BIG BALL OF STRESS: MINOCA AND CARDIOMYOPAHTY IN A YOUNG WOMAN

Rachel D Volke, MD [a] Nardos M Temesgen, MD [a] Shaneke T Weerakoon, MD [a] Essraa M Bayoumi, MD [b] Robert K. Zeman, MD[a] Jannet F Lewis, MD, FACC [a] Andrew D Choi, MD, FACC [a]

E-abstract contact email: rvolke@gwu.edu

Background

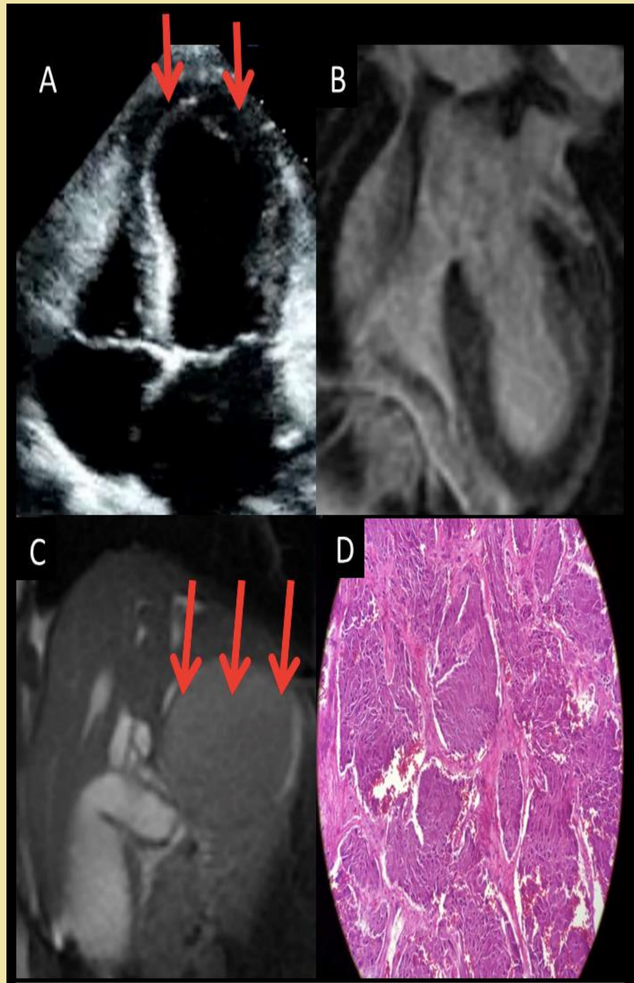
Myocardial infarction in the absence of obstructive coronary arteries (MINOCA) accounts for 5% of acute MI.

A diagnosis of MINOCA should prompt investigation for non-ischemic etiologies. The true etiology is often underdiagnosed in women.

Case Presentation

A 27 year old woman presented with one month of intermittent chest pain, headache and blurry vision. On exam she was hemodynamically stable with normal cardiac and lung findings.

Estimated ASCVD risk was < 1% with normal lipids: Total cholesterol 175 mg/dL, LDL 82 mg/dL. HDL 80 mg/dL). EKG showed sinus rhythm with no ischemic changes. Troponin I peaked at 7.36 ng/ml. Echocardiogram(Figure) showed akinesis from mid left ventricle (LV) to apex with apical ballooning and LVEF of 37%.



E Test	Serum (nMol/L)	Urine (mcg)
Metanephrine	2.6 ↑	13,932 ↑↑
Normetanephrine	42 ↑	15,470 ↑↑

Figure
(A) **2D Echocardiogram** 4-chamber view at end-systole with apical ballooning;
(B) – **Cardiac MRI** with no late gadolinium enhancement in the left ventricle
(C) –**MRI sagittal FIESTA** image of a 5 cm x 6 cm adrenal mass with mass effect on the inferior vena cava
(D) – **Adrenal mass histology** positive for synaptophysin and chromogranin consistent with pheochromocytoma
(E) – **Serum and urine testing** consistent with pheochromocytoma

Decision Making

To evaluate for non-atherosclerotic causes of myocyte injury, a cardiac MRI was performed. It reaffirmed LV mid-to-apex akinesis. On late gadolinium enhancement, there was no evidence of myocarditis, infarction or infiltrative disease (Figure).

Beyond the heart, a 5 cm x 6 cm enhancing mass in the right adrenal gland was identified (Figure). Histopathology and serology confirmed the diagnosis of pheochromocytoma (Figure).

Patient was started on guideline-directed medical therapy for takotsubo cardiomyopathy and underwent successful adrenalectomy with pathological confirmation (Figure). LV function normalized 7 months after surgery.

Conclusion

Takotsubko cardiomyopathy accounts for 20% of MINOCA. In young women, a full detailed evaluation for non-ischemic etiologies beyond emotional stressors should be considered including rarely as in this case, a “big ball of stress”, the diagnosed pheochromocytoma.