
Abstract:

Objective: To compare the incidence of nonelective removal of single-lumen silicone and dual-lumen polyurethane percutaneously inserted central catheters (PICCs).

Study Design: A prospective cohort study was conducted with neonates in whom 247 PICC lines had been successfully inserted. Patients were assigned to either the single-lumen silicone group or the dual-lumen polyurethane group and nonelective removal incidence was compared using a logistic regression model.

Results: Incidence of nonelective removal in dual-lumen polyurethane PICCs (n = 91) was 48.3% versus 34% in single-lumen silicone PICCs (n = 156). Thus, dual-lumen polyurethane catheters had a significantly increased chance of nonelective removal compared with single-lumen silicone PICCs (P = .004). The most usual complication in dual-lumen polyurethane PICCs was suspected catheter-related bloodstream infection; in single-lumen silicone PICCs it was external rupture.

Conclusions: Dual-lumen polyurethane PICCs are associated with higher rates of nonelective removal and complications such as suspected catheter-related bloodstream infection. Cautious nursing care is necessary to prevent complications.

Other intravenous and vascular access resources that may be of interest (External links - IVTEAM has no responsibility for content).