
Abstract:

It is not uncommon that the peripherally inserted central catheter (PICC) needs to be replaced either due to blockage or migration to a peripheral position. In such circumstances, there are two methods of PICC placement: new-site insertion and exchange by using the old PICC as a guide wire. Our objective was to investigate risk of infection associated with the exchange method. In this retrospective study, data on all PICC insertions in the neonatal intensive care unit in 2004 to 2008 were obtained. In the population who needed removal of existing PICC and insertion of a new one, we compared central line-associated bloodstream infection (CLABSI) within 1 week of insertion between the two insertion methods. Of 1148 PICC insertions reviewed, 164 (103 new-site and 61 exchange insertions) were performed after removal of a blocked/malpositioned PICC and therefore comprised the study population. The rate of CLABSI was higher in the exchange method (9.8% versus 1%, P < 0.007). After adjusting for the confounders, the odds for CLABSI within 7 days of PICC insertion was higher with the exchange method (odds ratio 25.2, 95% confidence interval: 2.17 to 292.98; P = 0.01). In infants, insertion of PICCs using the exchange method carries an increased risk of bloodstream infection.