This study aimed to clinically evaluate the effectiveness of an intracardiac ECG to guide the tip positioning by monitoring characteristic P-wave changes” Zhao et al (2015).

Abstract:

The use of peripherally inserted central catheters (PICCs) provides important central venous accesses for clinical treatments, tests and monitoring. Compared with the traditional methods, intracardiac electrocardiogram (ECG)-guided method has the potential to guide more accurate tip positioning of PICCs.

This study aimed to clinically evaluate the effectiveness of an intracardiac ECG to guide the tip positioning by monitoring characteristic P-wave changes. In this study, eligible patients enrolled September 2011 to May 2012 according to the inclusion and exclusion criteria received the catheterization monitored by intracardiac ECG. Then chest radiography was performed to check the catheter position. The results revealed that, with 117 eligible patients, all bar one patient who died (n = 116) completed the study, including 60 males and 56 females aged 51.2 ± 15.1 years. Most (n = 113, > 97%) had characteristic P-wave changes. The intracardiac ECG-guided positioning procedure achieved correct placement for 112 patients (96.56%), demonstrating 99.12% sensitivity and 100% specificity. In conclusion, the intracardiac ECG can be a promising technique to guide tip positioning of PICCs. However, since the sample size in this study is limited, more experience and further study during clinical practice are needed to demonstrate achievement of optimal catheterization outcomes.

Reference:

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