RARE CASE OF BROKEN HEART SYNDROME IN A YOUNG POST CAESAREAN MOTHER. CASE REPORT

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ABSTRACT
Broken heart syndrome also called as the transient left ventricular apical ballooning syndrome or Takotsubo cardiomyopathy is a rare phenomenon first described in the Japanese population in 19911. This report discusses a rare case of broken heart syndrome in young post caesarean mother. In the medical literature cases of TCM have been described during puerperium and few during pregnancy.

KEY WORDS: post caesarean, hypotension, echocardiography, TMC.

INTRODUCTION
Broken heart syndrome also called as the transient left ventricular apical ballooning syndrome or Takotsubo cardiomyopathy is a rare phenomenon first described in the Japanese population in 19911. Dole and college, named it after a round bottomed narrow necked Japanese fishing pot used for trapping octopus.[1] Postmenopausal women seem to be at a higher risk for developing this syndrome.[2] The clinical presentation mimics that of patients with acute myocardial infarction, characterized by chest pain and dyspnea.[2] It is characterized by peculiar transient regional systolic dysfunction involving apex and mid segment of L.V. usually it is preceded by a physical or an emotional stressful event. Ventriculography reveals typically LV apical akinesia or hypo kinesis with basal hyper

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contractility.\textsuperscript{[3]} Ejection fraction is around 30\%. Coronary angiography is unremarkable, as most patients don’t have coronary artery disease, or non-obstructive disease.\textsuperscript{[4]} Generally it has favourable prognosis. The pathophysiological mechanism is likely to be catecholamine overload or excess.\textsuperscript{[4]}

**Case report**

A 25yr old booked G\textsubscript{2}A\textsubscript{1} at 37\textsuperscript{+3} weeks gestation with no prior medical or surgical history was hospitalized with false labour pains. Antenatally she was a low risk case with booking BP of 130/80 mmHg and BMI of 21.13Kgs/m\textsuperscript{2}. Clinically her liquor amni was less which was confirmed by USG. Labour was induced with cerviprime gel and was put on continuous electronic fetal monitoring which revealed repeated late decelerations. In view of fetal distress Caesarean section was performed under spinal anaesthesia delivering a live male baby weighing 2.52kg at 2.10 pm on 12.07.2014. Caesarean section was uneventful with no intra operative complications. Five hours later she developed hypotension, with pulse of 76 bpm and BP of 90/60mmHg, uterus was well contracted and retracted with no undue bleeding. USG abdomen did not show any evidence of free fluid. ECG showed nonspecific ST-Twave changes. Cardiac enzymes were elevated. Later she developed breathlessness and fever. Examination of respiratory system revealed bilateral crackles and chest x-ray showed bilateral haziness of mid and lower zones suggestive of pulmonary edema / pneumonia.

Patient was shifted to medical ICU and was treated with diuretics, inotropes, oxygen and higher antibiotics in view of fever, leucocytosis and suspicion of pneumonia. Echocardiography revealed severe hypokinasia of mid, apical septum, and apex with ejection fraction of 30\%. Patient was digitalized and aspirin added. Her dyspnoea improved but her hypotension still persisted. Subsequently her symptoms and BP improved. ECHO done three days later showed marked improvement in LV function with ejection fraction of 45\% but hypokinesia of septum persisted. Gradually inotropes were discontinued and oxygen saturation was maintained with room air and pt was shifted out. Repeat ECHO showed further improvement in her LV function with EF 54\% with persistence of hypokinesia of septum. Two days later digoxin was stopped. Patient was advised to undergo coronary angiogram to rule out any ischaemic event, but was not willing for it. Later she left the hospital against medical advice on aspirin and hematenics and was for review two weeks later in hospital with an ECHO.
DISCUSSION
TCM also called as transient apical ballooning syndrome is a type of non ischaemic cardiomyopathy in which there is a temporary sudden weakening of the myocardium with potentially serious sequele\textsuperscript{5}. This weakening can be triggered by acute emotional or physical stress, hence also known as broken heart syndrome or stress induced cardiomyopathy. It can occur in women with no previous cardiac problems. The exact cause is still not determined and likely to be multi factorial to include multi vessel coronary artery spasm, impaired cardiac microvascular function, impaired myocardial fatty acid metabolism and endogenous catecholamine induced myocardial stunning.\textsuperscript{6,7} The diagnosis of TCM is made by the pathognomonic cardiac wall motion abnormalities, wherein the base of the left ventricle is normally contracting while the remainder of the ventricle is akinetic or dyskinetic\textsuperscript{5}. ECHO is pathognomonic of TCM like in our case. In the medical literature cases of TCM have been described during puerperium and few during pregnancy.\textsuperscript{8} The major symptoms are chest pain and dyspnea. TCM do present with hypotension as in our patient. Most cases showed ECG abnormalities like ST segment changes and T wave inversion along with elevated cardiac enzymes. TCM has also been associated with severe eclampsia with HELLP syndrome.\textsuperscript{9} Management of TCM is mainly supportive in nature. Treatment recommendations include intra-aortic balloon pumps, fluids and negative inotropes such as β blockers or calcium channel blockers. Usually LV function normalizes within eight weeks. Most of the patients survive the initial event despite the grave initial presentations. TCM may be concealed in postpartum women by symptoms indistinguishable from acute coronary syndrome, Peripartum cardiomyopathy or pulmonary thromboembolism and hence Echocardiography may be a useful tool to distinguish them. Multidisciplinary involvement at an early stage is associated with better survival. Patients have favourable outcome once recovered from acute stage and long term prognosis is excellent.\textsuperscript{4,10,11}

CONCLUSION
Takotsubo cardiomyopathy is a reversible rare cardiac condition that should be differentiated from peripartum cardiomyopathy and ischemia. It is an increasingly reported phenomenon which not only occurs in cases of acute emotional or physical stress, but may also follow iatrogenic stress due to common medical procedures. It has an excellent prognosis with early multidisciplinary management. The environment during labour should be calm and pleasing. Acute cardiac complications occur less frequently during pregnancy and immediate postpartum. Some of these cases are rare and they pose a diagnostic challenge.
REFERENCES


