

Prospective study of comparison between intracavitary ECG and anthropometric measures during long-term venous access positioning in adult patients

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Argomento: Altro

Introduction

The use of the ultrasound for real-time venipuncture and the intracavitary ECG method for tip location, reduces the incidence of complications and the use of fluoroscopy. The primary objective of our study was to compare the intra-procedural control of the correct tip position performed with intracavitary ECG method with a post-procedural control method performed with chest radiography.

Materials and methods

140 patients candidates for totally implantable venous device placement were divided into 2 omogenous groups. In both groups an ultrasound guided venipuncture of the right axillary vein was performed in the subclavicular region, using a supraclavicular ultrasound window for tip navigation.

In group A, the correct position of the catheter tip was performed with intracavitary ECG method. In group B, the centimeter measurement from the puncture site to the middle third of the ipsilateral clavicle and then to the third space on the right parasternal line was performer; the catheter was positioned according to the length defined by each individual measurement.

Patients of both groups performed chest radiography and a single radiologist evaluated the position of the catheter tip based on the identification of radiologic anatomical findings proposed by Johnston et al. where the atrio-caval junction is identified 2 bodies vertebral under the lower edge of the carina.

Results

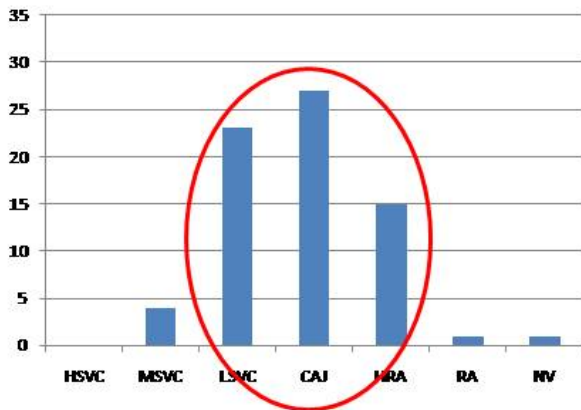
In the intracavitary ECG group the tip of the catheter was reported as correctly positioned in 65 cases out of 70 (92.8%), while in the anatomic landmarks group in 26 cases out of 70 (37.1%).

Discussion and conclusions

Our study confirmed the effectiveness of the intracavitary ECG method in guiding the correct localization of the catheter tip, reducing the incidence of primary malposition of the central venous catheters. It allows to avoid the execution of the post-procedural chest radiograph, it is easy to learn and to document in medical record.

Risultati

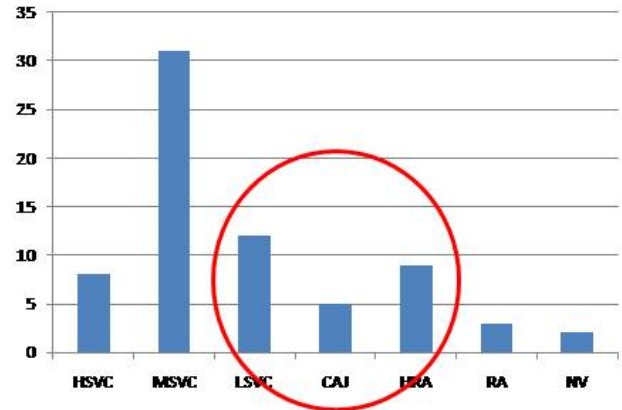
Gruppo A - ECG intracavitario



correttamente posizionato in
65 casi su 70

92.8%

Gruppo B - reperi anatomici



correttamente posizionato in
26 casi su 70

37.1%