

A Rare Catch: A Case Of Takotsubo Cardiomyopathy

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Case Presentation: A 63 year old woman with hypertension was referred to our hospital for evaluation of left ventricular dysfunction. Three days prior to transfer, she presented to her local ED with palpitations and a heart rate of 140. She denied chest pain, dyspnea, recent change in exercise tolerance, or fever, but ECG demonstrated sinus tachycardia with ST-segment elevations in the lateral leads, and a Troponin-I was elevated at 3.2 (normal <0.4 ng/mL). She underwent emergent cardiac catheterization which demonstrated normal and widely patent coronary arteries but an ejection fraction of 30%. The cardiac index was depressed at 2.2 L/min/m² and the wedge pressure was elevated at 25mmHg. Echocardiogram confirmed a dilated left ventricle. Review of the outside hospital left ventriculogram disclosed a distinctly unusual wall motion pattern with preserved basal function, but akinesia of the distal half of the LV apex. Endomyocardial biopsy demonstrated no abnormalities, and repeat heart catheterization showed a cardiac index of 4.2 L/min/m². Repeat echocardiogram performed 10 days after her initial presentation revealed normal left ventricular function and resolution of wall motion abnormalities. The patient improved and her heart failure regimen was tapered.

Discussion: This constellation of ST-elevation MI with patent coronary arteries and transient abnormal LV contraction pattern which spares the base of the heart is typical of takotsubo cardiomyopathy. First described in Japan, "takotsubo" means "octopus catcher" and reflects the ventriculographic appearance of the LV in this condition: the preserved base of the heart contracts to a narrow neck during systole, while the akinetic distal apex dilates, resembling the tapered-neck urns used to ensnare octopi. The vast majority of cases have been described in elderly women, classically following emotional or physical stress. Proposed etiologies include microvascular spasm causing myocardial ischemia, and focal catecholamine release from nerves which terminate on the myocardium, although the exact mechanism remains elusive. Fortunately, as in this patient, the prognosis is generally favorable. A diagnosis of takotsubo cardiomyopathy should be considered in patients - especially elderly women - presenting with ST-elevation MI who have patent coronary arteries and unexplained cardiomyopathy.

Author Disclosure Block:

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