We explored the feasibility of an ultrasound-guided right subclavian vein (RScV) CVC tip positioning via a right supraclavicular approach using a microconvex probe” Kim et al (2016).

Abstract:

PURPOSE: The ultrasound-guided central venous catheter (CVC) guidewire tip positioning has been demonstrated for catheterization of the right internal jugular vein. We explored the feasibility of an ultrasound-guided right subclavian vein (RScV) CVC tip positioning via a right supraclavicular approach using a microconvex probe.

METHODS: Twenty patients scheduled for elective surgery were consecutively included in this observational feasibility study following written informed consent. Exclusion criteria were emergency procedure, thrombosis and obstacle to guidewire advancement. Following an ultrasound pre-scan of the superior vena cava (SVC), the RScV and the right pulmonary artery (RPA) via the right supraclavicular fossa view, a sterile ultrasound-guided venipuncture was performed. The guidewire J-tip was advanced to the distal SVC with subsequent introduction of the CVC. The final CVC tip position was confirmed with ultrasound and postoperative chest radiograph.

RESULTS: In all patients, SVC, RScV and RPA were visualized in the pre-scan. Guidewire positioning and final ultrasound CVC tip confirmation in the distal SVC was successful in all patients. In two patients, needle insertion of the RScV failed and insertion site was converted to a right internal jugular vein insertion. No misplacement, arterial puncture, pneumo- or hematotherax occurred. Time for pre-scan to venipuncture was 9 min 25 sec ± 5 min 24 sec and 1 min 05 sec ± 59 sec from venipuncture until guidewire positioning (mean ± SD, n = 18).

CONCLUSIONS: Ultrasound-guided CVC tip confirmation following catheterization of the right subclavian vein via a right supraclavicular approach with a microconvex probe is feasible.
Reference:


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