

## Accidental central venous catheter placement in the dorsal scapular vein: A rare clinical image

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We report the case of a female patient admitted to the Intensive Care Unit (ICU) with pre-syncopal symptoms and frequent ventricular extrasystoles following recent orthopedic surgery for an ankle fracture complicated by cellulitis due to surgical wound infection. Fourteen days after hospital discharge, the patient was admitted for monitoring, and a central venous catheter (CVC) with three lumens, 60 cm in length (7 Fr) inserted in the antecubital region was placed with the intention of directing it toward the superior vena cava for the administration of fluids and antibiotics. A subsequent computed tomography (CT) angiography was performed to rule out pulmonary thromboembolism, with a negative

radiological report. On the third day, significant phlebitis of the left arm was observed, attributed to the CVC becoming lodged above the arm's flexural crease. A chest X-ray taken after the catheter insertion revealed that it did not follow the correct trajectory toward the superior vena cava; instead, it descended in an atypical descending course (**Figure 1**). A further review of the CT angiography confirmed that the catheter had deviated from its intended course and was positioned in the dorsal scapular vein (**Figures 2 and 3**).

The catheter was removed promptly, and a new CVC was successfully placed in the left subclavian vein.

**Keywords:** Central venous catheter, dorsal scapular vein, accidental placement, critical care, vascular anatomy, imaging techniques.

### Discussion

A possible explanation for this anomalous catheter course is that the initial cannulation may have inadvertently targeted the basilic vein of the left arm. This misplacement could have diverted the catheter from its intended path, leading it into the dorsal

scapular vein. Given the complex and variable anatomy of the thoracic veins, understanding such variations is crucial to ensure proper device placement. Advanced imaging techniques, particularly chest CT, play an essential role in confirming catheter position and ruling out complications such as thrombosis or vascular perforation.

In conclusion, the accidental placement of a CVC in the dorsal scapular vein is an extremely rare event that underscores the importance of meticulous anatomical evaluation and the use of advanced imaging techniques. Continuous training and adherence to strict procedural protocols are imperative to minimize associated risks and improve patient outcomes in critical care settings.

### Disclosure

The authors have declared that there were no conflicts of interest.

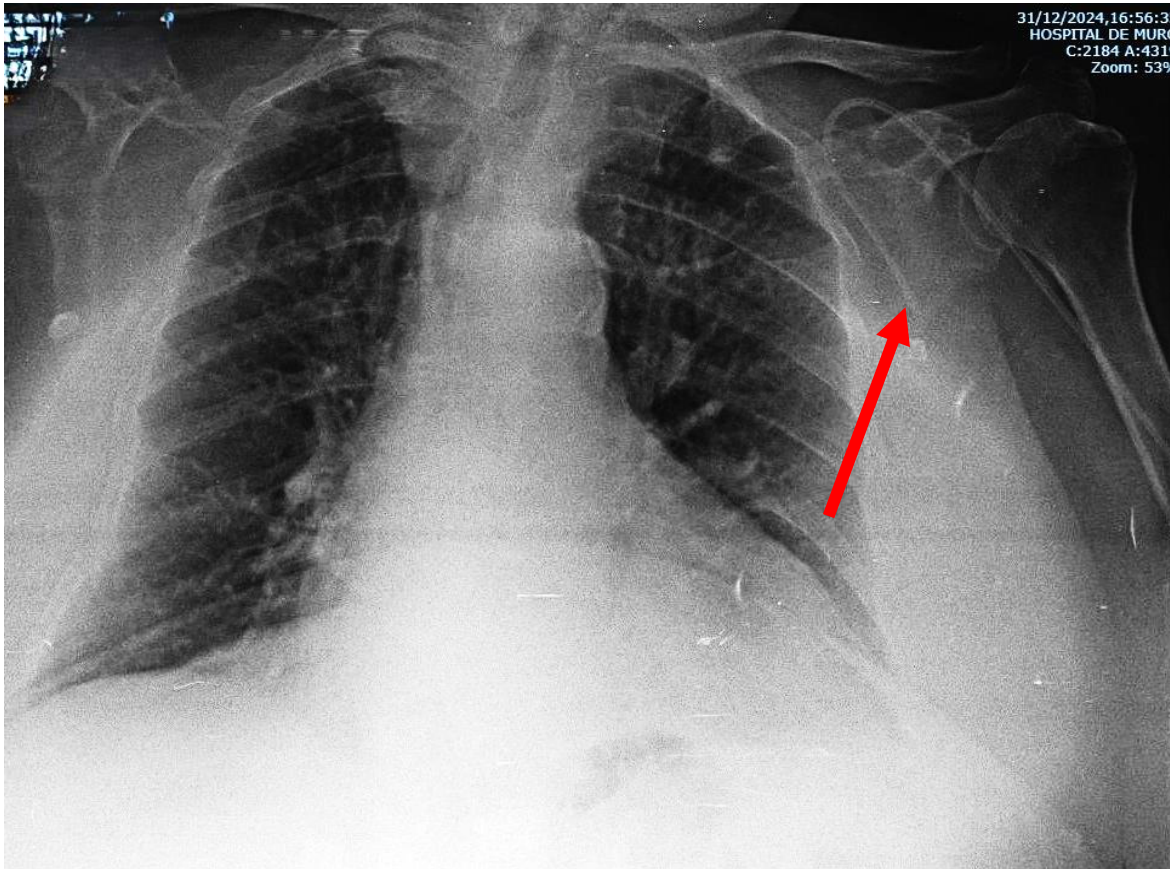
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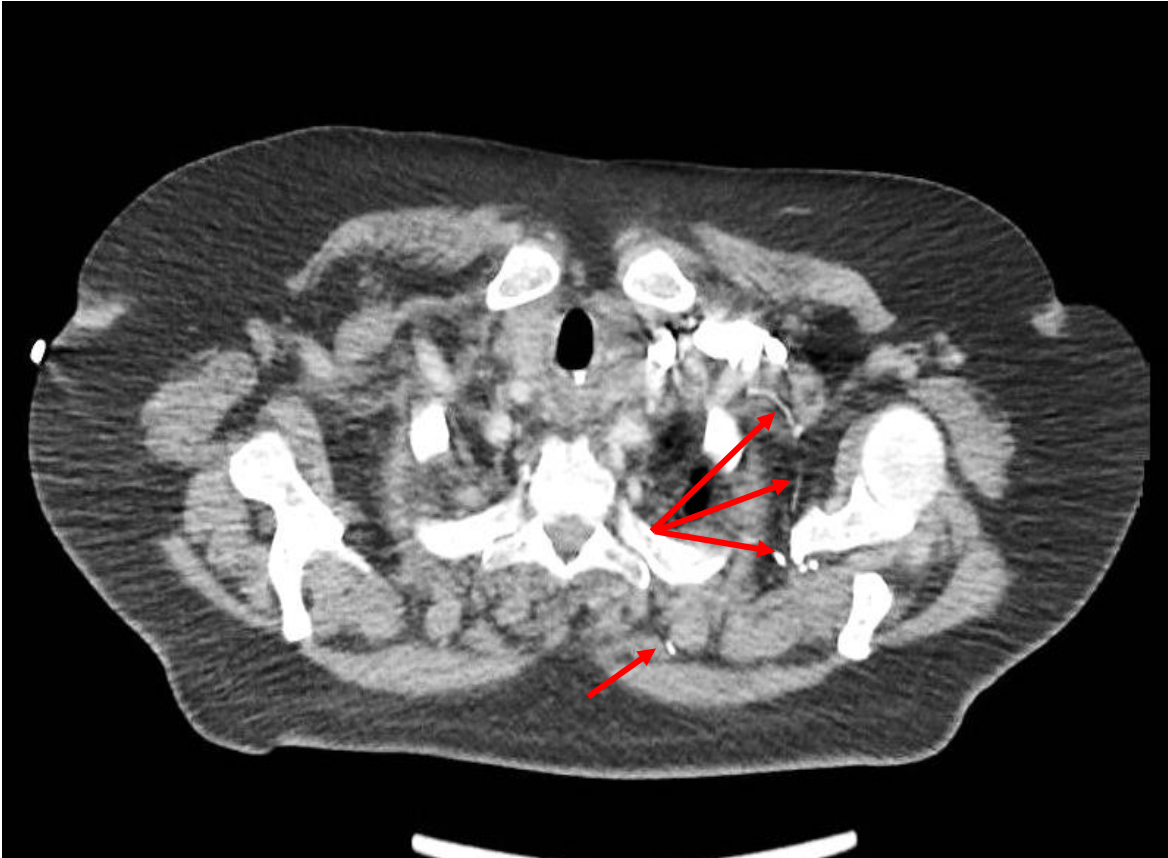
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**Figure 1.** Chest X-ray



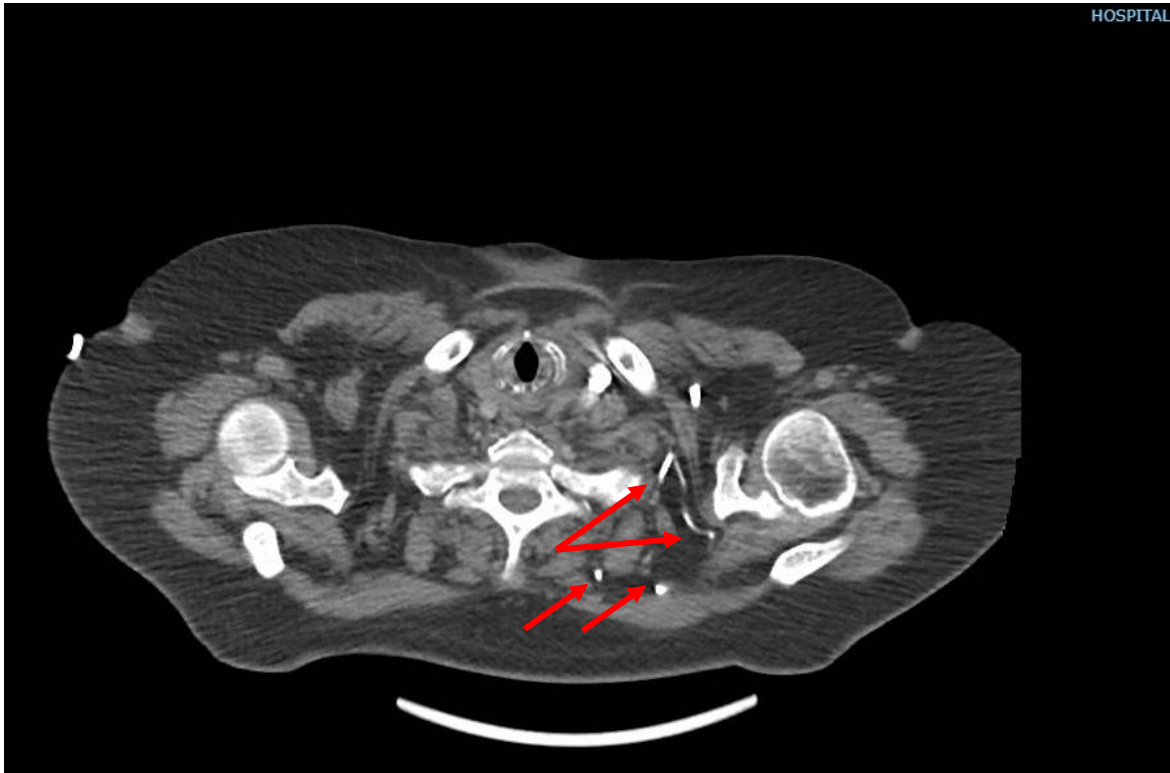
Legend: A chest X-ray taken after the catheter insertion revealed that it did not follow the correct trajectory toward the superior vena cava; instead, it descended in an atypical descending course.

**Figure 2.** Thorax angio-computed tomography



Legend: A further review of the computed tomography angiography confirmed that the catheter had deviated from its intended course and was positioned in the dorsal scapular vein.

**Figure 3.** Thorax angio-computed tomography



Legend: Another image of the angio-computed tomography of the catheter path.