

“This study aimed to compare the traditional landmark method vs. US-guided method of CVC placement in terms of complications and success rate” Karimi-Sari et al (2014).

Reference:

Karimi-Sari, H., Faraji, M., Mohazzab Torabi, S. and Asjodi, G. (2015) Success Rate and Complications of Internal Jugular Vein Catheterization With and Without Ultrasonography Guide. Nursing and Midwifery Studies. 3(4), p.e23204.

Success rate and complications of internal jugular vein catheterization http://ctt.ec/E_c2F+@ivteam #ivteam

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Abstract:

BACKGROUND: Central venous catheterization (CVC) is an important procedure in emergency departments (EDs). Despite existence of ultrasonography (US) devices in every ED, CVC is done using anatomical landmarks in many EDs in Iran.

OBJECTIVES: This study aimed to compare the traditional landmark method vs. US-guided method of CVC placement in terms of complications and success rate.

PATIENTS AND METHODS: In this randomized controlled trial, patients who were candidate for internal jugular vein catheterization, and referred to Baqiyatallah Hospital ED were randomly allocated into US-guided CVC and anatomical landmarks guided CVC groups. Central vein access time, number of attempts, success rate, and complications in each group were evaluated. Mann-Whitney U, chi-square and Fisher exact tests along with Pearson and Spearman correlation coefficients were used to analyze the data.

RESULTS: Out of 100 patients, 56 were male and 44 were female. No significant differences were found between the US-guided and traditional landmark methods of CVC insertion in terms of age, gender, BMI, and site of catheter insertion. The mean access time was significantly lower in the US-guided group (37.12 ± 17.33 s vs. 63.42 ± 35.19 s, $P < 0.001$). The mean number of attempts was also significantly lower in the US-guided group (1.12 ± 0.3 vs. 1.58 ± 0.64 times, $P < 0.001$). Eighty-eight percent of patients in the US-guided group were catheterized in the first attempt, while 50% of patients in the traditional landmark group were catheterized in the second or more attempts ($P < 0.001$). The success rate was 100% in the US-guided group, while it was 88% in the landmark group ($P = 0.013$).



Moreover, the rate of complications was significantly lower in the US-guided group (4% vs. 24%, $P = 0.004$).

CONCLUSIONS: The US-guided method for CVC placement was superior to the traditional landmark method in terms of access time, number of attempts, success rate, and fewer complications.

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