

A Broken Heart from a Broken Plaque: An Unusual Cause of a Stress-Induced Cardiomyopathy

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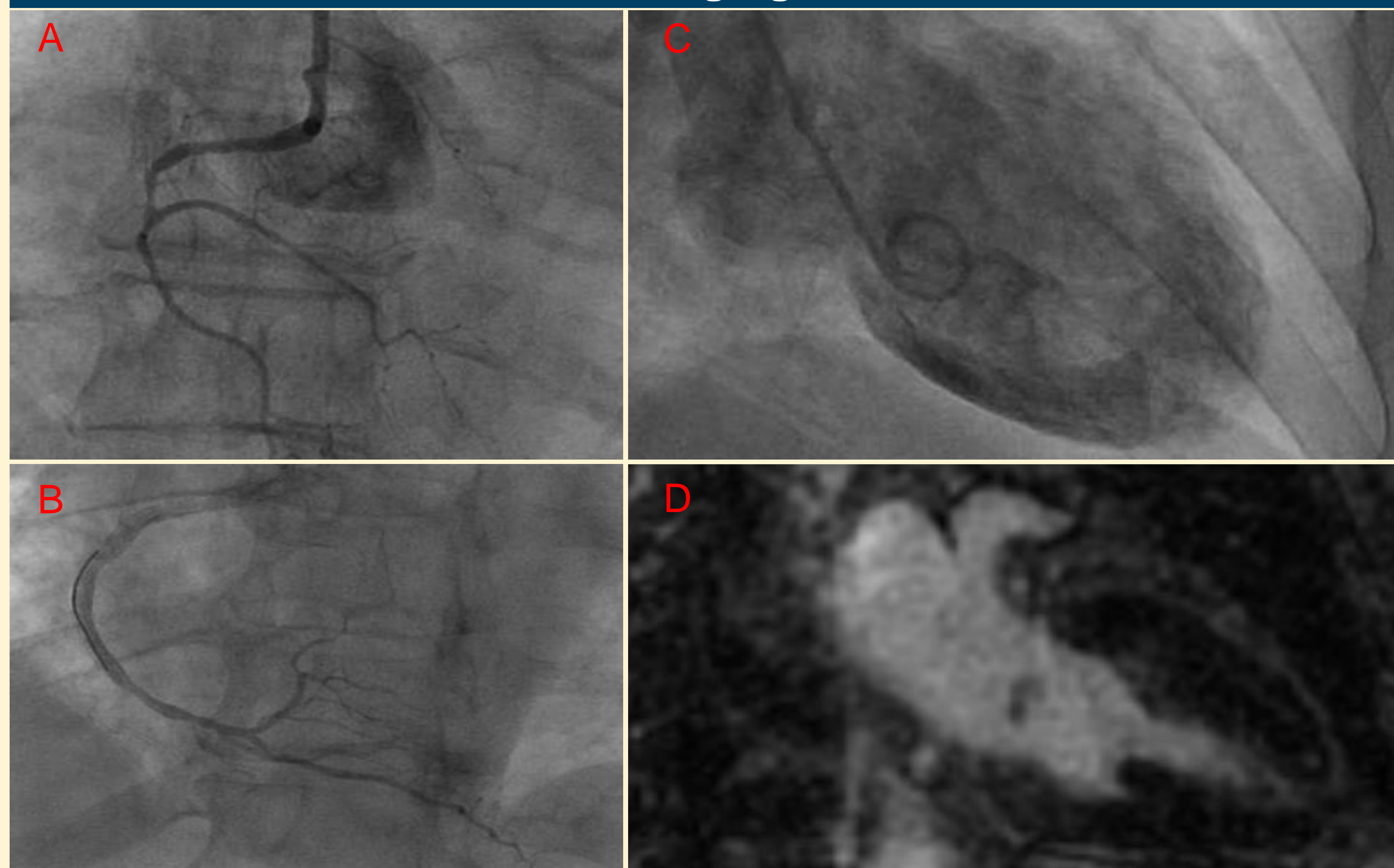
Background

- Takotsubo cardiomyopathy (TCM), or stress induced cardiomyopathy, is a transient form of heart failure.
- TCM is characterized by left ventricular dysfunction and/or apical ballooning with regional wall motion abnormalities not correlating with coronary artery disease.
- Acute plaque rupture is not thought of as a common trigger of TCM.

Case

- 67-year-old female with history only significant for tobacco use presenting with acute onset chest pain.
- Initial ECG showed inferior ST-elevation.
- Cardiac catheterization and intravascular ultrasound revealed a totally occluded mid right coronary artery (RCA) to be the culprit vessel.
- Patient underwent successful coronary intervention with placement of two stents.
- An intra-procedure ventriculogram and post-procedure echocardiogram both showed severely decreased left ventricular systolic function and a large area of anterior, apical and inferior akinesis not in the distribution of the culprit vessel.
- Imaging findings were concerning for TCM.
- Cardiac magnetic resonance imaging two weeks post-infarct showed normalized cardiac function and motion, with no late gadolinium enhancement.
- Rapid cardiac recovery and lack of late gadolinium enhancement furthered the suspicion for TCM.

Imaging



A) Initial angiogram revealing totally occluded mid RCA. B) Post-intervention angiogram of RCA. C) Ventriculogram showing severely decreased left ventricular systolic function and apical akinesis. D) Cardiac MRI two weeks post infarct with no late gadolinium enhancement seen in the left ventricle.

Discussion

- Stressful life events and illness are known triggers for TCM, but acute coronary syndrome (ACS) as a provoking phenomenon is not well documented.
- Our case highlights ACS as a possible cause for TCM.
- It is important to consider TCM in the setting of ACS, especially when complicated by cardiogenic shock, as clinical decisions may differ based on the etiology of heart failure.