

In this study, we aimed to compare area measurements using ultrasonography and efficiency of varying Trendelenburg degrees on the area measurements, for two different entry points used as internal jugular vein (IJV) cannulation points in newborns” Karaaslan et al (2018).

Abstract:

BACKGROUND: Recent guidelines from the National Institute for Clinical Excellence recommend the use of ultrasonography in the central venous catheterization of children. In this study, we aimed to compare area measurements using ultrasonography and efficiency of varying Trendelenburg degrees on the area measurements, for two different entry points used as internal jugular vein (IJV) cannulation points in newborns.

METHODS: Fifty-eight healthy newborns, weighing between 3000 and 3500 g, were recruited for this prospective study. Right IJV (RIJV) consecutive measurements were performed in three different Trendelenburg positions at 0°, 15°, and 30°, at two different entry points: The superior approach and an inferior approach. The landmark used in the superior approach was the top of the triangle formed by the two heads of the sternocleidomastoid muscle with the clavicle; while in the inferior approach, it was taken as the midpoint of the clavicle, as measured from the upper edge of the clavicle.

RESULTS: The cross-sectional area (CSA) of the RIJV was significantly increased when using the inferior approach, compared to that in the superior approach, in all Trendelenburg degrees, including the neutral position. Both 15° and 30° Trendelenburg positioning resulted in a significant increase in CSA, both in superior and inferior approaches, when compared to neutral positioning.

CONCLUSION: The use of 15° Trendelenburg positioning may have significant advantage for increasing the CSA when used with the inferior approach.

Reference:

Karaaslan, P., Darcın, K., Ormecı, T., Karakaya, M.A., Ince, A., Aslan, N.A. and Tastekın, A. (2018) Effects of varying entry points and trendelenburg positioning degrees in internal jugular vein area measurements of newborns. Nigerian Journal of Clinical Practice. 21(4), p.514-518.

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