There is no formal comparison being made to study the rate of catheter-related bloodstream infection (CRBSI) between TCVCs and PICC in HPN to recommend the use of 1 over the other” Hon et al (2018).

Abstract:

BACKGROUND: Tunneled central venous catheters (TCVCs) and peripherally inserted central catheters (PICC) are often used for the provision of home parenteral nutrition (HPN). There is no formal comparison being made to study the rate of catheter-related bloodstream infection (CRBSI) between TCVCs and PICC in HPN to recommend the use of 1 over the other.

METHODS: An online MEDLINE, PubMed, and Scopus search was conducted. Studies reporting the rate of CRBSI in HPN patients were included. DerSimonian and Laird random effects meta-analyses were used to analyze comparative studies, whereas Begg and Pilote’s random effects meta-analysis was used to pool and analyze single-arm studies.

RESULTS: Seventeen studies (12 single-arm studies and 5 comparative studies) were included for analysis. Meta-analysis of comparative studies showed that PICC use was associated with a significantly lower rate of CRBSI (relative risk (RR) 0.40, 95% CI 0.19-0.83), whereas meta-analysis of single-arm studies revealed that the relative risk for CRBSI was not statistically significantly different from unity.

CONCLUSION: TCVC is more commonly used in long-term HPN. Our analysis of comparative studies showed a lower rate of CRBSI in HPN patients using PICC compared with TCVC; however, analysis of single-arm studies showed that the rate of CRBSI was comparable in PICC and TCVC use. The decision to which type of catheter is most suited for HPN patients should hence be based on the duration of treatment, level of care, patients’ dexterity, as well patients’ underlying comorbidities that may potentially contribute to other catheter-related complications.

Reference: