

To compare internal jugular vein and subclavian vein access for central venous catheterization in terms of success rate and complications” amkiran Firat et al (2016).

Abstract:

OBJECTIVES: To compare internal jugular vein and subclavian vein access for central venous catheterization in terms of success rate and complications.

ReTweet if useful... Comparison of internal jugular and subclavian central venous access
[@ivteam #ivteam](http://ctt.ec/CqNIS+)

Click To Tweet

DESIGN: A 1:1 randomized controlled trial.

SETTING: Baskent University Medical Center.

PATIENTS: Pediatric patients scheduled for cardiac surgery.

INTERVENTIONS: Two hundred and eighty children undergoing central venous catheterization were randomly allocated to the internal jugular vein or subclavian vein group during a period of 18 months.

MEASUREMENTS AND MAIN RESULTS: The primary outcome was the first-attempt success rate of central venous catheterization through either approach. The secondary outcomes were the rates of infectious and mechanical complications. The central venous catheterization success rate at the first attempt was not significantly different between the subclavian vein (69%) and internal jugular vein (64%) groups ($p = 0.448$). However, the overall success rate was significantly higher through the subclavian vein (91%) than the internal jugular vein (82%) ($p = 0.037$). The overall frequency of mechanical complications was not significantly different between the internal jugular vein (25%) and subclavian vein (31%) ($p = 0.456$). However, the rate of arterial puncture was significantly higher with internal jugular vein (8% vs 2%; $p = 0.03$) and that of catheter malposition was significantly higher with subclavian vein (17% vs 1%; $p < 0.001$). The rates per 1,000 catheter days for both positive catheter-tip cultures (26.1% vs 3.6%; $p < 0.001$) and central-line bloodstream

infection (6.9 vs 0; $p < 0.001$) were significantly higher with internal jugular vein. There were no significant differences between the groups in the length of ICU and hospital stays or in-hospital mortality rates ($p > 0.05$ for all).

CONCLUSIONS: Central venous catheterization through the internal jugular vein and subclavian vein was not significantly different in terms of success at the first attempt. Although the types of mechanical complications were different, the overall rate was similar between internal jugular vein and subclavian vein access. The risk of infectious complications was significantly higher with internal jugular vein access.

Reference:

Camkiran Firat, A., Zeyneloglu, P., Ozkan, M. and Pirat, A. (2016) A Randomized Controlled Comparison of the Internal Jugular Vein and the Subclavian Vein as Access Sites for Central Venous Catheterization in Pediatric Cardiac Surgery. *Pediatric Critical Care Medicine*. July 28th. .

DOI: 10.1097/PCC.0000000000000878

Thank you to our partners for supporting IVTEAM