

Images in Medicine

Mediastinal haematoma: A rare complication of central venous catheter insertion

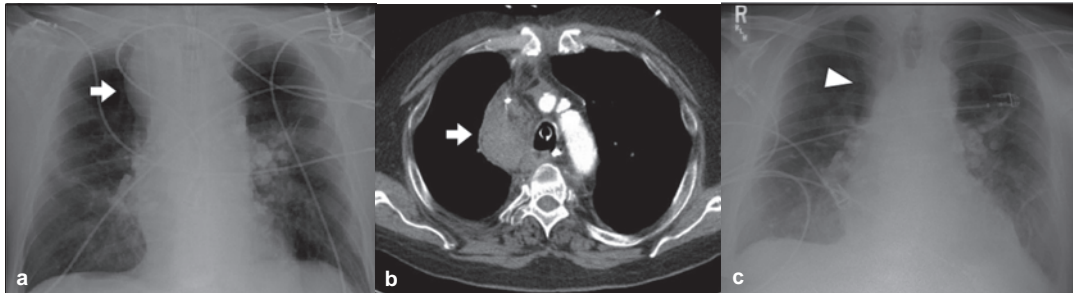


FIG 1. **a.** Anteroposterior chest X-ray at admission showing a nodular opacity near the superior vena cava (arrow); **b.** Computed tomography axial chest scan showing mediastinal haematoma along the right side of the trachea, inferior to the right subclavian vein (arrow); **c.** Anteroposterior chest X-ray at a subsequent admission showing resolution of the haematoma (arrowhead).

A 55-year-old man was referred to our centre. He presented to another facility with 2 days of increasing shortness of breath and productive cough. His past medical history included sarcoidosis, coronary artery disease status post coronary artery bypass grafting, atrial fibrillation and bronchomalacia status post-stenting of the right mainstem bronchus. He was on broad-spectrum antibiotics for possible pneumonia and had a central venous catheter (CVC) inserted, before transfer. No record of post-procedure imaging was available at admission. Due to his deteriorating respiratory status, he was intubated. A chest X-ray (CXR) obtained after the intubation showed a nodular density along the right heart border (Fig. 1a). A mediastinal haematoma was suspected. Computerized tomography (CT) scan of the chest revealed a 7.0×3.6 cm haematoma along the right side of the trachea, inferior to the right subclavian artery (Fig. 1b). Due to his haemodynamic stability, no intervention was done. Serial haemoglobin measurements remained stable. Follow-up CXR done 3 months later, showed resolution of the haematoma (Fig. 1c).

Up to 15% of patients who undergo CVC placements have complications. These may be mechanical, such as vessel injury, infections or thrombosis-related.¹ Mediastinal haematoma is a rare complication of CVC insertion. It is most commonly due to perforation of the subclavian vein by the guidewire or dilator. While some patients can be managed conservatively, others require placement of a chest tube, coil embolization of the injured artery and even thoracotomy.² An appropriate insertion technique, close post-procedure observation and a routine CXR after CVC insertion can help identify mediastinal haematoma and other complications due to the procedure.³

REFERENCES

- 1 Merrer J, De Jonghe B, Golliot F, Lefrant JY, Raffy B, Barre E, *et al.* Complications of femoral and subclavian venous catheterization in critically ill patients: A randomized controlled trial. *JAMA* 2001;**286**:700–7.
- 2 Gupta P, Guleria S, Sharma S. Mediastinal haematoma: A rare complication following insertion of central venous catheter. *Indian J Chest Dis Allied Sci* 2011;**53**:225–8.
- 3 McGee DC, Gould MK. Preventing complications of central venous catheterization. *N Engl J Med* 2003;**348**:1123–33.

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