PHEOCHROMOCYTOMA INDUCED TAKOTSUBO CARDIOMYOPATHY AND RECURRENT REVERSE TAKOTSUBO CARDIOMYOPATHY

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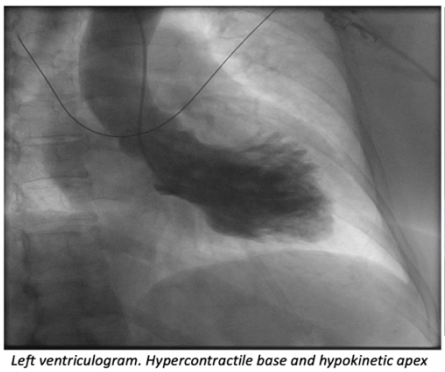
Case Vignettes

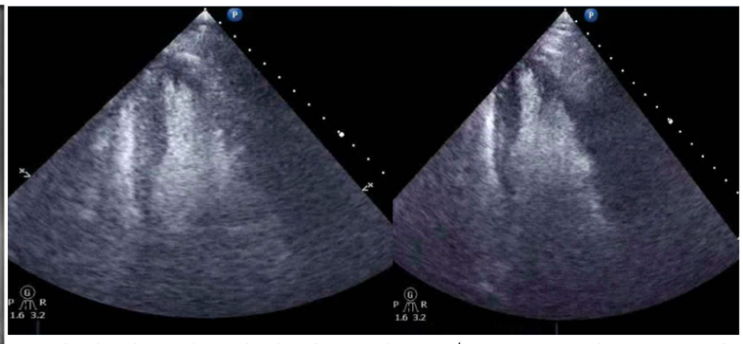
Introduction: Pheochromocytoma is a rare catecholamine-secreting tumor often presenting as paroxysmal hypertension, tachycardia, headache, and diaphoresis. Cardiac manifestations range from cardiomyopathy to cardiogenic shock. We describe a patient presenting with the classic (apical ballooning) and reverse form of Takotsubo cardiomyopathy (TCM) related to pheochromocytoma.

Case: A 61-year-old female with hypothyroidism following radioactive iodine ablation for Grave's disease, diabetes mellitus, and hypertension was brought to the emergency department (ED) with acute chest pressure and dyspnea. On presentation, she was tachypneic, hypoxic, tachycardic to 133 with BP 191/123 mmHg. ECG demonstrated inferolateral ST elevations, and she underwent emergent coronary angiography demonstrating no significant coronary artery disease. Left ventriculogram revealed hypercontractile base and apical ballooning consistent with TCM. Transthoracic echocardiogram (TTE) demonstrated left ventricular ejection fraction (LVEF) 35-40% with diffuse mid to apical hypokinesis and hypercontractile LV base. Following acute treatment, she was discharged on antihypertensives with subsequent normalization of LV function on repeat TTE in 1 month. She returned to the ED 5 months later with similar complaints and one month of episodic diaphoresis. She was hypertensive at 213/90 mmHg. ECG demonstrated inferolateral ST depressions. She was treated for hypertensive emergency and underwent repeat TTE demonstrating LVEF 50-55% with hyperkinetic apex and dyskinetic basal segments consistent with reverse TCM. Secondary hypertension workup showed elevated 24-hour urine catecholamines. Abdominal CT revealed a 2.5 centimeter left adrenal nodule consistent with pheochromocytoma. She underwent left adrenalectomy with subsequent resolution of symptoms.

Discussion: Pathophysiology of TCM is related to hyperadrenergic states, including emotional and physical stressors and CNS trauma. This case highlights pheochromocytoma (a disease of catecholamine toxicity), a known but uncommon etiology of stress-induced cardiomyopathy presenting as classic TCM and reverse TCM pattern in the same patient.



Left ventriculogram. Hypercontractile base and hypokinetic apex with apical ballooning.



Apical 4 chamber and apical 2 chamber TTE during 2nd ED visit. Apex is hyper-contractile while the basal segments are dyskinetic/hypokinetic.