ECG control of catheter tip position during implantation of femoral venous port

ECG guidance is effective to assess catheter tip position during femoral port placement and avoids the need for radiological methods" Gibault et al (2015).

Reference:


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Abstract:

PURPOSE: Electrocardiographic (ECG) guidance has been shown to be as effective than fluoroscopy to position the tip of central venous devices close to the superior vena cava (SVC)-right atrium (RA) junction. When SVC access is contraindicated, a femoral access may be used. The aim of this prospective study is to evaluate the effectiveness of ECG guidance to position the tip of femoral ports at inferior vena cava (IVC)-RA junction.

METHODS: Inclusion criterion was the need for femoral port implantation. After insertion of the dilator in the femoral vein, the catheter with the guide wire inside was introduced and the ECG signal collected at the tip of the guide (Celsite™ ECG, B. Braun, Germany) or via saline
injected in the catheter (Nautilus™, Perouse, France). Fluoroscopy was performed at each change of the P-wave from IVC to RA. A final X-ray was performed after withdrawing the catheter 2 cm below the first P-wave change.

RESULTS: A total of 18 patients were included between December 2011 and June 2013. The P-wave was most often negative in IVC, biphasic when the catheter entered RA and giant and positive at the top of RA. When the catheter was withdrawn 2 cm below the first biphasic P-wave the tip was just below the IVC-RA junction in 17 patients. In one patient P-wave changes were not significant and the final position was adjusted under fluoroscopy.

CONCLUSIONS: ECG guidance is effective to assess catheter tip position during femoral port placement and avoids the need for radiological methods.

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