Abstract:

BACKGROUND: Infected percutaneously inserted central venous catheters (PICCs) are a problem in hospitalized patients, especially in the neonatal intensive care unit. The objective of this study was to assess the risk of infection and other PICC-associated complications in very low birth weight infants.

METHODS: Between January 2005 and December 2006, we studied 412 PICCs inserted in 267 neonates with a birth body weight 1500g. PICC-related bloodstream infections and other complications were recorded and analyzed.

RESULTS: These 412 PICCs were inserted for a mean duration of 16.6 ± 9.9 (SD) days. The most common catheter-related complications were catheter-related blood-stream infection (CRBSI; incidence: 8.3 per 1000 catheter days), followed by catheter occlusion (4.0 per 1000 catheter days), catheter site inflammation (3.5 per 1000 catheter days), and phlebitis (3.1 per 1000 catheter days). The most common pathogen of CRBSI was coagulase-negative staphylococcus (40.1%). Significant risk factors of CRBSI included catheters inserted at femoral sites (increased risk of CRBSI compared with nonfemoral catheters: 1.76; 95%
confidence interval, 1.01-3.07, p = 0.045) and a longer duration of PICC placement (p < 0.001). A low birth body weight and gestational age were not found to significantly affect the risk of CRBSI.

CONCLUSION: It is important to avoid inserting a PICC at the femoral site. Strict catheter care protocol should also be applied to reduce local site bacterial colonization and removal of PICCs as soon as they are no longer essential for patient care to reduce the incidence of infection.