

Internal Incarcerated Bowel Hernia Presenting as Takotsubo Cardiomyopathy

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Received: June 22, 2017; Published: July 18, 2017

Abstract

Takotsubo cardiomyopathy can present as co-morbidity to an underlying medical or surgical condition. To highlight the importance of establishing a primary diagnosis in takotsubo cardiomyopathy, we report a case of a 72-year-old female patient who was initially brought in to coronary catheterization laboratory with clinical & ECG features of acute ST-elevation myocardial infarction, but no flow-limiting coronaries on the angiogram and was later diagnosed with incarcerated bowel hernia. She underwent emergency laparotomy with resection of one hundred centimeters of distal ileum with no post-op sequel.

Keywords: Takotsubo Cardiomyopathy; Acute Abdomen; Bowel Ischemia; Incarcerated Bowel Hernia; Surgical Abdomen

Abbreviations

PPCI: Primary Percutaneous Coronary Intervention; TCM: Takotsubo Cardiomyopathy; ECG: Electrocardiogram; CCU: Coronary Care Unit

Case Report

In November 2016, a 72-year-old woman was brought in by ambulance via primary percutaneous coronary intervention (PPCI) pathway. She had called the ambulance for central crushing chest pain, on-going for an hour. She was pale and clammy with the ambulance crew. An episode of bradycardia on a portable cardiac monitor (34 beats per minute) resolved after stat dose of atropine (600 micrograms) with other observations being satisfactory i.e. blood pressure 119/54 mm of Hg, respiratory rate of 22 per minute, and saturation of 97% on air. Her 12-lead ECG; with inferior/anterolateral ST elevation, loss of R-waves, and ventricular bigeminy; triggered the PPCI pathway (Figure 1 – ECG). She arrived at coronary catheterization lab for emergency PPCI. Bedside transthoracic echocardiogram suggested mild left ventricular systolic dysfunction, distal inferior wall, and apical hypokinesia. Coronary angiogram showed right dominance with no flow-limiting disease - normal left main stem and right coronary artery, mild atheroma in left anterior descending, and 40% mid-vessel disease in circumflex. Left ventriculogram revealed inferior/apical hypokinesia with good overall left ventricular systolic function. A diagnosis of takotsubo cardiomyopathy (TCM) was established and she was transferred to coronary care unit (CCU) (Figure 2, 3, 4 and coronary angiogram video). Later on, in CCU, she started complaining of abdominal pain and with clinical suspicion of acute abdomen on bedside examination, an urgent computed tomography of abdomen & pelvis was arranged. Meanwhile, her laboratory data showed a troponin T of 300 (normal range: < 14 pg/L), WCC of $22.1 \times 10^9/L$, and serial lactate levels of 1.2 and 2.6 (normal range: 0.5-2.2 mmol/L). CT imaging reported free fluid in the upper abdomen, dilated intestinal loops in the pelvis and small bowel ischemia due to internal incarcerated hernia (Figure 5). On emergency laparotomy, one hundred centimeters of ischemic distal ileum was resected without major sequel and patient was subsequently transferred to intensive care unit for post-op care.

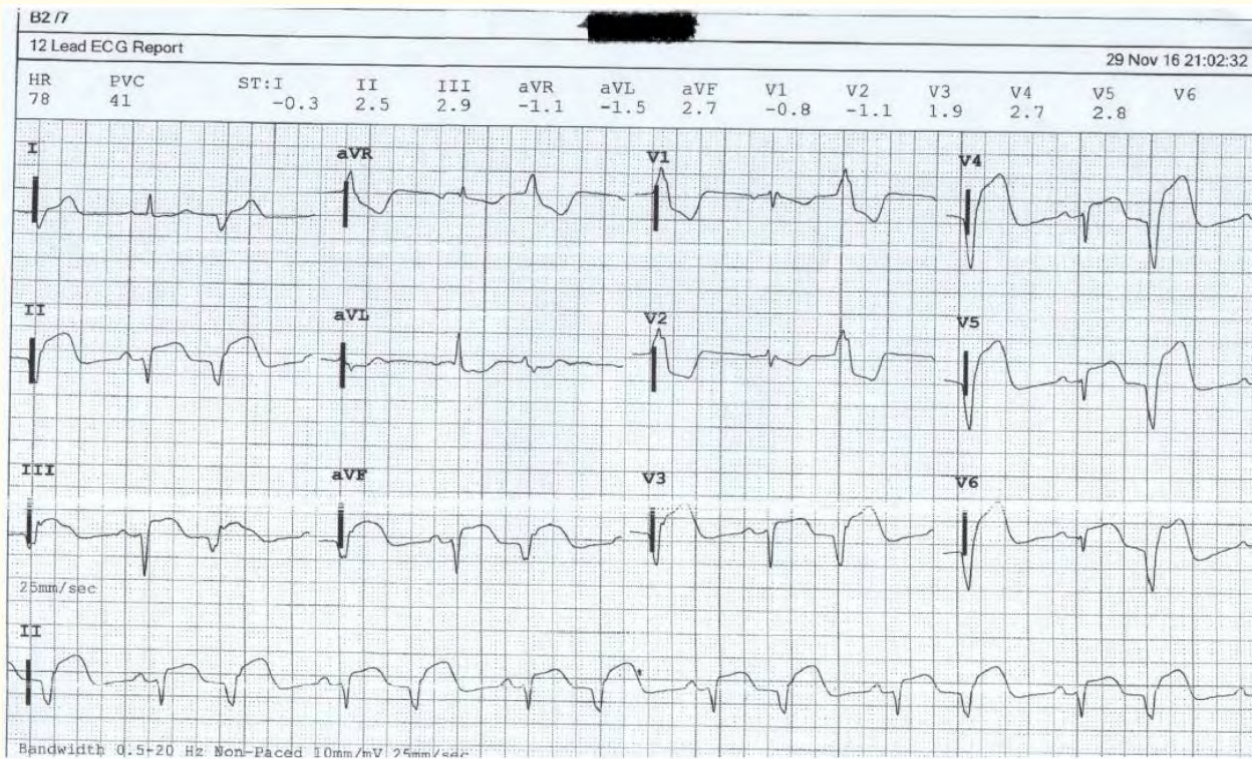


Figure 1: ECG on presentation.



Figure 2: Left coronary circulation.

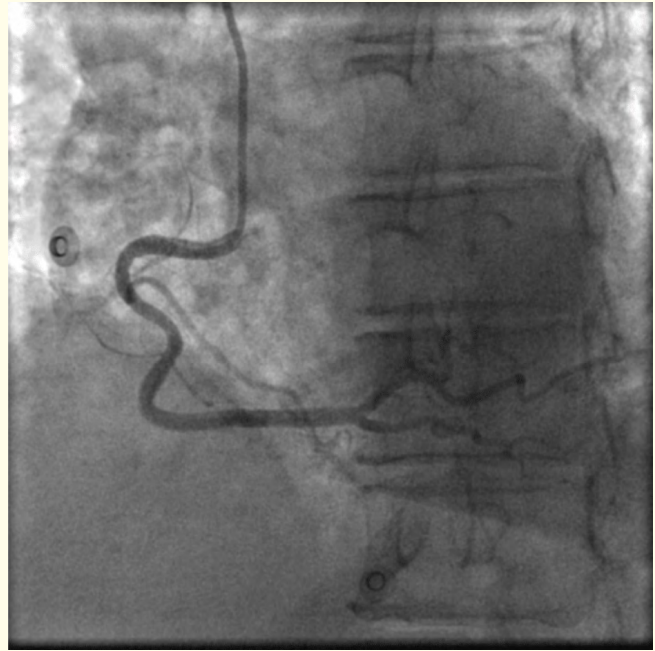


Figure 3: Right coronary circulation.



Figure 4: Left ventriculogram.



Figure 5: CT abdomen-pelvis with contrast.



Coronary angiogram & LV gram.avi

Video: Coronary angiogram and left ventriculogram

Discussion

Takotsubo cardiomyopathy - also called stress-induced cardiomyopathy - is a transient left ventricular disturbance with ECG abnormalities that can mimic acute myocardial infarction. Common in females aged between 62 and 75 years, it is precipitated by physical and emotional stress in two-third of cases [1]. The growing literature has consequently been accompanied by a better knowledge of its clinical features which include: ECG changes, such as ST segment elevation; altered cardiac biomarkers; transient apical ballooning; left mid-ventricular/apical akinesia; and absence of obstructive coronary disease [1]. In the case reported here, takotsubo cardiomyopathy could better elucidate the condition after the clinical presentation, coronary angiogram and left ventriculogram. Further on, post-angiography, although bowel ischemia could have been a complication of TCM and cause acute abdomen, CT imaging confirmed incarcerated bowel hernia as the triggering event (physical stressor). This case is a unique presentation of bowel ischemia and takotsubo cardiomyopathy, as sequential events, but presenting with cardiac-related symptoms. The management in TCM is conservative and the underlying critical illness is the main driver of mortality [2-5]. We, therefore, emphasize to health professionals that in patients with primary presentation suggesting acute myocardial infarction with no evidence of a primary event on coronary angiogram, an alternative diagnosis needs to be sought as it can present as a co-morbidity of an underlying medical or surgical condition.

Conclusion

This case is a unique presentation of bowel ischemia and takotsubo cardiomyopathy, as sequential events, but presenting primarily with cardiac-related symptoms instead of complaints of a surgical abdomen. This will help in raising awareness of acute surgical conditions that are complicated by features of acute myocardial infarction, potentially delaying its prompt recognition and treatment. As a Cardiologist, therefore, not only is it essential to be aware of takotsubo cardiomyopathy as a differential to acute myocardial infarction, an underlying primary event should be sought once coronary angiogram excludes a thrombotic event.

Conflict of Interest

No financial interest or any conflict of interest exists.

Bibliography

1. Gianni M., *et al.* "Apical Ballooning Syndrome or Takotsubo Cardiomyopathy: A Systematic Review". *European Heart Journal* 27.13 (2006): 1523-1529.
2. Masud F., *et al.* "An atypical presentation of acute abdomen as a cardioembolic complication of takotsubo cardiomyopathy: A case report". *Journal of Cardiology and Current Research* 5.1 (2016).
3. Macovei L., *et al.* "[Takotsubo Cardiomyopathy]". *Revista Medico-Chirurgicala a Societatii De Medici Si Naturalisti Din Iasi* 116.1 (2012): 139-144.
4. Brinjikji W., *et al.* "In-Hospital Mortality among Patients with Takotsubo Cardiomyopathy: A Study of the National Inpatient Sample 2008 to 2009". *American Heart Journal* 164.2 (2012): 215-221.
5. Kurisu S and Y Kihara. "Tako-Tsubo Cardiomyopathy: Clinical Presentation and Underlying Mechanism". *Journal of Cardiology* 60.6 (2012): 429-437.

Volume 3 Issue 4 July 2017

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