Two Case Reports of Apical Ballooning Syndrome
A New Entity

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Abstract

Two female patients presented with acute chest pain in the casualty on separate days, thought to be a case of acute coronary syndrome supported by investigations in the form of electrocardiogram and cardiac enzymes until the patients were taken up for coronary angiogram which had some other things to disclose.

Introduction

Apical ballooning syndrome (ABS), recently has gained much attention because the clinical presentation greatly mimics acute coronary syndrome. It is also known by transient left ventricular dysfunction syndrome, broken heart syndrome, Tako-Tsubo cardiomyopathy. The end systolic ventriculography resemble Tako-Tsubo, a pot like trap used for catching octopuses in japan. It accounts for 1-2% of patients who present with acute myocardial infarction[1] and has a mortality of 1-2%. The recurrence of ABS is no more than 10%.[2]

Case Report 1

A 55 year old female a diagnosed case of ovarian tumour on chemotherapy presented with complaints of acute chest pain with sweating, hyperventilation of 30 minutes duration. She had tachycardia with a BP of 124/80 mmHg; cardiac examination was non contributory, auscultation revealed bilateral basal crepitations; ECG showed non specific ST-T changes in precordial leads. CPK MB and cardiac troponin-T were positive. The patient was managed on the lines of acute coronary syndrome as NSTEMI with antiplatelets, beta- blockers, statins, ACE -inhibitor. The next day she was subjected to coronary angiography which revealed absolutely normal coronaries, the LV angiogram showed thinned, ballooned and hypokinetic apical area with normokinesia of other segments.

Case Report 2

A 40 year old female business executive by profession, presented with complaints of chest pain and palpitations. ECG showed T wave inversion in the anterior precordial leads; cardiac enzymes were positive. She was managed on the lines of NSTEMI, but due to ongoing continuous chest pain not responding to medical management she was taken up for coronary angiogram which was surprisingly normal. Her left ventricular angiogram showed apical ballooning with preserved function of other wall areas.

Discussion

Recently there have been reports of a novel cardiac syndrome exhibiting transient left ventricular apical ballooning without significant coronary artery disease.Though the presentation is like acute coronary syndrome, it's an altogether different entity with multiple plausible mechanisms of which a few include microvascular dysfunction which is present at least in two-third of the patients and its severity correlates with the quantity of troponins released in the blood circulation and ECG abnormalities.[3] Majority of the patients present with chest pain although infrequent symptoms in the form

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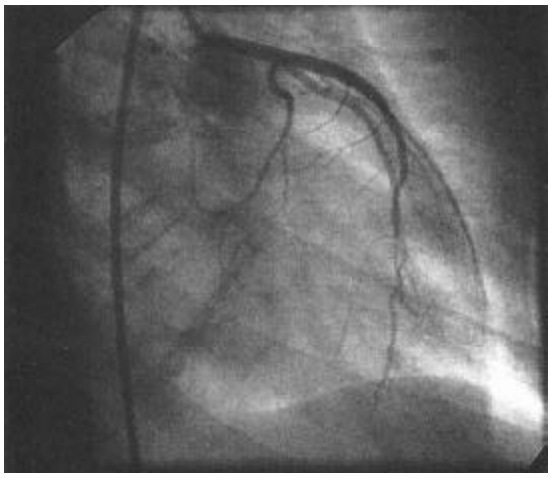

Fig. 1 : Left coronary system in AP cranial view - normal.

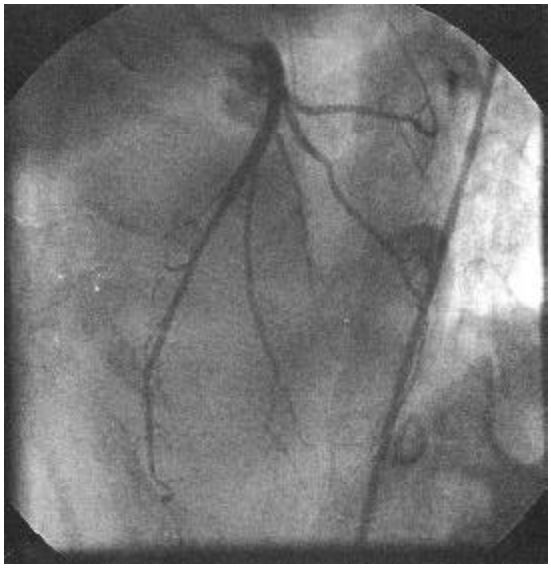

Fig. 2 : Left coronary system LAO cranial view : normal.

of syncope and even out of hospital cardiac arrest have been described. ABS appears to occur exclusively in postmenopausal women; however a few cases in younger females and even males have been described.[4] A unique feature of ABS is occurrence of a preceding emotionally or physically stress event in 2/3rd patients though its absence doesn't exclude the diagnosis. Catecholamines

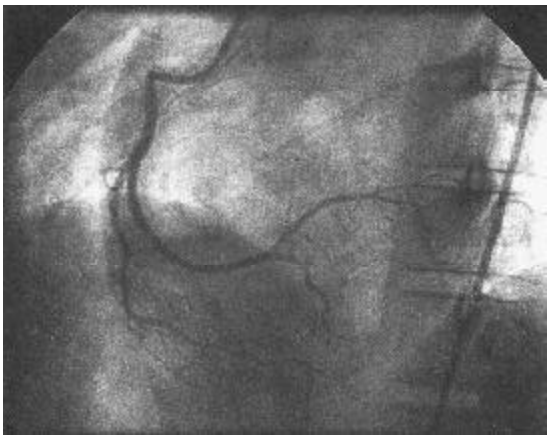

Fig. 3 : Right coronary artery : normal.

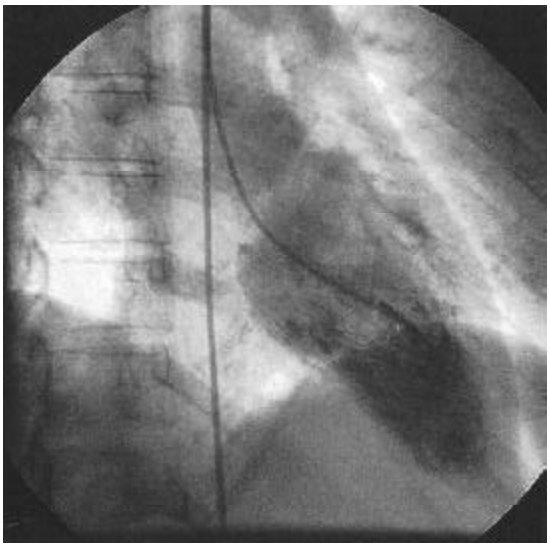

Fig. 4 : Apical ballooning in RAO 30° view.

released during the stress is supposed to be the triggering event for the syndrome.[5] Transthoracic echocardiogram can detect regional wall motion abnormality which shows classical wall motion abnormality of the mid and apical segment and usually extend beyond the distribution of any one single artery, but the diagnosis is frequently made after angiography. Cardiac MRI is helpful in excluding MI because delayed gadolinium enhancement is not a feature of ABS.

Mayo clinic criteria for diagnosis of