



intracavitary electrocardiogram (IC-ECG) guidance has been recently proposed for peripherally inserted central catheter (PICC) placement since it may reduce the time of placement and avoid radiological control” Santacruz et al (2018).

Abstract:

INTRODUCTION: intracavitary electrocardiogram (IC-ECG) guidance has been recently proposed for peripherally inserted central catheter (PICC) placement since it may reduce the time of placement and avoid radiological control.

OBJECTIVE: to evaluate IC-ECG compared to conventional radiological control. METHODS: prospective study of 532 consecutive patients. Those with arrhythmias or on antiarrhythmic drugs were excluded. In all cases, PICC tip placement was checked by IC-ECG guidance and by a chest X-ray, which was considered as the reference test.

RESULTS: PICC placement with IC-ECG guidance was achieved in 96.8% of patients (applicability). PICC correct placement according to IC-ECG guidance was confirmed by chest X-ray in 94% of patients (accuracy). In 13 patients (2.7%) the catheter had to be repositioned after radiological control. The κ concordance index was 0.356 ($p < 0.001$). The IC-ECG sensitivity was 0.98, with a PPV of 0.97 and a positive likelihood ratio of 1.5. However, the specificity was only 0.35 with a NPV of 0.41 and a negative likelihood ratio of 0.06.

CONCLUSION: PICC placement by IC-ECG guidance is plausible, safe, presents adequate

indexes of validity and reliability, and allows reducing the time of catheter placement. However, radiological verification is still necessary, especially in cases of negative or uncertain ECG.

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Reference:

Santacruz, E., Mateo-Lobo, R., Vega-Piñero, B., Riveiro, J., Lomba, G., Sabido, R., Carabaña, F. and Botella Carretero, J.I. (2018) Intracavitary electrocardiogram (IC-ECG) guidance for peripherally inserted central catheter (PICC) placement. *Nutrición Hospitalaria*. 35(5), p.1005-1008. .

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