Title: Revisiting the Diagnostic Criteria of Constrictive Pericarditis

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Introduction: Constrictive pericarditis (CP) is a form of diastolic heart failure that arises from an inelastic pericardium inhibiting cardiac filling. Clinical presentation includes signs and symptoms consistent with hypervolemia and decreased cardiac output. It is classically associated with physical exam findings of pericardial knock and Kussmaul's sign. CP is a diagnosis of exclusion that requires extensive cardiac work-up as the definitive cure requires a pericardiectomy which holds a high mortality rate of 12% due to its invasive nature.

Case: 50 year old man with no pertinent prior medical/surgical history presented with chronic, productive cough of clear sputum, and dyspnea on exertion after contracting a pneumonia four months prior. Physical exam was significant for mild bilateral lower extremity edema, an occasional extra heart sound prior to diastole on auscultation, and jugular venous pressure (JVP) elevation upon inspiration as observed on point-of-care ultrasound. CT scan revealed large, bilateral pleural effusions, and a thoracentesis was performed. Pleural fluid studies were suggestive of a transudative process and negative for malignant cells. Pertinent cardiac imaging included septal bounce and moderate pericardial effusion on TTE, equalization of pressures in the left and right ventricular end-diastolic pressures on right heart catheterization, and borderline thickened pericardium on Cardiac MRI. He was discharged on colchicine for conservative management and sent to multidisciplinary clinic for further workup. Over the course of 3 months, he reaccumulated bilateral pleural effusions three times and, contrary to prior pleural studies, the latest appeared milky white and contained chylomicrons.

Discussion: Prior cardiac surgery and radiation therapy are common risk factors for constrictive pericarditis; however, most cases are considered idiopathic/viral. This patient's imaging and physical exam findings were suggestive of CP, and the preceding viral pneumonia could potentially be the inciting factor. The development of a chylothorax is also interesting as there have been case reports that attribute CP as a rare etiology. Identification of imaging and physical exam findings suggestive of CP should prompt clinicians to consider it on their differential while understanding that since it is a diagnosis of exclusion, it requires extensive work up due to the high mortality rate of a pericardiectomy.