

Broken Heart: A Rare and Potentially Fatal Complication of Endomyocardial Biopsy

Maya Ignaszewski, MD^{1*} and Patrick Kohlitz, MD²

¹Cooper University Hospital, Camden, NJ, USA

²Department of Medicine, Cooper University Hospital, Camden, NJ, USA

*Corresponding author: Maya Ignaszewski, MD, Cardiology Fellow, Cooper University Hospital, Camden, NJ, USA, E-mail: mayaigna@gmail.com

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Abbreviations: EMB: Endomyocardial biopsy

Endomyocardial biopsy (EMB) is an established invasive procedure in which samples of myocardial tissue are obtained for both diagnostic and therapeutic purposes. Generally, it is used for cardiac allograft rejection surveillance and evaluation of restrictive and dilated cardiomyopathies [1]. Class I indications for performing EMB include unexplained new-onset heart failure of less than 2 weeks duration with hemodynamic compromise, unexplained new-onset heart failure of 2 weeks to 3 months duration with dilated left ventricle and new ventricular arrhythmias or conduction disturbances [2]. However, the role of EMB in diagnosis of infiltrative cardiac disease remains controversial and must be approached on a case-by-case basis. Ultimately, indications largely depend on instances when the anticipated prognostic and diagnostic yield outweighs the procedural risk.

We present a 62-year-old female with past medical history of Hodgkin's lymphoma, hypothyroidism and hypertension who presented with multiple syncopal episodes. Work-up revealed sinus bradycardia on electrocardiogram and a 4.7-second pause with complete heart block on Holter monitor. CT thorax showed enlarged right axillary lymph nodes and calcification within the right breast concerning for new metastatic spread of prior treated Hodgkin's lymphoma. Cardiac MRI revealed delayed enhancement at the junction of the apical septal and apical inferior segments, suspicious for sarcoidosis, metastasis or giant cell arteritis. EMB was performed for diagnostic evaluation and to help guide future treatment plan. This was complicated by right ventricle perforation and pericardial tamponade necessitating left thoracotomy with pericardiectomy, pericardiocentesis, manual cardiac massage and internal cardiac defibrillation. Hepatorrhaphy of a sustained left hepatic lobe laceration was performed and hema-glue was applied to the left ventricle, right ventricle and epicardial surfaces with subsequent vascular repair of the left internal mammary artery. The patient was eventually stabilized and made a full recovery. Unfortunately, EMB contained only extracardiac tissue and the patient was treated for presumptive sarcoidosis after underlying metastatic disease was ruled out via lymph node biopsy.

Life-threatening complications of EMB, which may include cardiac tamponade or right ventricular perforation, are postulated to

occur in less than 0.8% of cases [3-5]. According to a large retrospective study, EMB was complicated by cardiac tamponade requiring pericardiocentesis 0.12% of the time [4]. Although generally regarded as a safe procedure, our case highlights a clinical scenario in which the patient suffered a rare and near fatal event. When considering EMB, clinicians must be certain that the diagnostic and therapeutic benefits of this fundamental procedure outweigh the potentially catastrophic complications.

Conflict of Interest Disclosure

No conflicts of interest. No financial disclosures.

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