

This is the first trial to investigate the effects of the ipsilateral tilt position on right SCV catheterization” Jung et al (2018).

Abstract:

BACKGROUND: The cross-sectional area of the subclavian vein (csSCV) is an important factor determining the success rate of SCV catheterization. The head-down position increases the csSCV. However, the effects of lateral tilting on subclavian venous cross-sectional area have not yet been explored. In this trial, we test our hypothesis that ipsilateral tilt during right SCV catheterization may significantly increase the csSCV by impeding blood flow to the heart, thereby increasing the primary venipuncture success rate and reducing the complication rate and procedure time.

METHODS/DESIGN: This is a two-staged, prospective, randomized, controlled trial conducted on 237 neurosurgical patients requiring SCV catheterization. Seventeen patients in stage I will be placed in supine, 20° ipsilateral tilt, and 20° contralateral tilt positions in random order. The right csSCV will be measured using ultrasonography at each position. In stage II, 220 patients will be randomly assigned to the ipsilateral tilt group (n = 110) and supine group (n = 110) according to the position for right SCV catheterization. Data on catheterization-related characteristics and complications will be collected during and after catheterization. The primary outcome measures are the right csSCV for stage I and primary venipuncture success rate for stage II. The secondary outcome measures for stage II are time to venipuncture, total catheterization time, first-pass success rate, and complications, such as arterial puncture, hematoma, pneumothorax, air embolism, and catheter misplacement.

DISCUSSION: This is the first trial to investigate the effects of the ipsilateral tilt position on right SCV catheterization. We will attest the beneficial effects of the ipsilateral tilt position on the csSCV and the primary venipuncture success rate during right SCV catheterization. Furthermore, comparisons of the first-pass success rate, complications, and total catheterization time during SCV catheterization in the ipsilateral tilt position vs. the supine position will help us determine which position is better for safe and easy SCV catheterization.

TRIAL REGISTRATION: ClinicalTrials.gov, ID: NCT03296735 . Registered on 25 September 2017 for stage I; NCT03303274 Registered on 6 October 2017 for stage II.

Full Text

Reference:

Jung, D.E., Lee, H.C., Yoon, H.K. and Park, H.P. (2018) The effects of ipsilateral tilt position on right subclavian venous catheterization: study protocol for a prospective randomized trial. *Trials*. 19(1), p.292.

doi: 10.1186/s13063-018-2666-8.