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# Title: Life-Saving POCUS: Diagnosing and Managing Pericardial Effusion in a Teen with Hodgkin Lymphoma

Introduction: Early identification and management of pericardial effusion are crucial, especially in young patients presenting with non-specific symptoms. This case report highlights the life-saving potential of bedside ultrasound in the emergency department (ED).

Case Presentation: A 16-year-old male with underlying psoriasis presented to the ED with a 4-month history of fever, cough, myalgia, and weight loss. On examination, he was noted to be normotensive, tachycardic with a low-grade temperature. The patient also had matted cervical lymph nodes with hepatosplenomegaly. Bedside Point-of-Care Ultrasound (POCUS) echocardiography showed pericardial effusion with a "dancing heart," raising suspicion of cardiac tamponade.

The ED team performed an ultrasound-guided pericardiocentesis, extracting hemoserous fluid. The sample was sent for further investigation. The patient was admitted to the medical ward and provisionally treated for pericardial effusion secondary to tuberculosis. Histopathology investigations confirmed a diagnosis of Hodgkin’s lymphoma.

Discussion: Classical Hodgkin's disease clinical signs include non-specific B symptoms and palpable lymphadenopathy. An unidentified fever may be the initial symptom of Hodgkin's lymphoma. The complication of pericardial effusion in Hodgkin's lymphoma is rare. It is brought on by metastasis-related venous or lymphatic blockage of the pericardial fluid. A patient is diagnosed with cardiac tamponade if the intrapericardial pressure is higher than the heart's filling pressures.

Over the past ten years, Point-of-Care Ultrasonography (POCUS) has grown in importance as a key component of the contemporary emergency room. In this instance, it has been helpful in diagnosing a pericardial effusion that is getting closer to cardiac tamponade by causing symptoms like diastolic collapse of the right ventricle. Additionally, it helped direct the pericardiocentesis, which saved the patient's life.

Conclusion: This case underscores the critical role of bedside ultrasound in the ED for promptly identifying pericardial effusion in patients presenting with tachycardia and vague symptoms. Bedside ultrasound not only aids in diagnosis but also assists in performing life-saving procedures. Emergency medicine practitioners should leverage POCUS to enhance diagnostic accuracy and procedural safety in critical cases.

Keywords: Bedside ultrasound, cardiac tamponade, pericardiocentesis

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