

Many Shades of Chest Pain: A Series of Cardiopulmonary Diagnoses Ultimately Yields an Unusual Case of Cardiomyopathy

Subha Saeed MD¹, Karen Avgush MD¹, Douglas Harnett-Robinson²

¹Department of Internal Medicine, Crozer Keystone Health System, Upland, PA; ²Drexel University College of Medicine, Philadelphia PA,



Introduction

- Takotsubo cardiomyopathy (TC) is a self-limited ventricular dysfunction that is thought to be caused by catecholamine-induced cardiac injury resulting from emotional or physical stress. Additionally, it is becoming a more frequently recognized aetiology of chest pain.
- We present a case of what appeared to be a common cause of chest pain that resulted in the less common diagnosis of takotsubo cardiomyopathy.

Case Presentation

- A 79-year-old female presented with a two-day history of retrosternal chest tightness, exertional dyspnea, and a productive cough.
- Further history, physical examination, and laboratory testing suggested sepsis with a pulmonary aetiology.
- A chest x-ray confirmed our suspicions, the patient was hospitalized, and broad-spectrum antibiotics were initiated.
- Over the next 48 hours, she reported worsening dyspnea and chest pain despite medical therapy.
- Further assessment revealed a moderate-risk Well's score and an elevated d-dimer prompting a CT angiogram of the chest to evaluate for pulmonary embolism.
- Acute segmental filling defects in the pulmonary arteries were identified and anticoagulation was ordered.
- Additional workup revealed that the troponin and brain-natriuretic peptide values had risen significantly since admission.

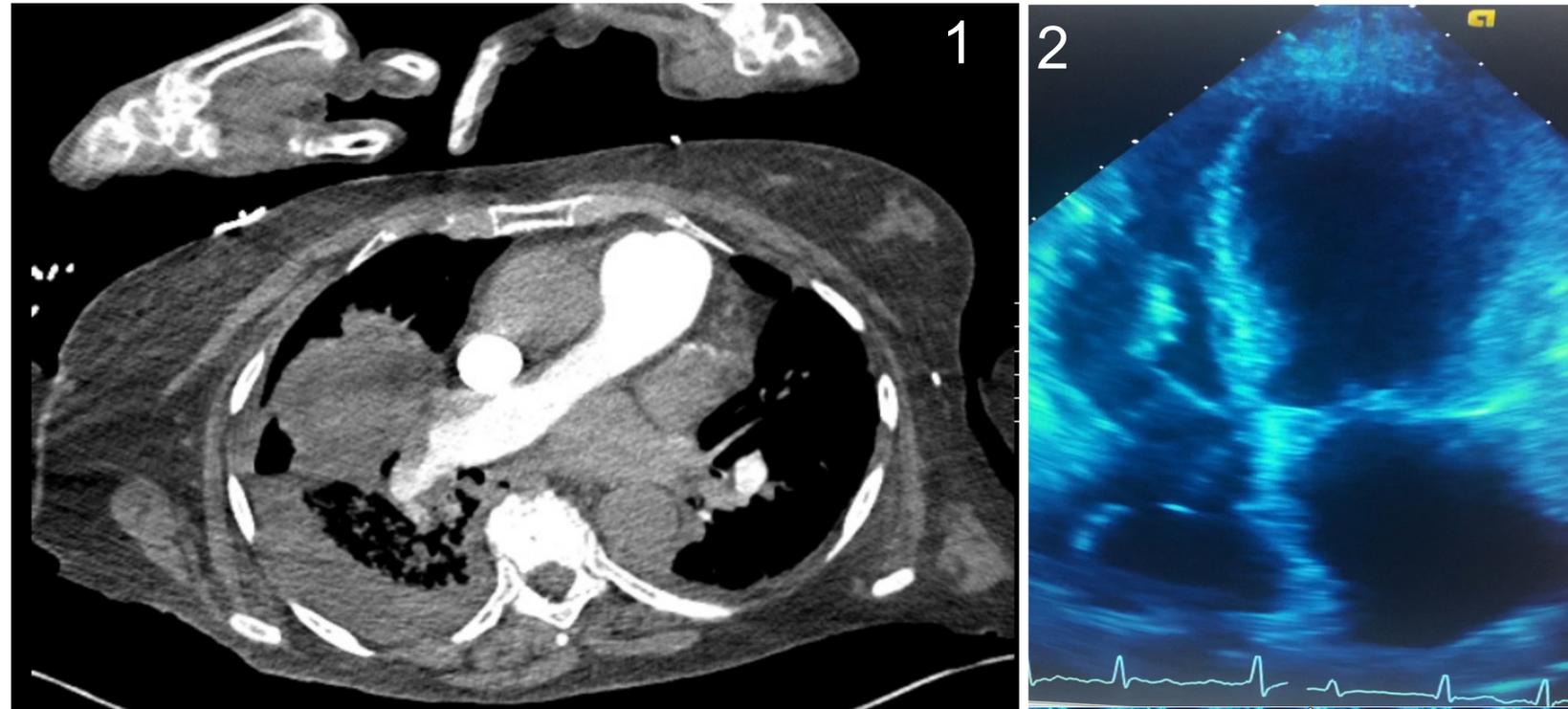


Figure 1: Computed Tomography of Chest with IV contrast (Axial View) segmental filling defects within the right lower lobe pulmonary arteries, most pronounced in the anterior basilar segment. Findings compatible with acute pulmonary emboli.

Figure 2: Transthoracic Echocardiogram (4-chamber Apical View) Basal wall motion is normal and mid to distal hypokinesia noted likely from Takotsubo Cardiomyopathy.

Case Presentation (Cont.)

- A transthoracic echocardiogram was performed to evaluate for right heart strain in the setting of pulmonary emboli with elevated biomarkers.
- Not only did this study show evidence of right heart strain, but, more interestingly, it revealed findings consistent with Takotsubo cardiomyopathy.
- Significant obstructive coronary artery disease was not appreciated on the subsequent cardiac catheterization and confirmation of the diagnosis of Takotsubo cardiomyopathy was made.

Case Presentation (Cont.)

- The patient was eventually discharged after medical optimization and clinical improvement.

Discussion

- Although it may mimic acute coronary syndrome (ACS) in clinical presentation and diagnostic findings, it lacks the obstructive coronary disease that one would expect in ACS (2).
- There have been numerous culprits of TC previously identified in the literature ranging from the more well-known causes such as the loss of a loved one to acute medical conditions like an ischemic stroke (2,) to the more obscure including the overindulgence in energy drinks (3) or jellyfish stings (1).
- Our patient had two such triggers, sepsis and pulmonary embolism, identified during her hospital stay.
- This condition carries a favourable prognosis typically resolving over one to two weeks(2).

Conclusion

- Occam's razor is often helpful in distilling a patient's clinical presentation to a singular unifying cause.
- This case is a lesson in diligence, reassessment, and maintenance of a broad clinical differential that this author will not soon forget.

References

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