

The appropriate depth of right internal jugular venous (RIJV) catheterization is still under debated. In this study, transesophageal echocardiography (TEE) is used to develop a prediction formula for fixed RIJV catheter depth” Ju et al (2019).

Abstract:

PURPOSE: The appropriate depth of right internal jugular venous (RIJV) catheterization is still under debated. In this study, transesophageal echocardiography (TEE) is used to develop a prediction formula for fixed RIJV catheter depth.

METHODS: Eighty patients with indications for intraoperative TEE and central line placement were enrolled. After intubation, a RIJV catheter was inserted via the middle approach using the Seldinger technique. When the J-tip of the guide wire appeared at the junction of the superior vena cava and the right atrium under TEE guidance, the guide wire was pulled back by approximately 2-3 cm, until its tip was out of the pericardial fold. This depth was regarded as the insertion depth of the central venous catheter. Body landmark distance was measured, and the prediction formula was generated.

RESULTS: The mean central line depth after TEE-guided placement was 15.1 ± 1.7 cm. The prediction formula developed is as follows: Insertion depth = $(\text{Height} \div 20) + (D \div 2)$, where D equals the distance from the insertion point to the sternal angle via the right sternoclavicular joint ($r = 0.595$, $r^2 = 0.354$, $P < 0.01$). **CONCLUSIONS:** TEE is an effective method for determining the appropriate insertion depth for an RIJV catheter. The prediction formula can be used as a reference for future RIJV catheterizations via the middle approach.

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Ju, H., Sun, X. and Feng, Y. (2019) Determination and prediction of the appropriate depth of right internal jugular vein catheterization via the middle approach in adults using transesophageal echocardiography. *Echocardiography*. July 9th. doi: 10.1111/echo.14416. .