

Broken Heart Syndrome after Seeing a Snake

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Abstract

Takotsubo cardiomyopathy is characterized by a reversible left ventricular dysfunction, predominant in females with a 76–90% occurrence, especially those who are postmenopausal. Since takotsubo syndrome is relatively rare in male patients the clinical features remain to be determined. It was recently reported that cardiac complications, such as cardiovascular death, severe pump failure, and ventricular arrhythmia, are more common in male patients than in female patients with Takotsubo cardiomyopathy. We report a case of a middle-aged gentleman diagnosed with stress-induced cardiomyopathy after seeing a poisonous snake crawling on the floor next to his bed. A middle-aged gentleman, presented to the emergency department for acute onset of chest discomfort which started 4 hours prior to presentation.

Key Words: broken heart syndrome; snake; obstructive coronary disease; Mayo Clinic; Takotsubo cardiomyopathy; CAG; laboratory investigations; pheochromocytoma or myocarditis

Background

According to the Mayo Clinic Criteria [1] Takotsubo cardiomyopathy is defined as

1. Transient hypokinesis, akinesis, or dyskinesis of the left ventricular midsegments with or without apical involvement; the regional wall motion abnormalities extend beyond a single epicardial vascular distribution; a stressful trigger is often, but not always present.
2. Absence of obstructive coronary disease or angiographic evidence of acute plaque rupture.
3. New electrocardiographic abnormalities (either ST-segment elevation and/or T-wave inversion) or modest elevation in cardiac troponin.
4. Absence of pheochromocytoma or myocarditis.

Case Details

Takotsubo cardiomyopathy is characterized by a reversible left ventricular dysfunction, predominant in females with a 76–90% occurrence [2-4], especially those who are postmenopausal [5]. Since takotsubo syndrome is

relatively rare in male patients the clinical features remain to be determined. It was recently reported that cardiac complications, such as cardiovascular death, severe pump failure, and ventricular arrhythmia, are more common in male patients than in female patients with Takotsubo cardiomyopathy [4] We report a case of a middle-aged gentleman diagnosed with stress-induced cardiomyopathy after seeing a poisonous snake crawling on the floor next to his bed. A middle-aged gentleman, presented to the emergency department for acute onset of chest discomfort which started 4 hours prior to presentation. Associated symptoms were racing heart and light headedness with a sensation of impending doom. Symptoms started when he saw a poisonous snake crawling on the floor next to his bed. There was no history of bite. He was not on any routine medications. He did not smoke cigarettes, drink alcohol, or use recreational drugs. On presentation, his blood pressure was 80/50 mm Hg, heart rate 52 beats/min, temperature 97.9F, and respiratory rate 20 breaths/min with oxygen saturation of 99% on room air. The patient appeared anxious. The physical exam was unremarkable. His Electrocardiogram revealed normal sinus rhythm with diffuse T wave inversion (Figure 1).

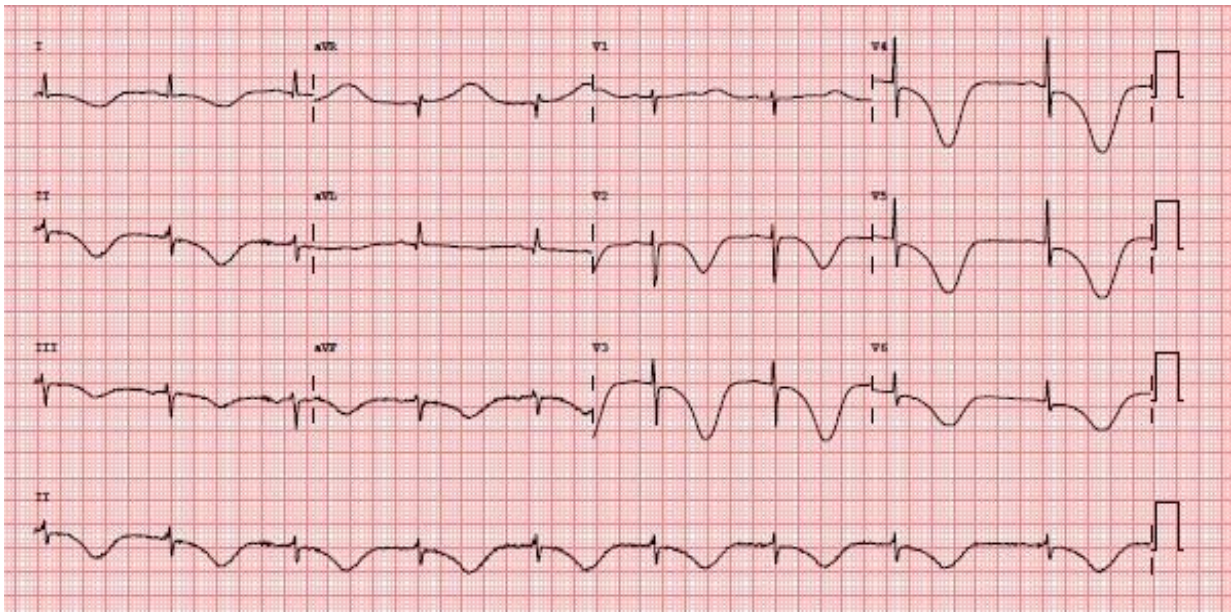


Figure 1: Electrocardiogram revealed normal sinus rhythm with diffuse T wave inversion

No prior electrocardiogram was available for comparison. On laboratory investigations, D-dimer was 210 ng/mL (normal < 500 ng/mL), N-terminal pro-B-type natriuretic peptide was 1248 pg/mL (normal < 125 pg/mL), creatine kinase-myocardial band was 5.0 ng/mL (normal < 4.4 ng/mL), and troponin T was 50.6 pg/mL (normal up to 14 pg/mL). After considering a diagnosis of acute myocardial infarction, he was given loading dose of aspirin and clopidogrel and atorvastatin. The patient's family was informed and after taking consent he was taken to the catheterization laboratory.

Emergency coronary artery angiography (CAG) revealed normal coronary arteries. Left Ventricular angiogram revealed severe apical hypokinesia with basal hypercontractility, suggestive of Takotsubo cardiomyopathy. His Echocardiogram at admission revealed moderate left ventricular systolic dysfunction with apical hypokinesia and Echocardiography at discharge revealed global normal left ventricular function with mild apical hypokinesia with average GLS -16.2% (Figure 2).

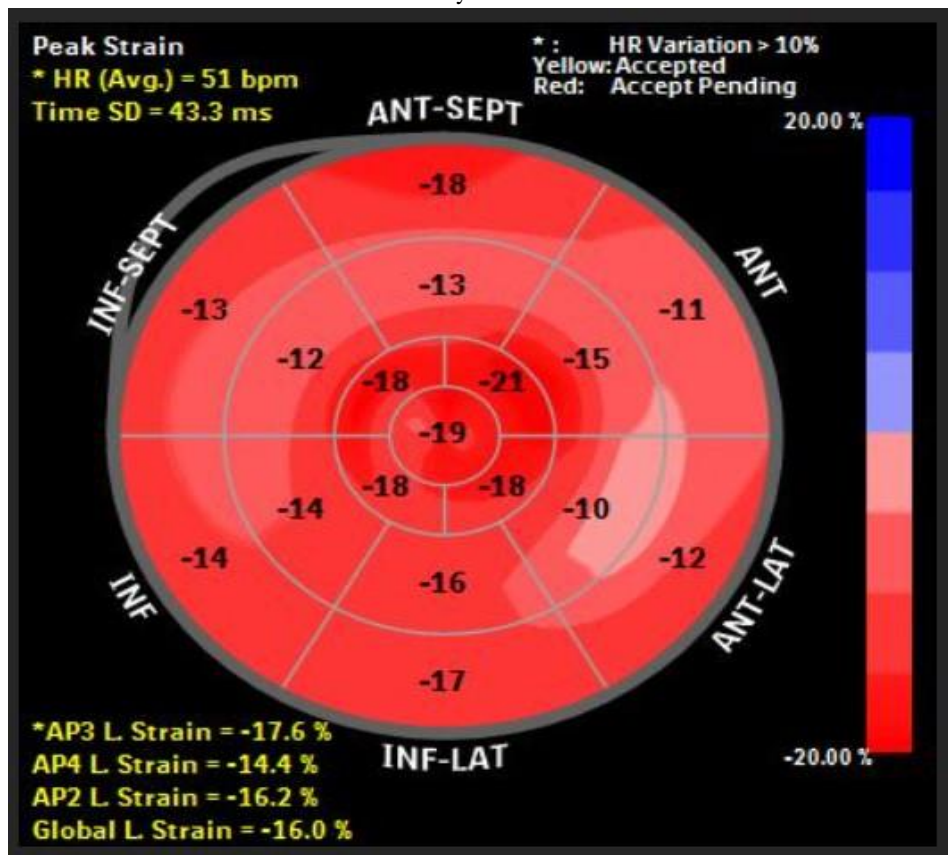


Figure 2: Global normal left ventricular function with average GLS -16.2%

Based on these findings, the patient was diagnosed with Takotsubo cardiomyopathy. He was discharged after two days and when he was followed up after 3 months, he was asymptomatic with complete recovery of apical hypokinesia.

Learning Points

- Mayo Clinic Criteria for diagnosis of Takotsubo cardiomyopathy
- Takotsubo cardiomyopathy is characterized by a reversible left ventricular dysfunction, predominantly seen in postmenopausal females
- A high index of suspicion for Takotsubo cardiomyopathy must be present for patients who present with acute chest pain with potential precipitating conditions even in male gender.
- Supportive therapy is key in management of Takotsubo cardiomyopathy.

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