



Catheter Dysfunction in a Child: Recognizing Pinch-off Syndrome

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Clinical image

Pinch-Off Syndrome (POS) is a rare complication of Central Venous Catheter (CVC) placement, specifically associated with the subclavian approach. It occurs due to mechanical compression of the catheter between the clavicle and the first rib, causing deformation, narrowing, or transection, with risks of embolization. The “pinch-off sign” on chest X-ray, graded by Hinke’s scale, aids in diagnosis. Symptoms include positional flow resistance and catheter dysfunction. Prevention involves lateral insertion or internal jugular vein use.

A 13-year-old girl with relapsed B-cell acute lymphoblastic leukemia, and a history of multiple CVC placements in different locations, presented with catheter flow resistance. Chest X-ray revealed Grade 2 luminal narrowing, consistent with pinch-off syndrome—a complication of subclavian catheter placement. Prior chest X-rays, including one taken a week before symptom onset and at CVC placement, showed no abnormalities. The



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catheter was successfully removed and replaced in the internal jugular vein without complications. This highlights the importance of recognizing early radiographic signs of POS to prevent more severe complications, such as catheter fracture and embolization.

Author declarations

Conflict of interest

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