



Goal of study was to test formulas for catheterizations of internal jugular veins (IJVs) in a population of different body height classes with correct CVC tip positions” Struck et al (2015).

Abstract:

Purpose: Whether formulas for prediction of central venous catheter (CVC) insertion depths have different applicability in patients with different body heights is not known. Goal of study was to test formulas for catheterizations of internal jugular veins (IJVs) in a population of different body height classes with correct CVC tip positions.

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Methods: Consecutive adult patients requiring CVC for cardiac surgery were enrolled and those with tip positions at the junction of the superior vena cava and the right atrium ± 1 cm underwent formula analysis. Precision of formula prediction was calculated for three classes of body height.

Results: Of the 635 included patients, 254 underwent right IJV catheterization and 381 underwent left IJV catheterization, respectively. Formula-guided approach for both right and left IJV CVC was more precise in patients with a body height of 170-180 cm compared with patients with a body height 180 cm (who required a more proximal insertion than predicted

by formula).

Conclusions: Independent from body height classes, all formulas calculated a relatively low likelihood of atrial positions but high risks of proximal mal-positioning. Thus, considering inter-individual differences of vascular anatomy and for safety reasons, formulas cannot be recommended.

Reference:

Struck, M.F., Schmidt, T., Winkler, B.E., Reinhart, K. and Schummer, W. (2015) Formulas for prediction of insertion depths of internal jugular vein catheters adjusted to body height categories. The Journal of Vascular Access. December 7th. .

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