Control Number: 28

Abstract Category: Clinical Case Challenge in Cardio-Oncology

Title: A rare case report: Malignant pleural mesothelioma surgery complicated by isolated right ventricular Takotsubo requiring ECMO support

ABSTRACT BODY

Background and Purpose

Takotsubo or stress cardiomyopathy (CMP) is characterized by transient ventricular (typically left) systolic dysfunction. Presentation mimics acute coronary syndrome but in the absence of obstructive coronary artery disease (CAD). There are some cases of biventricular Takotsubo CMP, however, isolated right ventricular (RV) stress-induced cardiomyopathy is a rare diagnosis.

Case Description and Outcomes

An 80-year-old gentleman with right epithelioid malignant pleural mesothelioma underwent right thoracotomy, pleurectomy with heated chemotherapy, and decortication. Four days later, he developed asystolic cardiopulmonary arrest for three minutes. He was hypotensive despite norepinephrine, vasopressin, and epinephrine infusions. Transthoracic echocardiogram (TTE) showed severely dilated RV with poor systolic function and pulmonary hypertension (PH). Emergent coronary and pulmonary angiography showed no evidence of pulmonary embolism (PE) or CAD. He stabilized with veno-arterial extracorporeal membrane oxygenation for seven days while vasopressors weaned and pulmonary function improved. PH managed with epoprostenol and diuresis. Metoprolol was prescribed for myocardial protection. Complications during hospitalization include atrial fibrillation, delirium, renal replacement therapy, tracheostomy, feeding tube placement, and Clagett window for empyema. At three weeks, after recovering and normalizing RV function, he developed large pericardial effusion with cardiac tamponade requiring emergent pericardiocentesis. Fluid cytology with atypical mesothelial cells concerning for malignant effusion. Several weeks later, follow up TTE showed fully recovered RV function and resolved pericardial effusion.

Discussion

We report a case of acute RV decompensation with sudden ballooning and systemic circulatory collapse in the absence of PE or CAD. In the setting of high-risk thoracic surgery, although rare, given the degree of RV dilation and failure, he was thought to have a variant of Takotsubo cardiomyopathy.

References

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2. Mrdovic I, Kostic J, Perunicic J, et al. Right Ventricular Takotsubo Cardiomyopathy. J Am Coll Cardiol 2010;50(16).
3. Sumida H, Morihisa K, Katahira K, et al. Isolated Right Ventricular Stress (Takotsubo) Cardiomyopathy. Intern Med. 2017 Aug 15; 56(16): 2159–2164

Image 1

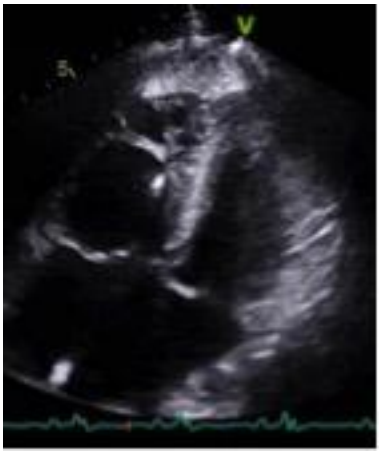

Image 2