



Apical Ballooning Syndrome or Takotsubo Syndrome: A Case Report

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Abstract

Takotsubo syndrome or an apical ballooning syndrome is a rare, nonischemic, heart condition which usually mimics acute myocardial infarction, which is characterized by similar clinical, ECG changes and elevation of troponins. Echocardiography shows transient wall motion abnormality occurring usually at the apical segment of the heart, still now it is misdiagnosed in many primary hospitals. However, coronary angiography report shows the absence of obstructed coronary atherosclerosis or acute plaque rupture. We describe a case report of a patient who developed Takotsubo cardiomyopathy in the post-operative period following Rhinoseptoplasty.

Keywords: *Takotsubo Cardiomyopathy, Apical ballooning syndrome, Stress cardiomyopathy, Acute coronary syndrome.*

Background

Takotsubo Cardiomyopathy (TC), first discussed in Japan in 1990s, The term takotsubo is a Japanese name for an octopus trap. Due to the shape that is similar to the systolic apical ballooning appearance of the left ventricle. According to the statistical results, TTS is estimated to account for approximately 1–3% of all patients with suspected acute coronary syndrome and the incidence of TS has been increasing worldwide. Often triggered by severe physical or emotional stress and its predominantly affects post- menopausal women, however males end up having more cardiac complications

Case Presentation

A 39-year-old female with chest pain arrived at the emergency department, H/o no HTN, no DM, not a Smoker, no Family H/o Cardiac disease, Rhinoseptoplasty was performed 3 weeks ago, An electro cardiogram (ECG) was performed Figure 1, which shows ST Segment elevation in pre-cordial leads from V4 to V6 and ST Segment elevation in II, III & aVF. Transthoracic echocardiography (TTE) revealed Global systolic function of the ventricle decreased EF - 40% shows transient wall motion abnormality in apex, septum apical, anterior-lateral, apical segments of the wall Hypo-akinesia Figure 2.

The subsequent Serum Troponin levels of the patient were done and its sharply increased to 22827 ng/mL, Immediately the patient was shifted to catheterization procedure room However, coronary angiography report shows the absence of obstructed coronary atherosclerosis or acute plaque rupture Figure 3, A B C.

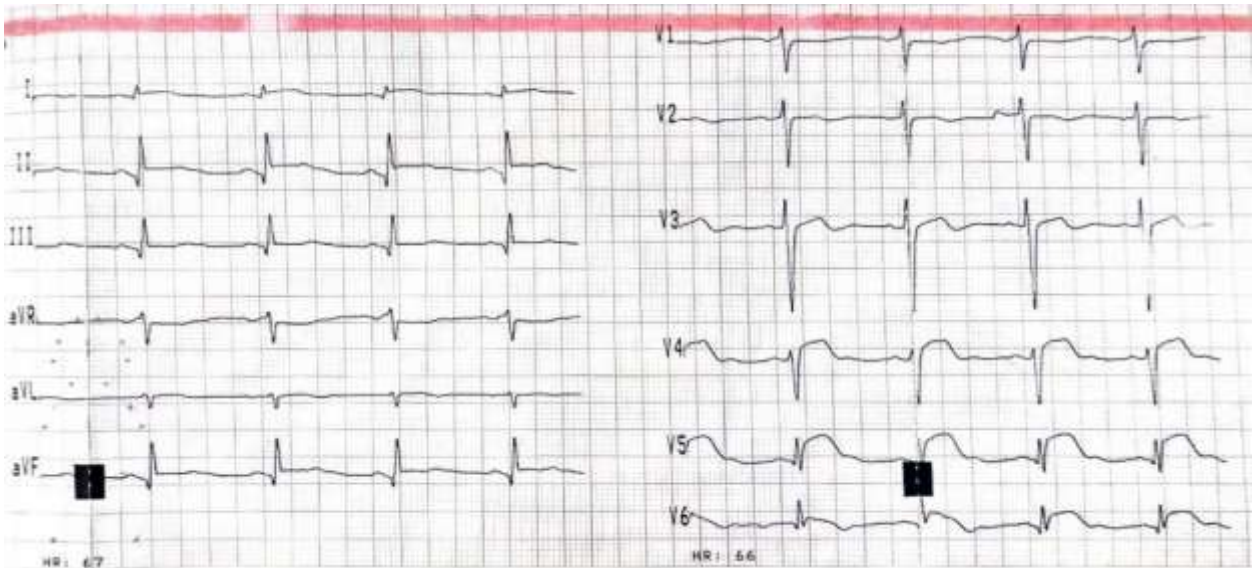


Figure 1. Dynamic ECG changes at the beginning of the onset

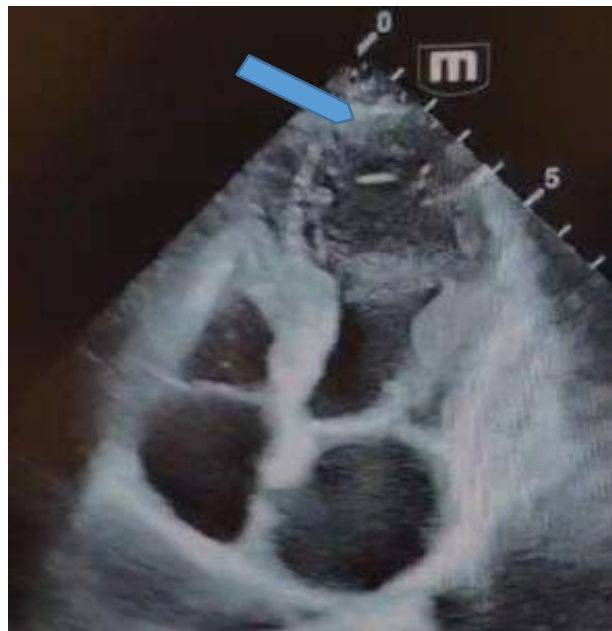


Figure 2 Echocardiography Image Apical Hypokinesis

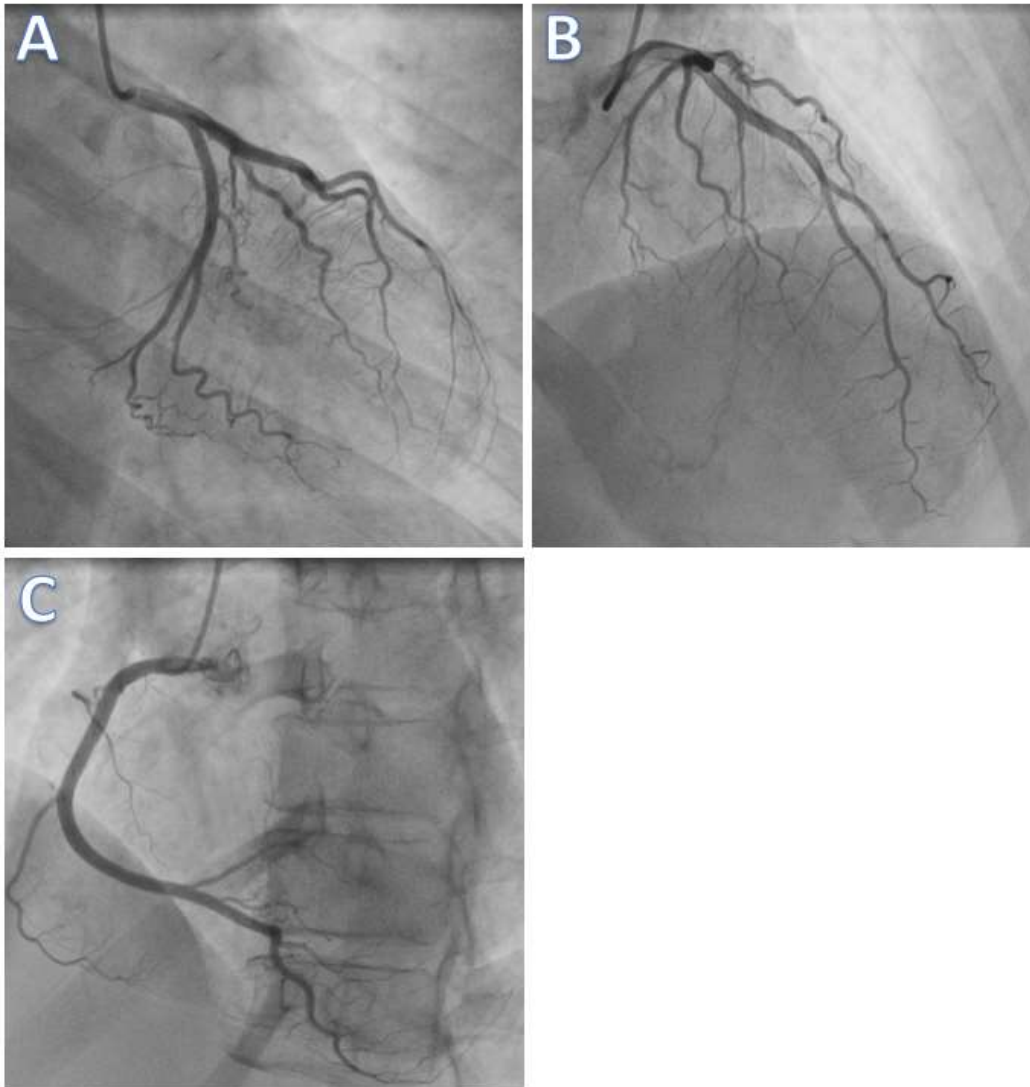


Figure 3 Coronary angiography showed no significant stenosis of the coronary arteries (left coronary artery [A,B] and right coronary artery [C]).

Discussion

Takotsubo Cardiomyopathy (TC), first discussed in Japan in 1990s, The term takotsubo is a Japanese name for an octopus trap. Due to the shape that is similar to the systolic apical ballooning appearance of the left ventricle. The incidence of TS has been increasing worldwide. The diagnosis of apical ballooning syndrome is based on the clinical presentation and differential diagnosis should always include acute coronary syndromes.

Transthoracic echocardiography provides a quick method of diagnosing wall motion abnormalities typically seen in apical ballooning syndrome, specifically hypokinesis or akinesis of the midsegment and apical segment of the left ventricle Figure 2.

ECG recording after 5 days' hospitalization showing resolution of ST segment elevation to inverted T waves in precordial leads Figure 4.

It is important to maintain the airway, breathing, and circulation; establishing intravenous access, providing supplemental oxygen and initiating cardiac monitoring should take priority. Since the initial presentation of takotsubo cardiomyopathy is similar to an acute coronary syndrome, the initial protocol of treatment involves aspirin, beta-blockers, ACE inhibitors, lipid-lowering agents, once diagnosed we can start beta-blockers and ACE inhibitors for a short period of around 3 to 6 months with regular series of Echo imaging of the wall movement and to check ventricular Ejection fraction to determine progression or improvement

So Close follow-up care is very essential to ensure the prognosis with series of Echocardiography and annual checkup is advised since the history of the disease is not clear and moreover The recurrence rate varies but is estimated at 3%.

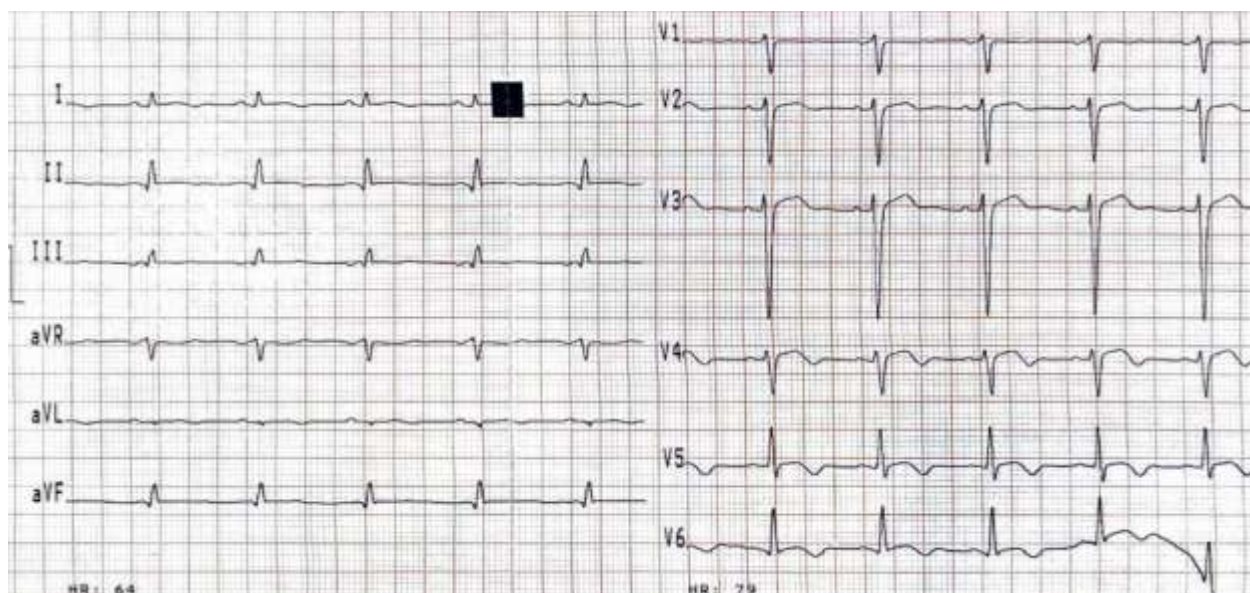


Figure 4: ECG recording after 5 days hospitalization showing resolution of ST segment elevation to inverted T waves in precordial leads.

Conclusion

Since Takotsubo syndrome heart condition resembling that of an acute coronary syndrome, All physicians and health care worker in Emergency department should be aware of Takotsubo syndrome with differentiate diagnose to approach the patient quickly with proper care and treatment.

Awareness of the existence of this syndrome which often triggered by severe physical or emotional stress and easier access to early echocardiography and coronary angiography will help us to diagnose the Takotsubo syndrome or an apical ballooning syndrome.

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