



The purpose of this study is to evaluate the safety of MCs for extended intravenous use” Seo et al (2019).

Abstract:

Background: Midline catheters (MCs) have arisen as alternatives to peripherally inserted central catheters (PICCs) for both general intravenous therapy and extended outpatient parenteral therapy. However, there is a lack of data concerning the safety of medication therapy through midline for extended durations.

Objective: The purpose of this study is to evaluate the safety of MCs for extended intravenous use.

Methods: This was a retrospective cohort study evaluating patients who received intravenous therapy through an MC at a tertiary care academic medical center. The primary end point was the incidence of composite catheter-related adverse events that included local events, catheter dislodgment, infiltration, catheter occlusion, catheter-related venous thromboembolism, extravasation, and line-associated infection.

Results: A total of 82 MC placements and 50 PICC placements were included; 50 MCs were for outpatient parenteral antimicrobial therapy, and 32 were for inpatient intravenous use. There were 21 complications per 1000 catheter-days in the outpatient group and 7 complications per 1000 catheter-days in the PICC group ($P = 0.91$). The median time to complication in both

groups was 8 days. The antimicrobial classes commonly associated with complications were cephalosporins, carbapenems, and penicillins.

Conclusion and Relevance: Our results suggest that intravenous therapy with MCs is generally safe for prolonged courses that do not exceed 14 days as compared with PICC lines, which can be placed for months. There is still limited evidence for the use of MCs between 14 and 28 days of therapy. This study can help guide our selection of intravenous catheters for the purpose of outpatient antimicrobial therapy.

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Reference:

Seo, H., Altshuler, D., Dubrovskaya, Y., Nunnally, M.E., Nunn, C., Ello, N., Papadopoulos, J. and Chen, X.J.C. (2019) The Safety of Midline Catheters for Intravenous Therapy at a Large Academic Medical Center. *The Annals of Pharmacotherapy*. September 30th. doi: 10.1177/1060028019878794. .

