

CVC placement was confirmed via plain radiography of the chest Even a flexible guidewire can penetrate the IJV at posterior wall if a puncture needle tip is positioned near the posterior wall Longitudinal ultrasonographic imaging of guidewires can help physicians avoid misplacing dilators” Yamasaki et al (2017).

Abstract:

A 58-year-old man (height, 160.5 cm; weight 46.7 kg) underwent partial esophagectomy under general anesthesia. A resident anesthesiologist punctured the right internal jugular vein (IJV) (20 mm wide, 4.7-7.6 mm long antero-posteriorly, and 7.6 mm deep) with a 22-gauge metal puncture needle under ultrasonographic guidance to secure a central venous catheter (CVC) after surgery under artificial respiration. After obtaining venous blood return without an ultrasonographic image of the needle tip inside the IJV, the anesthesiologist advanced a flexible straight-type guidewire into the IJV without resistance. Longitudinal ultrasonography of the guidewire outside the IJV indicated extravasation. After withdrawing the guidewire, the anesthesiologist re-punctured the IJV. After obtaining blood return with two-echo enhancement inside the IJV, indicating the needle tip, the anesthesiologist advanced the guidewire without resistance and ultrasonographically confirmed the course of the guidewire inside the IJV along the posterior wall. CVC placement was confirmed via plain radiography of the chest Even a flexible guidewire can penetrate the IJV at posterior wall if a puncture needle tip is positioned near the posterior wall Longitudinal ultrasonographic imaging of guidewires can help physicians avoid misplacing dilators.

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Reference:

Yamasaki, R. and Kayashima, K. (2017) Longitudinal Ultrasonography Detected a Guidewire Outside the Internal Jugular Vein Left during Adult Central Venous Catheter Placement. *Masui*. 66(4), p.420-423.