



We aimed to investigate whether variability in the direction of the LIJV/brachiocephalic vein (BV) axis on the frontal plane could be a decisive factor in determining CVC dysfunctions” Granata et al (2017).

Abstract:

BACKGROUND: Internal jugular vein cannulation has become increasingly widespread. Compared to the left internal jugular vein (LIJV), the right internal jugular vein (RIJV) is the preferred choice for the placement of central venous catheter (CVC) for hemodialysis, mostly due to the major technical difficulties and higher rate of complications of the LIJV approach. We aimed to investigate whether variability in the direction of the LIJV/brachiocephalic vein (BV) axis on the frontal plane could be a decisive factor in determining CVC dysfunctions.

METHODS: Retrospective cohort study. From our Register, a total of 1489 consecutive patients (age 69 ± 9 years, males 60%) in whom a CVC for hemodialysis was placed from January 2012 to June 2014 were selected.

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RESULTS: LIJV cannulation, compared with RIJV, was associated with a higher rate of catheter

dysfunction during an observational period of 2 weeks after catheter placement (16 vs.12%; $p = 0.005$). This complication was strongly correlated with the amplitude of the angle between the LIJV and the ipsilateral BV axis on the frontal plane; an angle $\leq 110^\circ$ was associated with a higher rate of catheter dysfunction (78 vs.16%; $p < 0.001$).

CONCLUSIONS: The anatomical clarification presented in our study provides useful data that could explain the dysfunction rate of CVC inserted in the LIJV. Clinicians who insert high-flow catheters (such as hemodialysis catheters) should be aware of LIJV/BV axis variability and of the possible risks of CVC dysfunction when the angle between the LIJV and ipsilateral BV is $\leq 110^\circ$.

Reference:

Granata, A., Zanolli, L., Trezzi, M., Londrino, F., Basile, A., Fiorini, F., Ricciardi, B. and Di Nicolò, P. (2017) Anatomical variations of the left anonymous trunk are associated with central venous catheter dysfunction. *Journal of Nephrology*. December 21st. .

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