

Control Number: 29

Abstract Category: Clinical Case Challenge in Cardio-Oncology

Title: Cytoreductive surgery for Mesothelioma complicated by post-operative Takotsubo cardiomyopathy

ABSTRACT BODY

Background and Purpose

Takotsubo cardiomyopathy is a transient disorder most commonly affecting postmenopausal women and may require aggressive management of cardiogenic shock and acute heart failure. Possible mechanisms include catecholamine excess, microvascular dysfunction, and coronary artery spasm. We present a case of post-operative Takotsubo cardiomyopathy where intra-aortic balloon pump (IABP) was used for hemodynamic support while left ventricular (LV) function recovered.

Case Description and Outcomes

A 74-year-old woman with left pleural malignant mesothelioma underwent left thoracotomy, pleurectomy, and decortication. She had a history of chronic left bundle branch block, otherwise normal cardiac function including normal nuclear stress test. The day after surgery she developed asystolic cardiac arrest for one minute. She had third degree heart block with hypotension requiring transvenous pacing wire, elevation in troponin level, and electrocardiogram without ischemic changes. Transthoracic echocardiogram (TTE) revealed decline in LV ejection fraction from normal to 20-24%. Selective coronary angiography did not show evidence of coronary artery disease (CAD). Right heart catheterization with normal pulmonary artery pressures and low cardiac output. She developed acute liver and kidney injury. IABP was placed for hemodynamic support for five days. She also required epinephrine, dopamine, and amiodarone for cardiogenic shock and atrial fibrillation. Her hospitalization was complicated by persistent respiratory failure, malnutrition, and fungemia. She developed thrombus of the superior vena cava treated with systemic anticoagulation. She eventually underwent epicardial lead and pacemaker placement. Follow up TTE ten days after cardiac arrest with normal LV systolic function.

Discussion

Given acute decline in LV systolic function with no evidence of CAD after extensive thoracic surgery for mesothelioma, this was thought to be a presentation of Takotsubo cardiomyopathy. Metoprolol was prescribed for myocardial protection. IABP was effective in providing hemodynamic support while LV function recovered. Further research is needed to identify those susceptible to post-operative Takotsubo and to better understand treatment.

References

1. Singh K, Carson K, Usmani Z, et al. Systematic review and meta-analysis of incidence and correlates of takotsubo cardiomyopathy. *International Journal of Cardiology* 2014; 274:696–701.
2. Templin C, Ghadri JR, Diekmann J, et al. Clinical Features and Outcomes of Takotsubo (Stress) Cardiomyopathy. *N Engl J Med* 2015; 373:929-938

Image 1



Image 2

