
Abstract:

BACKGROUND: This study investigated whether removal of a percutaneously inserted central venous catheter (PICC) is compulsory in neonates with bloodstream infection (BSI), and also examined the risk factors for infectious complications when a PICC is retained in these patients.

METHODS: This was a cohort study of neonates with a PICC who developed a BSI between 2001 and 2007. BSI was defined according to Centers for Disease Control and Prevention criteria.

RESULTS: Of the 234 neonates in the cohort, 99 had early removal of PICC (ER-PICC, defined as removal within 3 days after the onset of clinical sepsis), and 135 had late removal of PICC (LR-PICC, defined as retention for more than 3 days after the onset of clinical sepsis). Resolution of clinical sepsis within 2 days was more frequent in the ER-PICC group compared with the LR-PICC group (80.8% vs 57.8%; P < .001). There was no significant difference between the 2 groups in terms of infectious complications and case fatalities, but the LR-PICC group had a significantly higher incidence of recurrence within 1 month after BSI (P = .002).
Inappropriate initial antibiotic treatment was the only variable independently associated with infectious complications (odds ratio, 11.4; 95% confidence interval, 3.34–39.2; P < .001).

CONCLUSIONS: PICCs should be removed in neonates with BSI, because retention of PICCs for more than 3 days is associated with delayed resolution of clinical sepsis and a higher incidence of recurrence within 1 month.