



The aim of the present study was to compare complication rates between the two types of catheters” Christensen et al (2015).

Reference:

Christensen, L.D., Holst, M., Bech, L.F., Drustrup, L., Nygaard, L., Skallerup, A., Rasmussen, H.H. and Vinter-Jensen, L. (2015) Comparison of complications associated with peripherally inserted central catheters and Hickman™ catheters in patients with intestinal failure receiving home parenteral nutrition. Six-year follow up study. *Clinical Nutrition*. .

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Abstract:

**BACKGROUND & AIM:** Patients with intestinal failure (IF) are dependent on parenteral nutrition delivered through central access such as Hickman™ catheters. The peripherally inserted central catheter (PICC) is becoming increasingly popular for the purpose. The aim of the present study was to compare complication rates between the two types of catheters.

**PATIENTS AND METHODS:** Over a six-year period (2008-2014), we included 136 patients with IF receiving home parenteral nutrition (HPN). These patients had a total of 295 catheters (169 Hickman™ catheters and 126 PICCs). Data were collected by reviewing their medical records.

Incidences are given per 1000 catheter days. Data are given as means  $\pm$  standard deviation (SD) and compared using independent student's t-tests, Mann-Whitney-Wilcoxon, and X<sup>2</sup>-tests. A survival analysis for time to the first infection was conducted using Cox regression.

**RESULTS:** The total number of catheter days was 54,912 days for Hickman™ catheters (mean dwell time  $325 \pm 402$ ) and 15,974 days for PICCs (mean dwell time  $127 \pm 121$ ), respectively. The incidence of catheter-related blood stream infection (CRBSI) per 1000 catheter days was significantly lower for Hickman™ catheters compared to PICCs (0.56 vs. 1.63,  $p < 0.05$ ). The mean time to first CRBSI was significantly shorter for PICCs compared to Hickman™ catheters ( $84 \pm 94$  days vs.  $297 \pm 387$  days,  $p < 0.05$ ), which was confirmed with a cox analysis corrected for age and gender. A total of 75 catheters were removed due to CRBSI, 49 Hickman™ catheters and 26 PICCs respectively. In addition, PICCs were more often removed due to local infection/phlebitis and mechanical causes ( $p < 0.001$ ).

**CONCLUSION:** We found a higher risk and shorter time to first CRBSI in PICCs compared to Hickman catheters supporting that PICCs should mainly be chosen for planned HPN up to 3-6 months. We therefore conclude that the choice of catheter must still be determined on an individual basis.

**Thank you to our partners for supporting IVTEAM**

