Clinical Vignette

Central Venous Catheter Misdirection into the Azygos Arch

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An 80-year-old male with end-stage renal disease secondary to vascular nephropathy presented for further management at our unit. He was managed with hemodialysis via an arteriovenous fistula for 4 years. However, frequent shunt thrombosis had required repeated insertion of dialysis catheters (4 times via the right, and once via the left internal jugular vein). The patient was admitted for placement of a tunneled double lumen silicone catheter (Dual-Cath®, Hemotech SAS, Ramonville St Agne Cedex, France). The left internal jugular vein was punctured using the real-time ultrasound-guided technique. Although the operator noticed some mild resistance, the guidewire was advanced without significant difficulty. After insertion, the patient complained of left-sided back pain that was intensified by flushing the catheter with saline solution. Posteroanterior chest radiograph (Panel A) suggested catheter malposition, and a lateral view (Panel B) definitely disclosed catheter tip positioning in the azygos arch.

Under ultrasound guidance, a femoral venous approach was used to reposition the catheter. Replacement into the superior vena cava was done with a 5-Fr sidewinder catheter which was hooked over the misplaced central venous catheter. Radioscopy showed a correctly positioned catheter (Panel C). Following successful repositioning of the central catheter, no further complications were observed.

Azygos arch cannulation is a rare and hazardous event [1,2]. The risk for this complication is increased if catheters are inserted in left-sided veins.

REFERENCES


Panel A. Posteroanterior chest radiography shows the position of the misplaced catheter (arrow) in the azygos arch.

Panel B. Chest radiography: lateral view confirms the position of the catheter tip (arrows) in the azygos arch.
Panel C. Radioscopic guidance following the repositioning procedure shows a correctly positioned catheter.