

"Midline catheters (MCs) are commonly inserted in patients with difficult venous access (DVA) needing peripheral access. Recently, the alternative placement of ultrasound-guided long peripheral catheters (LPCs) has spread" Fabiani et al (2020).



Abstract:

BACKGROUND: Midline catheters (MCs) are commonly inserted in patients with difficult venous access (DVA) needing peripheral access. Recently, the alternative placement of ultrasound-guided long peripheral catheters (LPCs) has spread. However, no study has compared the reliability of the 2 devices. This study aims to compare the safety and reliability of MCs and LPCs in DVA patients. **METHODS:** A retrospective cohort study was conducted, enrolling 184 DVA patients. Polyurethane MCs and 2 lengths of polyethylene LPCs (8/10 cm and 18 cm) were compared. The independent effect of catheter type on uncomplicated catheter survival was determined through a Cox regression analysis. **RESULTS:** The relative incidences of overall catheter-related complications (CRCs) were 15.84 of 1,000, 10.64 of 1,000, and 6.27 of 1,000 catheter-days for 8/10 cm-LPCs, 18 cm-LPCs, and MCs, respectively. The relative incidences of catheter-related bloodstream infections were 0.72 of 1,000 for both length LPCs and 0.48 of 1,000 catheter-days for MCs. Compared to MCs, a significant increase in CRC risk for 8/10 cm LPCs (hazard ratio 5.328; 95% confidence interval 2.118-13.404; $P < 0.001$) was found, along with a nonsignificant trend toward an increased risk for 18 cm-LCPs (HR 2.489; 95% CI 0.961-6.448; $P = 0.060$). **CONCLUSION:** MCs allow for longer uncomplicated indwelling times than LPCs. The decision regarding which catheter to use should consider the planned duration of intravenous therapy, the patient's

clinical condition, and the cost of the device.

Reference:

Fabiani, A., Eletto, V., Dreas, L., Beltrame, D. and Sanson, G. (2020) Midline or long peripheral catheters in difficult venous access conditions? A comparative study in patients with acute cardiovascular diseases. American Journal of Infection Control. January 20th. doi: 10.1016/j.ajic.2019.12.025. .

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