



A meta-analysis was undertaken to compare the internal jugular vein (IJV) with the subclavian vein (SCV) as the percutaneous access site for TIVAD to determine whether IJV has any advantages” Wu et al (2016).

Abstract:

BACKGROUND: A totally implantable venous access device (TIVAD) provides reliable, long-term vascular access and improves patients’ quality of life. The wide use of TIVADs is associated with important complications. A meta-analysis was undertaken to compare the internal jugular vein (IJV) with the subclavian vein (SCV) as the percutaneous access site for TIVAD to determine whether IJV has any advantages.

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METHODS: All randomized controlled trials (RCTs) and cohort studies assessing the two access sites, IJV and SCV, were retrieved from PubMed, Web of Science, Embase, and OVID EMB Reviews from their inception to December 2015. Random-effects models were used in all analyses. The endpoints evaluated included TIVAD-related infections, catheter-related thrombotic complications, and major mechanical complications.

RESULTS: Twelve studies including 3905 patients published between 2008 and 2015, were included. Our meta-analysis showed that incidences of TIVAD-related infections (odds ratio 0.71, 95 % confidence interval 0.48-1.04, $P = 0.081$) and catheter-related thrombotic complications (OR 0.76, 95 % CI 0.38-1.51, $P = 0.433$) were not significantly different between the two groups. However, compared with SCV, IJV was associated with reduced risks of total major mechanical complications (OR 0.38, 95 % CI 0.24-0.61, $P < 0.001$). More specifically, catheter dislocation (OR 0.43, 95 % CI 0.22-0.84, $P = 0.013$) and malfunction (OR 0.42, 95 % CI 0.28-0.62, $P < 0.001$) were more prevalent in the SCV than in the IJV group; however, the risk of catheter fracture (OR 0.47, 95 % CI 0.21-1.05, $P = 0.065$) were not significantly different between the two groups. Sensitivity analyses using fixed-effects models showed a decreased risk of catheter fracture in the IJV group.

CONCLUSION: The IJV seems to be a safer alternative to the SCV with lower risks of total major mechanical complications, catheter dislocation, and malfunction. However, a large-scale and well-designed RCT comparing the complications of each access site is warranted before the IJV site can be unequivocally recommended as a first choice for percutaneous implantation of a TIVAD.

Reference:

Wu, S., Huang, J., Jiang, Z., Huang, Z., Ouyang, H., Deng, L., Lin, W., Guo, J. and Zeng, W. (2016) Internal jugular vein versus subclavian vein as the percutaneous insertion site for totally implantable venous access devices: a meta-analysis of comparative studies. *BMC Cancer*. 16(1), p.747.

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