

Pericardial Varices Secondary to Superior Vena Cava Obstruction

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CASE

A 28-year-old woman was admitted for investigation of general malaise, weight loss, and occasional dyspnoea. A comprehensive workup confirmed a diagnosis of Hodgkin's lymphoma, and she was commenced on the relevant treatment regimen. This involved the adriamycin (doxorubicin), bleomycin, vincristine, and dacarbazine regimen.

A computed tomography scan, performed initially for diagnosis and staging of her disease, revealed mediastinal lymphadenopathy with subsequent pressure effects on the superior vena cava (SVC). This resulted in collateral filling of the azygos system and the presence of linear areas of high attenuation along the lateral surface of the pericardium. These were consistent with enhancement of collateral pericardial veins (Figures 1–3).

In SVC obstruction, collateral circulation develops in superficial and deep systems. Thoraco-epigastric and intercostals veins comprise the superficial system, and regarding the deep system, there are four main channels of collateral vessels involved; the azygos, internal mammary, lateral thoracic, and vertebral venous pathways.¹

Pericardial collaterals occur as part of deep venous drainage of the thorax in response to occlusion of the SVC,² however, they are very rarely seen.

In such a case, alerting the physician is important before catheterization, which may result in catheter misplacement or perforation of a vessel.

Follow-up imaging has confirmed a satisfactory response to treatment.

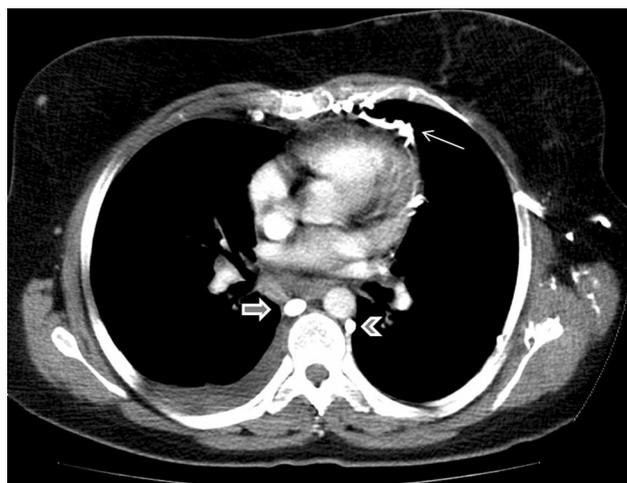


FIGURE 1. Axial scan at the base of the heart demonstrating left pericardiophrenic veins (thin arrow). Note enhancement of the azygos (thick arrow) and hemiazygos veins (arrowhead).

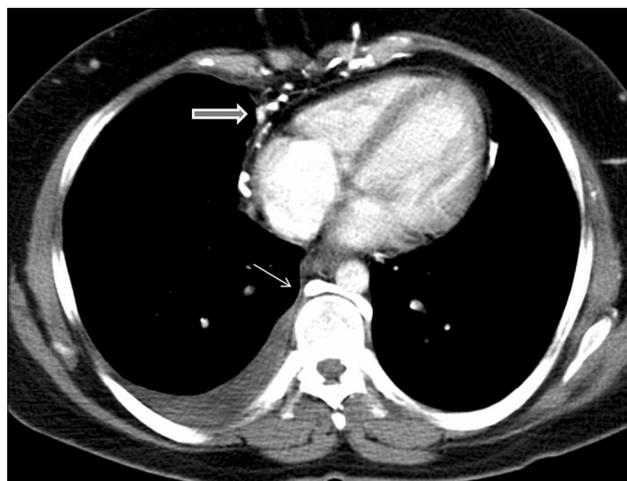


FIGURE 2. Axial scan demonstrates the right pericardiophrenic vein (thick arrow). Again, there is enhancement of the azygos (thin arrow) and hemiazygos system.

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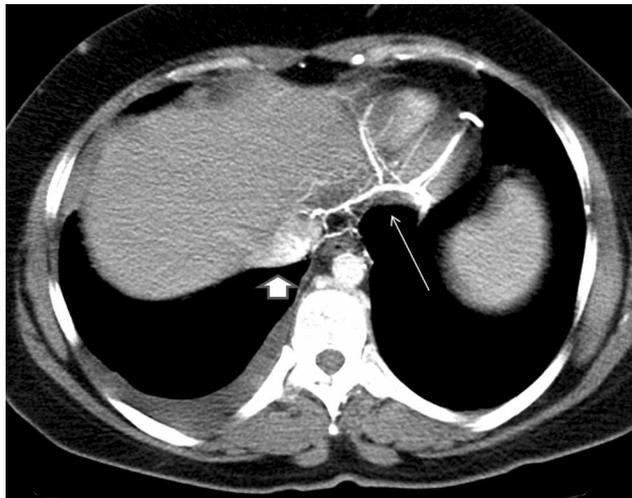


FIGURE 3. Axial scan at the dome of the liver demonstrates pericardial veins draining into the left inferior phrenic vein (thin arrow) and hence into the inferior vena cava (thick arrow).