**THE DEADLY STEMI MIMICS: DISTINGUISHING TAKOTSUBO CARIOMYOPTAHY FROM ANTERIOR STEMI IN A LONELY LADY IN ELDERLY HOME.**

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**Introduction**

Takotsubo cardiomyopathy (TC) is a rare clinical syndrome manifested by transient left ventricular dysfunction without occlusive coronary arteries, or elevation of cardiac troponin and is usually associated with a stressor. The clinical features and ECG changes in TC may mimic ST elevation myocardial infarction (STEMI).

**Case description**

A 84-year-old woman with history of hypertension and dyslipidemia brought to emergency department after she was found unconscious and appeared dyspneic. She was lonely for the past eight months that she spent in nursing home. Upon arrival, she was tachypneic and oxygen saturation was 96% in 15 L/min non-rebreather mask. Her Glasgow Coma Scale (GCS) was E2V1M1. She had reduced air entry over right lung. An ECG revealed ST elevations in V2 to V6, without reciprocal changes, with ST depression in aVR. Chest X-ray showed consolidation over right middle zone. Cardiac point-of-care ultrasound (POCUS) demonstrated depressed ejection fraction of 31%, hypokinesis of mid ventricular to apical wall with normal motion of basal segments, and apical segment ballooning. Troponin-I level was 25 ng/L. Her blood sugar level was 2.8 mmol/L. She was treated for pneumonia and hypoglycemia, but her mental status did not improve. Despite treatment, the patient died due to sepsis.

**Discussion**

Distinguishing TC from anterior STEMI is crucial due to differences in pathophysiology and treatment strategy, especially in acute phase. Both present with similar clinical and ECG findings however, studies have tried to elucidate the distinctions. The main ECG characteristics of TC include ST depression in aVR > 0.5 mm, ST elevation in VI ≤ 1 mm, frontal plane ST-vector 60°, QT prolongation, no reciprocal ST depression, and no or reversible Q waves. Typical echocardiography for TC includes apical hypokinesis and basal hyperkinesis, but other variations have also been reported. In midventricular TC, there is akinesis of only mid-ventricular segment with or without hyperkinesis of apical and basal ventricular segments.

**Conclusion**

Clinical acuity, together with ECG or cardiac POCUS assessments, can be used to direct the physician towards the diagnosis of TC. However, it is important to differentiate TC from anterior STEMI, and when in doubt, cardiac angiography should be pursued.

**Keywords**: STEMI mimics, Takotsubo cardiomyopathy, stress induced cardiomyopathy

**References**:

*Yoshihiro J. Akashi, David S. Goldstein, Giuseppe Barbaro and Takashi Ueyama : Takotsubo Cardiomyopathy ; A New Form of Acute, Reversible Heart Failure : <https://doi.org/10.1161/CIRCULATIONAHA.108.767012> | Circulation. 2008;118:2754-2762*

*Pruthi, S., Kobrossi, S., Bartaula, R., & Chaudhuri, D. (2017). The misleading electrocardiogram – Midventricular Takotsubo masquerading as anterior wall STEMI. The American Journal of Emergency Medicine, 35(10), 1586.e3–1586.e4. doi:10.1016/j.ajem.2017.07.079*

*Vervaat, F. E., Christensen, T. E., Smeijers, L., Holmvang, L., Hasbak, P., Szabó, B. M., … Gorgels, A. P. M. (2015). Is it possible to differentiate between Takotsubo cardiomyopathy and acute anterior ST-elevation myocardial infarction? Journal of Electrocardiology, 48(4), 512–519.*