A 39-year-old gentleman presented with an acute cardiac tamponade secondary to a malignant sarcoma of the heart. He was admitted to a district general hospital 6 months earlier with a 2 L pericardial effusion. Cytological examination demonstrated a low background cellularity, with no malignant cells, and bacterial cultures were negative. He had a history of alcohol misuse with withdrawal seizures.

He was admitted with shortness of breath at rest, an elevated JVP and distant heart sounds on auscultation. Bedside echocardiogram demonstrated an 8 cm pericardial effusion causing external compression of the right atrium. Computed tomography suggested a large circumferential pericardial effusion that was compressing the cardiac structures (Panels A and B).

He underwent decompressive pericardiectomy but the drain eventually entered the RV when it failed to aspirate the radiologically suggested fluid; necessitating emergency surgery to remove the drain. On sternotomy an invasive cardiac tumour was found to have infiltrated through the pericardium with complete encasement of the heart. No differentiation could be made between heart muscle and tumour and therefore careful debulking of the tumour was performed to relieve the mechanical compression and to improve haemodynamics (Panel C). Histopathology confirmed an undifferentiated sarcoma comprising highly pleomorphic spindle-shaped tumour cells (Panel D).

Differentiation of an effusive constriction from a tumour with similar densities is extremely difficult on both CT and echocardiography. In non-emergent cases, one can proceed to cardiac MRI to aid in the differential diagnosis, but ultimately the management of such patients will be determined by the immediate clinical presentation.