



Results demonstrated that the complication rates of IJV and SCV catheterizations using US are very low, showing no superiority of the SCV approach compared to the IJV” Shin et al (2019).

Abstract:

PURPOSE: The use of real-time ultrasound (US) has been shown to reduce complications of central venous (CV) catheterization. However, complication rates have not been compared according to insertion points for CV catheterization using US. Accordingly, this study aimed to compare the complication rates of internal jugular vein (IJV) with those of subclavian vein (SCV) catheterization.

METHODS: Three tertiary academic hospitals in South Korea participated in this multicenter, randomized study. A total of 1484 patients were preoperatively randomized into two groups. The IJV group (n = 742) was cannulated via the right IJV, and the SCV group (n = 742) was cannulated via the right SCV under US guidance. The primary outcome measure was total complication rate. Secondary outcomes included access time for the first attempt, number of attempts, and catheter position.

RESULTS: The total complication rate did not demonstrate a significant difference between the IJV (0.1%) and SCV (0.7%) groups (P = 0.248). In the IJV group, arterial puncture occurred in 0.1% of patients; in the SCV group, arterial puncture occurred in 0.6% and pneumothorax in 0.1%. The success rate on the first attempt was significantly higher in the IJV group

(98.4%) than in the SCV group (95.9%) ($P = 0.004$). The access time for the first attempt ($P < 0.001$) and the median number of attempts ($P = 0.006$) were significantly lower in the IJV group than in the SCV group. More catheter misplacements were observed in the SCV group (5.9%) than in the IJV group (0.4%) ($P < 0.001$). CONCLUSION: Results demonstrated that the complication rates of IJV and SCV catheterizations using US are very low, showing no superiority of the SCV approach compared to the IJV.

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Reference:

Shin, H.J., Na, H.S., Koh, W.U., Ro, Y.J., Lee, J.M., Choi, Y.J., Park, S. and Kim, J.H. (2019) Complications in internal jugular vs subclavian ultrasound-guided central venous catheterization: a comparative randomized trial. *Intensive Care Medicine*. May 29th. doi: 10.1007/s00134-019-05651-9. .

