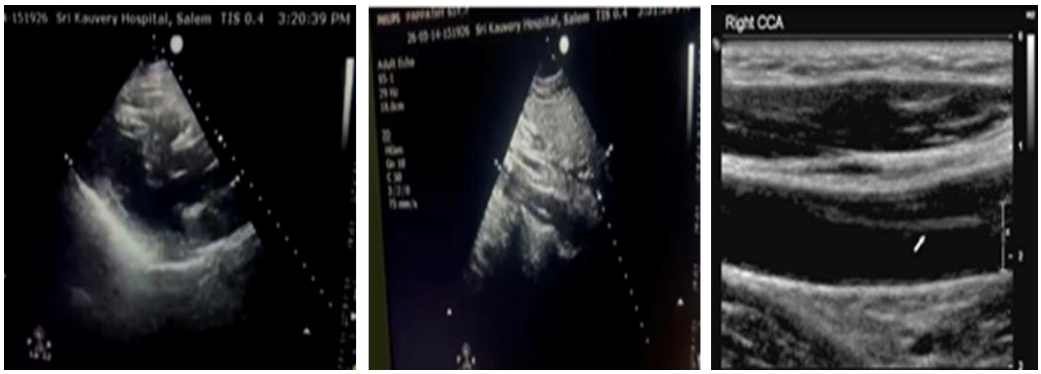
She was not given loading dose for ACS

Before shifting to MRI, rechecked vitals-pulse-NR, BP-?

BP & Pulse differences in limbs were noticed

Hence MRI stroke protocol deferred.

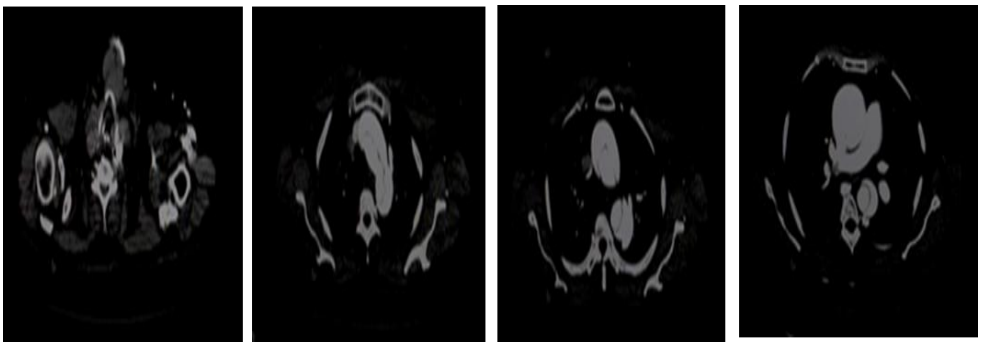
POCUS



a b c

Fig (1): (a) PLAX: Intimal flap + ascending aorta.(b) Subcostal view-descending aorta flap. (c) Neck USG- flap extending to right common carotid artery.

CTA



a b c d

Fig (2): (a): A: non opacification of right CCA causing flow compromise. (b): Windsock sign: flap in arch of aorta with formation of true & false lumen consistent with standford type A. (c): Flap in ascending & descending aorta. (d): Dilated ascending aorta.

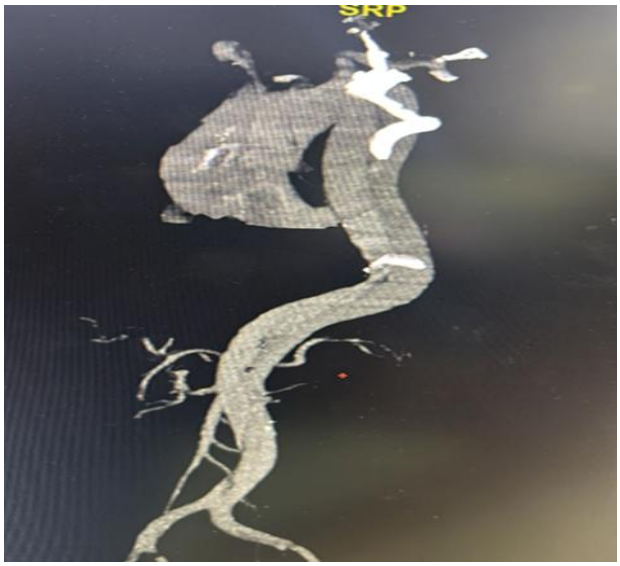


Fig (3): 3D reconstructed aorta showing dissection extending from ascending aorta till bifurcation of eternal iliac artery

Outcome: Pt was stabilized and referred to CTVS -POD 8 discharged home with stable vitals.

3. Conclusion

AD can mimic ACS OR Stroke. Clinical examination by careful examination of peripheral pulsations is the key. Pulse asymmetry in acute stroke should always prompt exclusion of aortic dissection before thrombolysis. Mastering POCUS prevents catastrophic complications. and appropriate timely intervention.

4. Clinical reflection points

- WHAT IF: patient was loaded with aspirin & ticagrelor?
- WHAT IF: patient was shifted to MRI?
- WHAT IF: patient was LYSED?
- WHAT IF: Patients were diagnosed late?

5. Continuity of care beyond resuscitation

- Lifetime bp control-beta blockers /ace inhibitors
- Imaging surveillance ECHO/CT/MRI
- Lifestyle modification –stop smoking /avoid weightlifting
- Screening of – 1 st degree relatives.