

# Role of Transthoracic Echocardiography In **Stanford Type B Aortic Dissection** Mimicking Acute Coronary Syndrome

Lim Nikkie

Emergency and Trauma Department Hospital Kuala Lumpur, Malaysia

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## INTRODUCTION

Aortic dissection is the most common but often misdiagnosed life-threatening disorder affecting aorta. In this case, Transthoracic Echocardiography (TTE) is extremely valuable in recognising aortic dissection, which initial presentation mimic an acute coronary syndrome (ACS).

## CASE DESCRIPTION

- 56 years old male presented with sudden epigastric pain radiating to back with diaphoresis, vomiting and breathlessness.
- Examination shown **discrepancy of blood pressure greater than 20 mmHg** between both arms, with no radio-radial delay.

Blood pressure of left arm: 156/76mmHg

Blood pressure of right arm: 126/71mmHg

- **ECG:** SR, T-waves inversion at inferior leads.

(Figure 1)

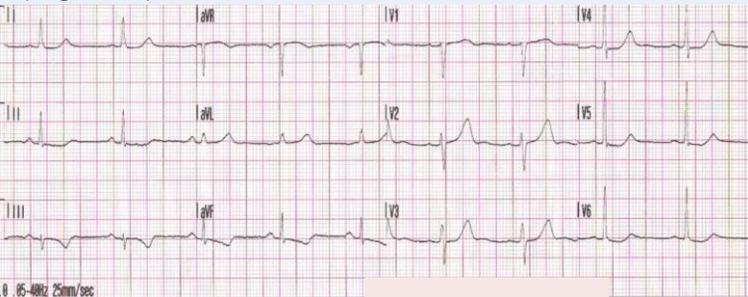


Figure 1: ECG leading to diagnosis of NSTEMI

- Subsequently, BP higher and he experienced worsening pain with reduced sensation over left lower limb. Left lower limb pulses not palpable.
- **Bedside Transthoracic Echocardiography:** **Ascending aorta diameter 3.4cm** and Abdominal aorta 2.7cm with **visible intimal flap seen over superior mesenteric artery.** (Figure 2)
- CXR: Widened mediastinum measuring 9cm
- Computed Tomography Angiography (CTA) Aorta: **Stanford B aortic dissection extending to bilateral common iliac arteries,** with left common iliac and left external iliac arteries non-opacification, likely acute limb ischemia.

## REFERENCES

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2. POCUS For the Win: Aortic Dissection. Emra.org. 2022. Available from: <https://www.emra.org/emresident/article/pocus-ftw-aortic-dissection>
3. Wu BT, Li CY, Chen YT. Type A Aortic Dissection Presenting with Inferior ST-Elevation Myocardial Infarction. Acta Cardiologica Sinica [Internet]. 2014 May;30(3):24 – 252.

## DISCUSSION

- ✓ Misdiagnosis often occur in differentiating acute aortic dissection with coronary malperfusion from ACS.
- ✓ Inappropriate antithrombotic treatment will lead to catastrophic bleeding.
- ✓ This case emphasized the importance of **Bedside TTE making prompt diagnosis by assessing potential high risk features of aortic dissection** due to its immediate availability, although unable to visualise all aortic segments, with:

**Diagnostic sensitivity: 67-90%**

**Diagnostic specificity: 71-100%.**

- ✓ CTA Aorta still the golden standard of diagnostic imaging.

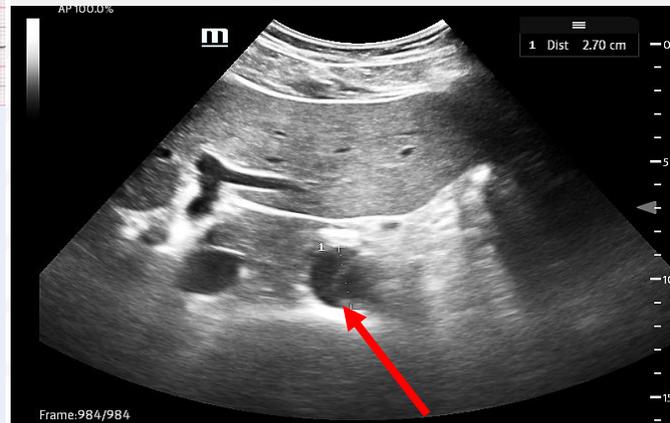


Figure 2: TTE shown visible intimal flap over abdominal aorta

## CONCLUSION

With TTE as initial imaging after high index of clinical suspicion, it could offer more secure basis for early diagnosis of aortic dissection, and avoid ACS misdiagnosis.