Understanding the differences in CLABSI rates by central line (CL) type is important to inform clinical decisions" Hord et al (2016).

Abstract:

Background: Central line associated bloodstream infections (CLABSIs) are a significant cause of morbidity and mortality in pediatric hematology/oncology (PHO) patients. Understanding the differences in CLABSI rates by central line (CL) type is important to inform clinical decisions.

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Procedure: CLABSI, using similar definitions, noted with three commonly used CL types (totally implanted catheter , tunneled externalized catheter , peripherally inserted central catheter) and CL-specific line days were prospectively tracked across 15 US PHO centers from May 2012 until April 2015 and CLABSI rates (CLABSI per 1,000 CL-specific line days) were calculated. Host and organism characterstics associated with the CLABSI events were analyzed.

Results: Over the course of 2.8 million line days, 1,113 CLABSI events (397 in inpatients and 716 in ambulatory patients) were noted. The inpatient CLABSI rate was higher than the

ambulatory CLABSI rate for each of the CL types: 1.48 versus 0.16 for ports, 3.51 versus 1.38 for TECs, and 3.07 versus 1.16 for PICCs, respectively. TECs and PICCs were associated with higher CLABSI rates than ports, inpatient and ambulatory.

Conclusions: We found that CLABSI rates were significantly higher for inpatients compared to ambulatory PHO patients for all CL types. Among ambulatory patients, TECs had the highest CLABSI rate and ports the lowest. Among inpatients, TECs and PICCs had higher CLABSI rates than ports but were not statistically different from one another. Cognizant that host and underlying disease attributes may contribute to these differences, these results can still inform CL choice in clinical practice.

Reference:

Hord, J.D., Lawlor, J., Werner, E., Billett, A.L., Bundy, D.G., Winkle, C. and Gaur, A.H. (2016) Central Line Associated Blood Stream Infections in Pediatric Hematology/Oncology Patients With Different Types of Central Lines. Pediatric Blood & Cancer. May 16th. .

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