Title: Cardiac Tamponade Unveiling Hodgkin Lymphoma: A Case Report of an Uncommon Presentation

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Cardiac tamponade is a pericardial syndrome characterized by impaired ventricular diastolic filling, leading to decreased cardiac output and potentially fatal obstructive shock. Studies show that malignancies account for up to 23% of cardiac tamponade cases. Among hematologic malignancies, non-Hodgkin lymphoma, Hodgkin's disease, and leukemia are common causes of cardiac involvement. Autopsy studies have shown that up to 24% of patients with malignant lymphoma have heart or pericardial involvement. Although pericardial effusions are common in lymphomas, cardiac tamponade itself is rare. We present a case of pericardial effusion with tamponade physiology secondary to Hodgkin lymphoma.

A 27-year-old male with a history of schizophrenia presented with progressive exertional dyspnea, frequent syncope, and early satiety. On physical examination, he was found to have tachycardia, bilateral lower extremity edema, and prominent axillary lymphadenopathy. An ECG showed electrical alternans, and a bedside ultrasound revealed a large pericardial effusion with right ventricular diastolic collapse. Emergent pericardiocentesis was performed, removing 1.5 liters of fluid. A biopsy of the right posterior cervical lymph node confirmed the diagnosis of Hodgkin lymphoma, mixed cellularity subtype, with EBV positivity. The patient began chemotherapy and was discharged with close follow-up.

When an effusion becomes hemodynamically significant, the definitive treatment is prompt evacuation of the pericardial fluid. Early recognition of this life-threatening condition is crucial. This case is unique due to the presence of electrical alternans, which occurs in only up to 10% of cardiac tamponade cases. This, coupled with the patient's syncope, was consistent with a hemodynamically significant effusion and prompted urgent intervention.

Electrical alternans refers to beat-to-beat oscillation in QRS amplitude caused by the heart swinging within a distended pericardial sac. This finding can be pivotal in the timely identification and management of large pericardial effusions, given its high specificity. This case underscores the importance of recognizing atypical presentations of tamponade, particularly in younger patients.