Takotsubo Cardiomyopathy, Classical Presentation

Jai Bhatt M.D, Harsh Patel M.D, Gagandeep Singh M.D
Jamaica Hospital Medical Center, Jamaica, NY 11418

Introduction :

Takotsubo cardiomyopathy (TCM) also known as stress induced cardiomyopathy was originally described in Japan. It is a type of non-ischemic cardiomyopathy that causes sudden temporary weakening of cardiac muscle which can be triggered by emotional or physical stress in life. TCM is more common in female as compared to male. In majority of cases, patients present with acute coronary syndrome and cardiac catherization showing non-obstructive pattern. Possible pathogenic mechanism includes coronary artery spasm, microvascular dysfunction and catecholamine excess. Chest pain is most common symptom followed by shortness of breath and ST segment elevation. We present a fairly common variant of TCM that appears differently on ventriculogram and may misrepresent the given name to this cardiomyopathy.

Case Description:

A 76-year-old female with past medical history of hypertension, hyperlipidemia, depression, and anxiety presented to the ER. She began complaining of chest pain after having an argument with her granddaughter.

The patient presented with generalized weakness and retrosternal chest pain 10 out of 10, pressure-like, non-radiating, associated with diaphoresis and shortness of breath. ECG on admission (figure 1) revealed ST segment elevation in anterior-lateral leads.

Initial troponin was 3.950 ng/mL. The patient was given code STEMI notification and underwent emergent cardiac catheterization which showed non-obstructive coronary with Takotsubo cardiomyopathy.

Lab work, including lipid panel, were all within normal limits. The patient received aspirin 81 mg, carvedilol 3.125 mg BID, and lisinopril 2.5 mg daily. Subsequently, she was discharged home and instructed to follow up with an outpatient cardiologist.

Figures:

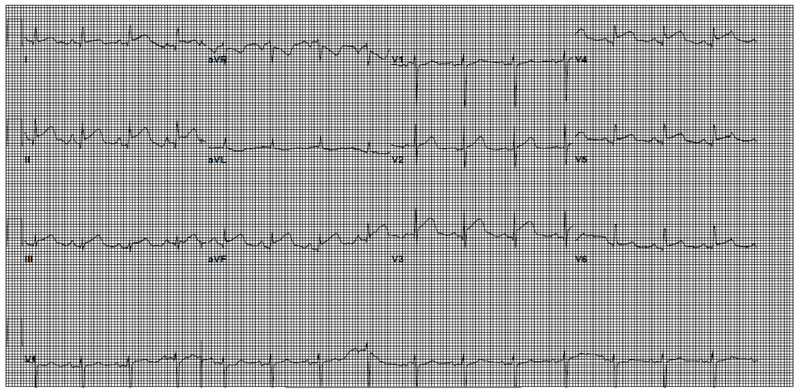

Fig.1: ECG on admission shows ST segment elevation in anterior-lateral leads.

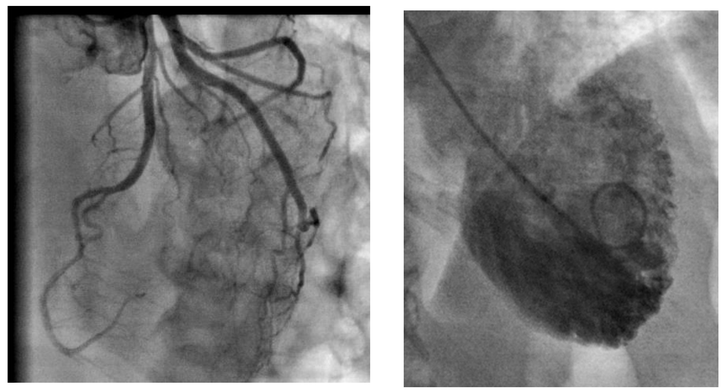

Fig. 2 and 3: Left heart catherization images.

Discussion:

Though a benign condition, Takotsubo cardiomyopathy should be suspected when postmenopausal female present with symptoms of chest pain, shortness of breath, and EKG changes or troponin elevation. TCM mimics acute myocardial infarction and is typically characterized by left ventricular apical ballooning with hypercontractile base and non-obstructive coronary artery disease.

Myocarditis and cocaine related ACS should be consider as differential diagnosis of TCM. Thus, a diagnosis of stress cardiomyopathy generally requires an electrocardiogram, cardiac troponin levels, coronary angiography, and serial assessment of LV systolic function.

Treatment is generally symptomatic approach to address chest pain or hypotension or symptoms of heart failure. Most of the patients recovered fully after this event.

References:

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