

A Gut Wrenching Takotsubo

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INTRODUCTION

Takotsubo cardiomyopathy (TCM), also known as broken heart syndrome, is a variant of acute coronary syndrome that occurs in absence of obstructive coronary artery disease. TCM often presents as apical akinesis and dilatation and is typically transient and reversible when underlying triggers are addressed. Although the exact mechanisms are not fully understood, potential factors include elevated levels of circulating catecholamines, microvascular dysfunction, inflammation, estrogen deficiency, and coronary vessel spasm. Postmenopausal women are particularly susceptible to TCM, especially when subjected to significant physical or emotional stress. In this case, we report a rare instance of TCM triggered by small bowel obstruction (SBO).

CASE PRESENTATION

A 65 years old female with a history of chronic low back pain and on ongoing opioid therapy presented to the emergency room with mild epigastric discomfort, nausea, and multiple episodes of non-bilious vomiting. Laboratory revealed hypokalemia, leukocytosis, lactic acidosis, and elevated troponin levels. A drug screen detected methamphetamine, cannabinoids, and opioids. An electrocardiogram showed new T-wave inversions in the precordial leads and a prolonged QT interval. Initial computed tomography (CT) of the abdomen and pelvis revealed distended small bowel loops with air and air-fluid levels, but no evidence of SBO. Transthoracic echocardiography demonstrated a reduced ejection fraction (25%) and left ventricular apical ballooning. Cardiac catheterization confirmed patent coronary arteries and identified large apical ballooning consistent with TCM.

After initial stabilization, further history revealed the patient was experiencing a difficult divorce and admitted to illicit substance abuse. Over the next few days, her abdominal pain intensified, leading to hemodynamic instability. Physical examination showed a diffusely tender, distended abdomen with high-pitched bowel sounds. A repeat urgent CT scan revealed severe distal small intestinal obstruction. Surgical exploration identified a closed-loop small bowel obstruction at the distal ileum, along with mesenteric torsion and necrosis. Surgical resection and end-to-end small bowel anastomosis was performed. After a 15-day hospital stay, the patient was discharged with instruction to follow up with primary care and repeat echocardiogram.

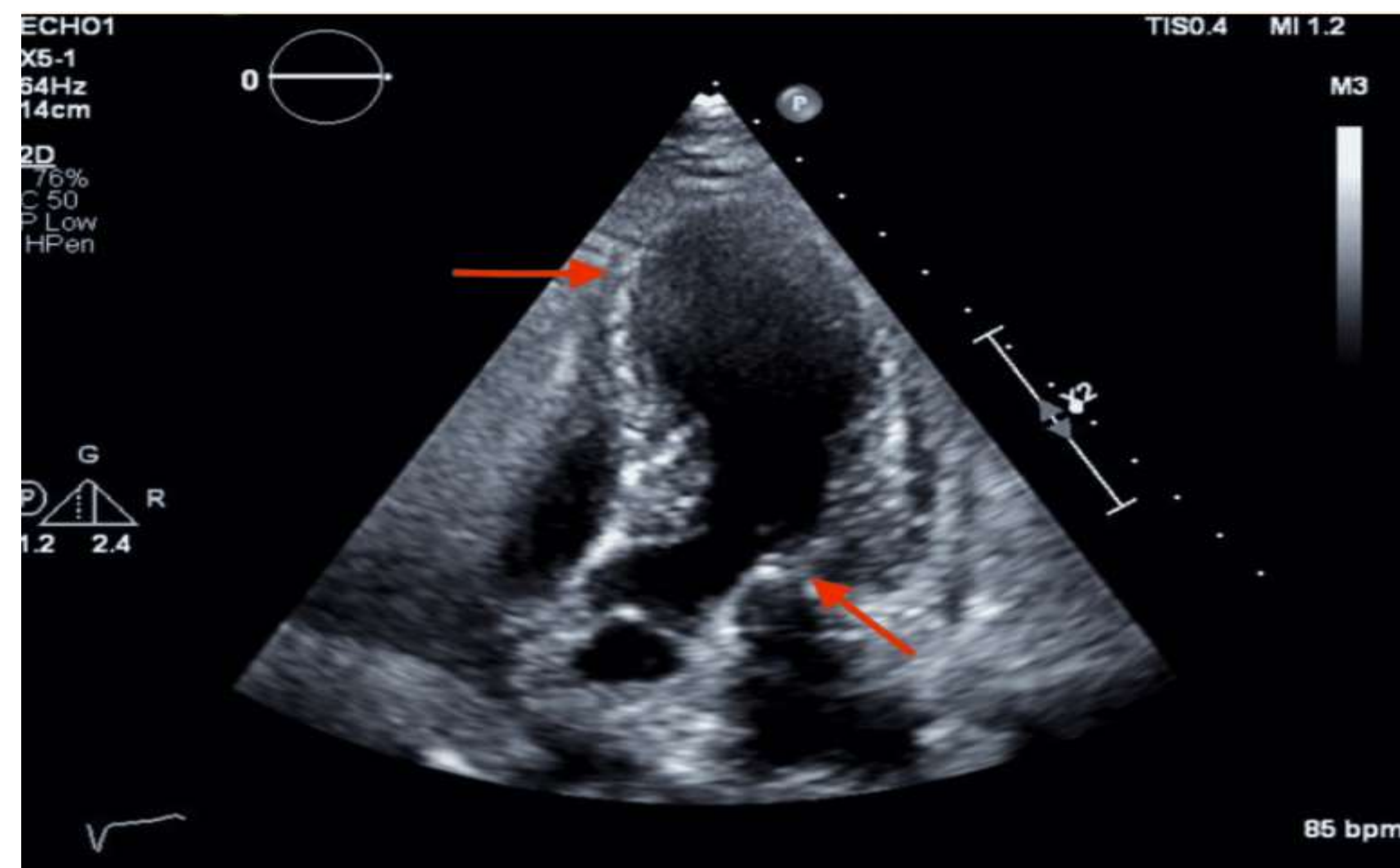


Figure 1: Transthoracic echocardiography showing hypokinetic apex with ballooning with normal basal segments



Figure 2: CT abdomen/pelvis showing small bowel obstruction with multiple air-fluid level

DISCUSSION

The patient initially presented with abdominal symptoms that did not clearly show SBO. However, elevated troponin levels and abnormal EKG findings prompted further investigation, leading to a TCM diagnosis before SBO fully developed. Over time, SBO became more evident on abdominal imaging, eventually requiring surgery. This suggests SBO may have triggered TCM rather than being a consequence. Although the patient had other potential triggers, the initial symptoms strongly indicated a bowel issue, likely playing a significant role in triggering TCM.

CONCLUSION

More research is needed to fully understand TCM's pathogenesis. Prompt and accurate diagnosis of TCM is crucial, as underlying critical illness can significantly impact prognosis. This case highlights that SBO and severe abdominal pain should be considered potential triggers for TCM.

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