The objective of this study was to conduct a prospective clinical trial evaluating the technical feasibility and short-term clinical outcome of the blind pushing technique for placement of pretrimmed peripherally inserted central catheters (PICCs) through brachial vein access” Lee et al (2017).

Abstract:

OBJECTIVE: The objective of this study was to conduct a prospective clinical trial evaluating the technical feasibility and short-term clinical outcome of the blind pushing technique for placement of pretrimmed peripherally inserted central catheters (PICCs) through brachial vein access.

METHODS: Patients requiring PICC placement at any of the three participating institutions were prospectively enrolled between January and December 2016. The review boards of all participating institutions approved this study, and informed consent was obtained from all patients. PICC placement was performed using the blind pushing technique and primary brachial vein access. The following data were collected from unified case report forms:
access vein, obstacles during PICC advancement, procedure time, and postprocedural complications.

RESULTS: During the 12-month study period, 1380 PICCs were placed in 1043 patients. Of these, 1092 PICCs placed in 837 patients were enrolled, with 834 PICCs (76%) and 258 PICCs (34%) placed through brachial vein and nonbrachial vein access, respectively. In both arms, obstacles were most commonly noted in the subclavian veins (n = 220) and axillary veins (n = 94). Successful puncture of the access vein was achieved at first try in 1028 PICCs (94%). The technical success rate was 99%, with 1055 PICCs (97%) placed within 120 seconds of procedure time and 1088 PICCs (99%) having the tip located at the ideal position. Follow-up Doppler ultrasound detected catheter-associated upper extremity deep venous thrombosis (UEDVT) for 18 PICCs in 16 patients and late symptomatic UEDVT for 16 PICCs in 16 patients (3.1%). Catheter-associated UEDVT was noted for 28 PICCs (82%) and 6 PICCs (18%) placed through brachial vein and nonbrachial vein access, respectively. The incidence of obstacles and the procedure time (<120 seconds) differed significantly between brachial vein and nonbrachial vein access (P = .001). There was no statistically significant difference between brachial vein and nonbrachial vein access in the incidence of UEDVT (odds ratio, 0.68; 95% confidence interval, 0.59-3.52; P = .22).

CONCLUSIONS: The placement of pretrimmed PICCs by the blind pushing technique and primary brachial vein access is technically feasible and may represent an alternative to the conventional PICC placement technique, having low incidences of UEDVT and other complications, with no significant difference in outcomes between brachial vein and nonbrachial vein access.

Reference:


Thank you to our partners for supporting IVTEAM
PICC placement technique and the incidence of upper extremity DVT