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1-19-2016

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Citation

St. John, Marcus, "An Unusual Presentation of Stress Cardiomyopathy" (2016). *All Publications*. 932.
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An Unusual Presentation of Stress Cardiomyopathy

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Background

Stress (Takotsubo) cardiomyopathy is a condition which may resemble acute myocardial infarction. While the exact cause is still unknown it is hypothesized to result from increased production of catecholamines¹. The low prevalence of Takotsubo in the US and the often atypical presentation of women with heart disease make diagnosing this condition a challenge in women.

Patient Presentation

Here we present the case of a 58 year-old woman with a history of COPD, smoking, hypertension, and cervical spine surgery who presented to the hospital with a 6 out of 10 headache associated with nausea and left-sided facial paresthesia of one day's duration. The patient had a history of migraines and was taking oxycodone and sumatriptan with no relief. It felt unlike prior episodes and she was admitted for further evaluation. Head CT and MRI ruled out stroke as the etiology of her new symptoms. The following day the patient developed left jaw, shoulder, and chest pain and cardiology was consulted. She had borderline elevation of cardiac troponin I (0.71ng/ml) and anterolateral T-wave inversions on ECG; both concerning for possible NSTEMI.

Evaluation

- Pharmacologic nuclear stress showed cardiomyopathy with EF of 31% and a partially reversible defect in the anterior wall consistent with induced ischemia
- Cardiac catheterization confirmed severe cardiomyopathy but normal appearing coronary arteries

Diagnosis

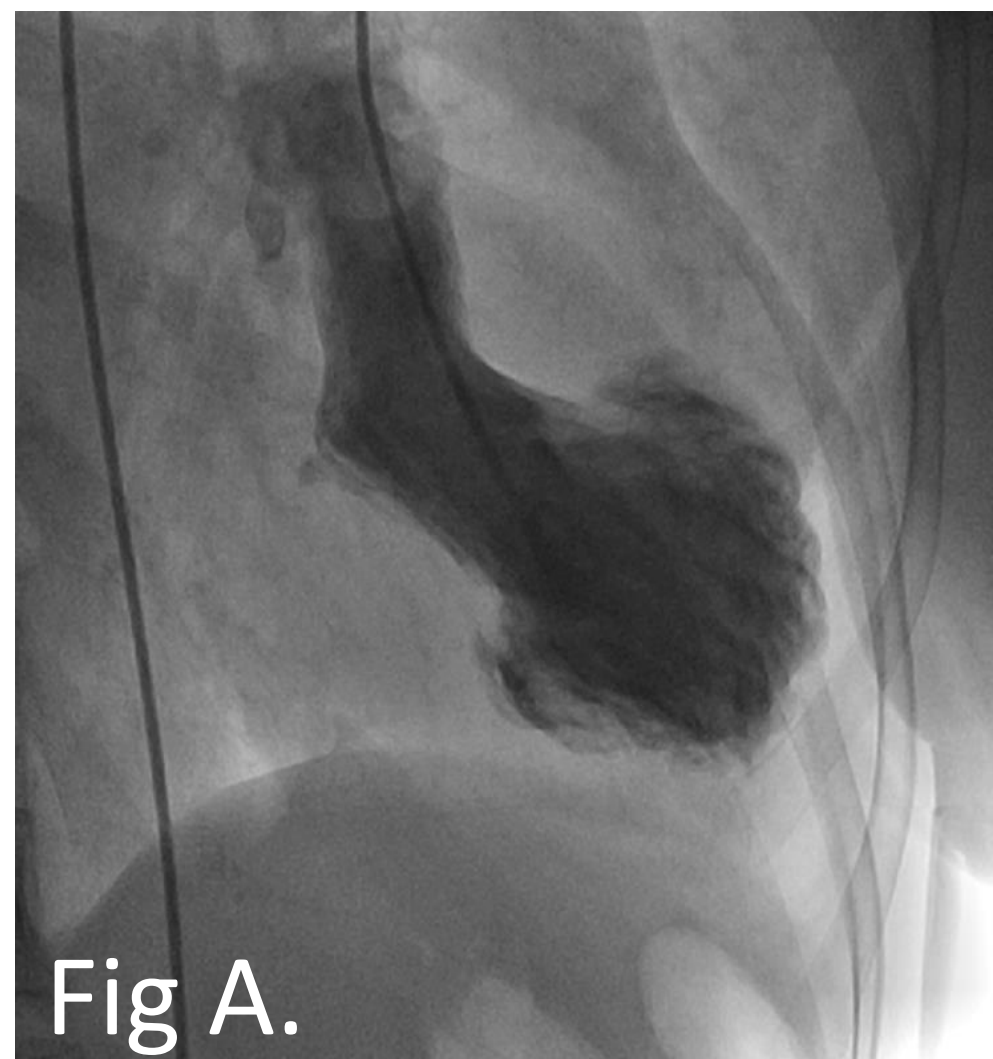


Fig A. Left Ventriculogram demonstrating the typical Takotsubo shape

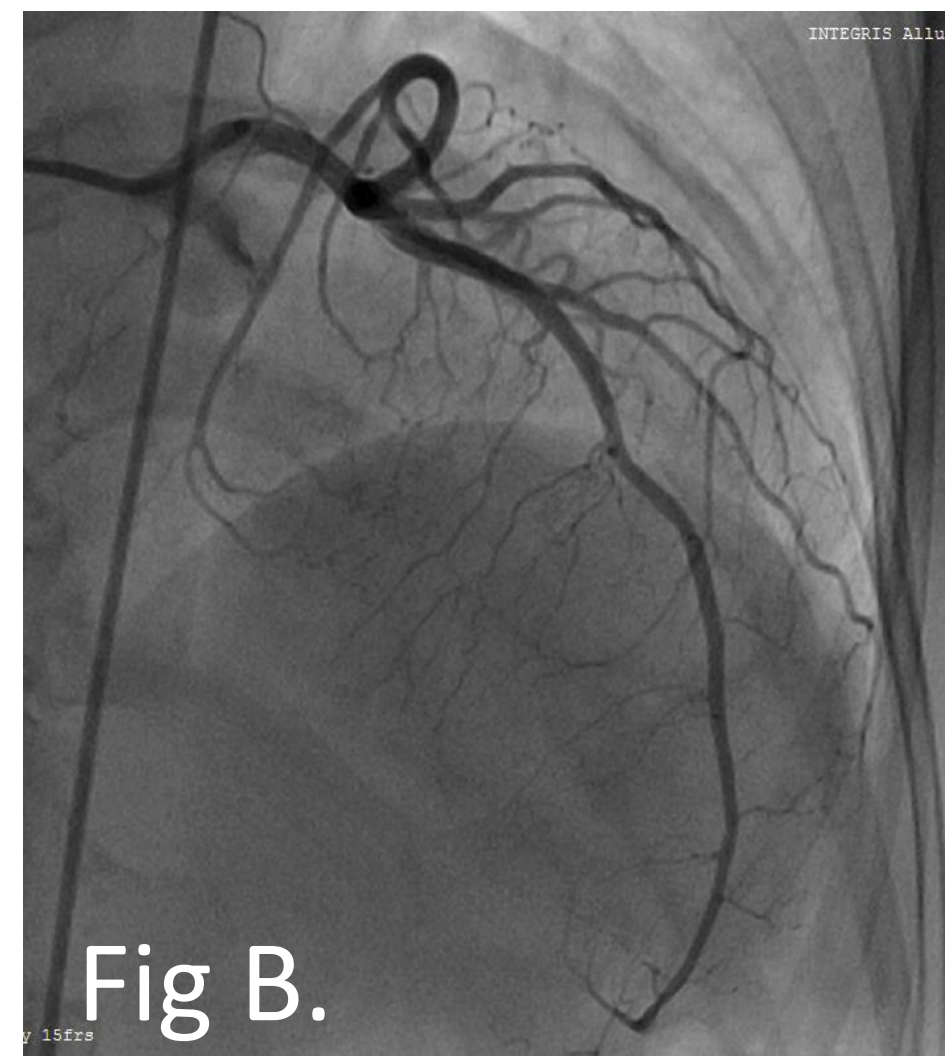
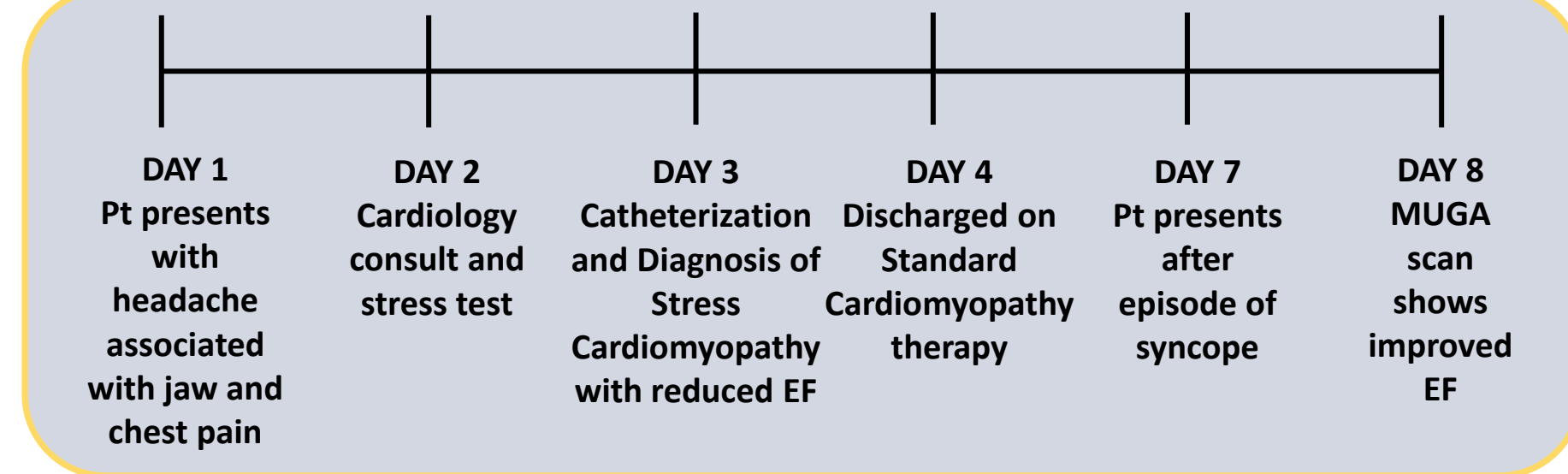


Fig B. Coronary Catheterization demonstrating normal coronary arteries

Timeline



Treatment

- Mechanical support as needed
- Standard therapy for cardiomyopathy including beta blocker and angiotensin converting enzyme inhibitors

Take Home Points

- Current literature suggests a relationship with stress cardiomyopathy and stroke² but presentations due to headache are relatively rare³
- This case illustrates a unique presentation of stress cardiomyopathy due to severe headache and supports the hypothesis that catecholamine surge (in this case due to pain) may be a causative factor
- It also highlights the management and often favorable prognosis of this type of cardiomyopathy

References

1. Lyon, et al. "Stress (Takotsubo) Cardiomyopathy- a Novel Pathophysiological Hypothesis to Explain Catecholamine-induced Acute Myocardial Stunning." *Nature Clinical Practice Cardiovascular Medicine* 5 (2008): 22-29.
2. Yoshimura, et al. "Takotsubo Cardiomyopathy in Acute Ischemic Stroke." *Annals of Neurology* 64.5 (2008): 547-54.
3. Verrijcken, et al. "From Trivial Headache to Life-threatening Disease." *International Journal of Cardiology* 146 (2011): E7-E9.