Non cardiac fluid overload presenting as right ventricular failure secondary to malignant inferior vena cava compression

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Background

- Non-cardiac causes of fluid overload are associated with an elevated jugular venous pressure (JVP).
- In the elderly, consideration of heart failure is warranted.[1]
- Rarely, a large liver cyst, malignancy or thrombus may compress the inferior vena cava (IVC).[2,3]

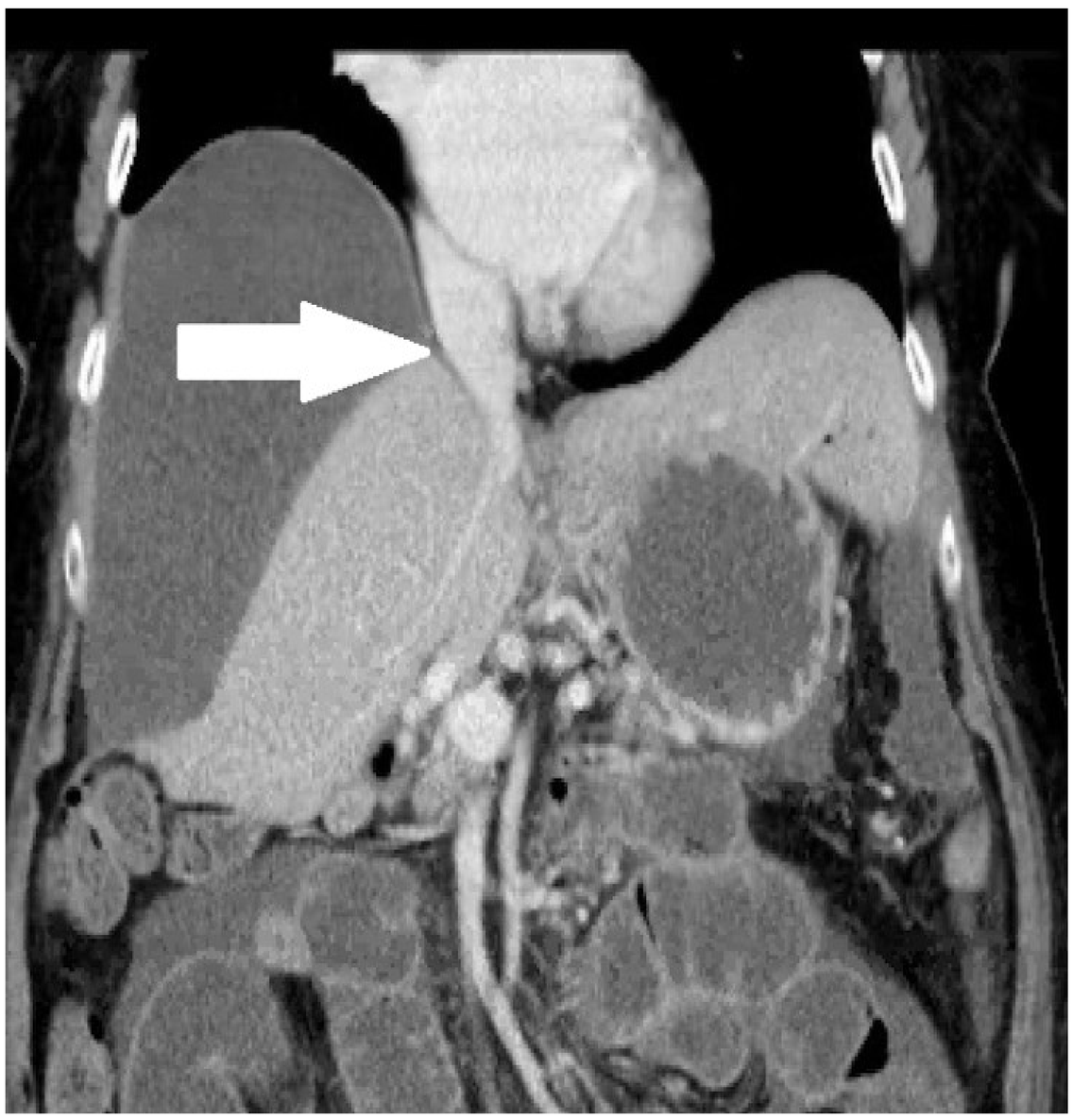

Figure 1 Massive malignant hepatic cyst causing compression of the inferior vena cava (white arrow)

Case Presentation

- An 84-year-old woman admitted five weeks post right total hip replacement, presented with gross pitting oedema present to the level of the lower chest.
- She described associated exertional dyspnoea but denied any additional cardiac or systemic symptoms.
- Examination demonstrated mild tachypnea and JVP elevated at +9 cm, with bilateral lower zone crackles on chest auscultation. Abdomen was soft, with mild right upper quadrant tenderness.
- Upon provisional diagnosis of heart failure, intravenous diuretic therapy was commenced.
- Initial investigations showed no ECG abnormalities, borderline elevated troponin T, and bilateral pleural effusions with mild elevation of the right hemidiaphragm on chest x-ray.
- Echocardiogram demonstrated mild diastolic dysfunction with preserved left ventricular function, and a small, hypovolemic IVC.
- Abdominal CT and ultrasound revealed a massive hepatic cyst with inferior vena caval compression (**Figure 1**). 1.4 L of hemorrhagic fluid was drained percutaneously from the cyst. Subsequent cytology revealed peritoneal malignancy.
- Diuresis resulted in weight loss of 14 kg and the gross oedema resolved. Chemotherapy was commenced.

Conclusion

- Clinicians should investigate for malignancy when identifying non-cardiac fluid overload, as early detection and immediate treatment may lead to improved outcomes.

References:
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