



Comparison between mini-midline and peripheral intravenous catheter in the reduction of venipuncture: a randomised controlled trial

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INTRODUCTION

Few studies have investigated the mini-midline (LPC) placement as a first choice without the use of ultrasound guidance in patients admitted to the emergency room. The aim of this study is to determine whether the proportions of patients who required a venipuncture after insertion of a peripheral intravenous catheter (PIVC) or LPC is different during hospital stay.

METHODS

Single-center, parallel arm, randomized controlled trial in a tertiary level hospital in Milan. From September to November 2023, adult patients with high probability of hospital admission and EA-DIVA score <8 at Emergency Room admission were enrolled in two different arms: LPC and PIVC. Written informed consent was obtained from patients or their legally representative.

RESULTS

A total of 285 patients were included in the final analysis: 9 were excluded from the LPC arm due to more than 3 attempts. The mean age (SD) was 70.4 (17.1) years, 172 (60.4%) were males. The catheter was successfully placed at the first attempt in 133/147 (90.5%) and 103/138 (74.6%) patients in the PIVC and LPC arms, respectively. The number of venipunctures required to blood draw after PIVC or LPC insertion was similar between groups: 123/147 (83.7%) and 121/138 (87.7%) respectively (4.95%CI: -4.1% to 12.1%) [p=0.332]. The main characteristics of the catheters are summarized in Table 1.

CONCLUSION

The number of patients requiring further venipunctures after insertion of PIVC or LPC was not different between study arms. Further analysis adjusting for important covariates is required to understand the role of LPC in clinical practice.

Table 1: Characteristics of catheters

	LPC (N=138) PIVC (N=147)	
Size		
18G	44 (31.9%)	87 (59.2%)
20G	94 (68.1%)	60 (40.8%)
Catheterized vein		
Cephalic vein	119 (86.2%)	114 (77.5%)
Median cubital vein	2 (1.4%)	14 (9.5%)
Basilic vein	9 (6.1%)	12 (8.2%)
Brachial vein	8 (5.4%)	7 (4.8%)
Venipuncture in ED		
Yes	132 (89.8%)	144 (97.9%)
No	15 (10.2%)	3 (2.1%)
Duration in situ (days)	2.9 (3.1)	2.9 (3.1)
Time to PWO (days)	1.5 (1.4)	1.5 (1)

Data are expressed as count and percentage (%) or as mean (1±SD)

REFERENCES

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