We aimed to compare two methods, using an electrocardiogram (ECG) or landmark as guides, for assessing correct depth of central venous catheter (CVC) placement” Barnwal et al (2016).

Abstract:

BACKGROUND AND AIMS: The complications of central venous catheterisation can be minimized by ensuring catheter tip placement just above the superior vena cava-right atrium junction. We aimed to compare two methods, using an electrocardiogram (ECG) or landmark as guides, for assessing correct depth of central venous catheter (CVC) placement.

METHODS: In a prospective randomised study of sixty patients of <12 years of age, thirty patients each were allotted randomly to two groups (ECG and landmark). After induction, central venous catheterisation was performed by either of the two techniques and position of CVC tip was compared in post-operative chest X-ray with respect to carina. Unpaired t-test was used for quantitative data and Chi-square test was used for qualitative data.

RESULTS: In ECG group, positions of CVC tip were above carina in 12, at carina in 9 and below carina in 9 patients. In landmark group, the positions of CVC tips were above carina in
10, at carina in 4 and below carina in 16 patients. Mean distance of CVC tip in ECG group was 0.34 ± 0.23 cm and 0.66 ± 0.35 cm in landmark group (P = 0.0001). Complications occurred in one patient in ECG group and in nine patients in landmark group (P = 0.0056).

CONCLUSION: Overall, landmark-guided technique was comparable with ECG technique. ECG-guided technique was more precise for CVC tip placement closer to carina. The incidence of complications was more in the landmark group.

Reference:


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