



During the PICC placement in neonates, the use of ECG monitor to determine the position of catheter tip can improve the one-time success rate of placement and reduce the time spent on placement” Ling et al (2018).

Abstract:

OBJECTIVE: To study the efficiency of electrocardiogram (ECG) monitor for positioning the catheter tip in the placement of peripherally inserted central catheter (PICC) in neonates.

METHODS: A total of 160 neonates who were admitted to the neonatal intensive care unit (NICU) from January 2015 to December 2017 and underwent the PICC placement via the veins of upper extremity were enrolled. They were randomly divided into an observation group and a control group, with 80 neonates in each group. The neonates in the control group were given body surface measurement and postoperative X-ray localization, while those in the observation group were given body surface measurement, ECG localization, and postoperative X-ray localization. The two groups were compared in terms of general information, one-time success rate of PICC placement, and time spent on PICC placement.

RESULTS: There were no significant differences between the two groups in sex composition, gestational age, age in days at the time of PICC placement, disease type, and site of puncture ($P>0.05$). Compared with the control group, the observation group had a significantly higher one-time success rate of PICC placement (95% vs 79%; $P<0.05$) and a

significantly shorter time spent on PICC placement ($P < 0.05$). Localization under an ECG monitor during PICC placement had a sensitivity of 97% and a specificity of 100%.

CONCLUSIONS: During the PICC placement in neonates, the use of ECG monitor to determine the position of catheter tip can improve the one-time success rate of placement and reduce the time spent on placement.

Reference:

Ling, Q.Y., Chen, H., Tang, M., Qu, Y. and Tang, B.Z. (2018) Efficiency of electrocardiogram monitor for positioning the catheter tip in peripherally inserted central catheter placement in neonates. *Zhongguo Dang Dai Er Ke Za Zhi*. 20(5), p.363-367. .

