

The Effectivity of Intraprocedure Brachiocephalic Vein Scanning to Prevent Central Venous Catheter (CVC) Misplacement through Axillary Cannulation

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BACKGROUND

You Axillary vein becomes a good alternative site for central venous catheter (CVC) insertion, but the axillary approach may have a risk of misplacement into the Internal Jugular Vein (IJV).

OBJECTIVES

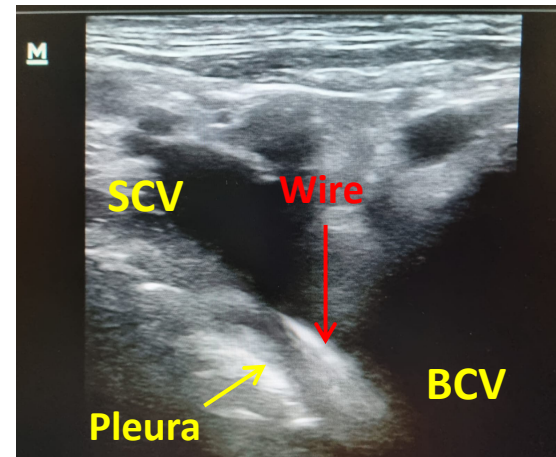
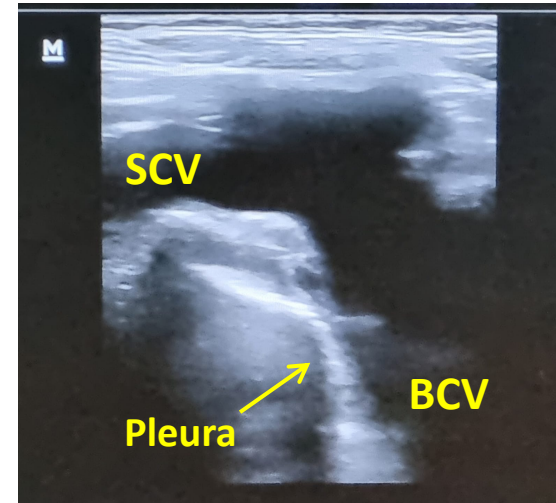
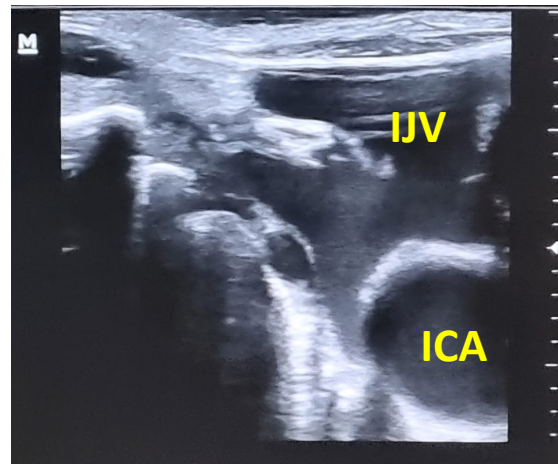
This study aims to evaluate the effectivity of brachiocephalic vein scanning to prevent CVC misplacement.

METHODS

- Retrospective study at Critical Care Premier Bintaro Hospital, Indonesia (July – December 2023)
- Insertion CVC conducted by intensivist using US
- Inclusion criteria: ≥ 18 y.o, insertion through axillary and had BCV scanning US during procedure.
- Catheter tip position determined by CXR

RESULTS

A total of 89 patients had axillary approach for CVC placement, there are 81 patients had post-procedure chest X-ray data available. Brachiocephalic vein scanning was performed in 50 patients, with 1 case of non-visualization of the wire. In 4 cases, the wire was directed towards the IJV, prompting the need for wire twisting to redirect it towards the brachiocephalic vein. Two of these cases had to be reinserted on the contralateral site. Among the 46 cases with visualized wires in the brachiocephalic vein, all showed a central position on chest X-ray images.



CONCLUSIONS

Brachiocephalic vein scanning is highly effective in determining the central position of a CVC. However, there are several technical issues that can hinder the performance of brachiocephalic vein scanning.

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