

Central venous catheter (CVC) insertion is difficult to perform and is a high-risk operation; ultrasound (US)-guided cannulation helps increase the odds of success while reducing the associated complications” Xia et al (2018).

Abstract:

Central venous catheter (CVC) insertion is difficult to perform and is a high-risk operation; ultrasound (US)-guided cannulation helps increase the odds of success while reducing the associated complications. The internal jugular vein (IJV) and subclavian vein (SCV) are the most commonly sites in US-guided CVC insertion. In the present study, we evaluated the safety and efficacy of US-guided supraclavicular right brachiocephalic vein (BCV) cannulations in adult patients. Between January 2016 and December 2017, 428 adult patients requiring 536 CVC insertions underwent ultrasound-guided right BCV cannulation. The success rate and complications related to indwelling catheters were analyzed. The technical success rate was 98.32% (527/536). The procedure was successful at the first try in 511 cases (95.34%). The mean operation time was 13.26 ± 3.34 minutes. The mean length of catheter introduction was 13.57 ± 3.53 cm. Incidence of intraoperative complications was 2.61%. For 3 patients, the procedure was terminated due to pneumothorax (PNX), and in 11 arterial punctures there were self-limiting hematomas. The incidence of postprocedure complications was 5.97% (32/536). These complications included catheter-related infections ($n=18$) and thromboses ($n=14$). Insertion lasted an average of 10.68 ± 8.77 days. Supraclavicular, in-plane, US-guided cannulation of the right BCV is an effective and safe method for inserting central venous catheters in adult patients. It provides another option for catheter access to boost clinical performance in central venous catheterization.

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Reference:

Xia, R., Sun, X., Bai, X., Zhou, Y., Shi, J., Jin, Y. and Chen, Q. (2018) Efficacy and safety of ultrasound-guided cannulation via the right brachiocephalic vein in adult patients. *Medicine*. 97(50), p.e13661.

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