

Abstract:

BACKGROUND: Children with acute lymphoblastic leukemia (ALL) require central lines to facilitate their care. Peripherally inserted central catheters (PICCs) may have lower rates of central line-associated bloodstream infections (CLABSIs) versus other central lines.

OBJECTIVES: The objective of this study was to compare the CLABSI rate in the first month of therapy after initiating a policy to place PICCs in new patients with severe neutropenia (SN) and Mediports in those with moderate-to-no neutropenia. We also examined thrombosis rates.

DESIGN/METHOD: We prospectively gathered data on new patients for 2.5 years following the policy change and retrospectively for the 2 years prior and compared rates of CLABSIs and thrombosis.

RESULTS: CLABSIs decreased in SN patients from 7.52/1000 to 3.11/1000 line days ($P=0.33$). The CLABSI rate for all patients with SN who had a Mediport was 13.39/1000 versus 4.08/1000 line days for those that received PICCs ($P=0.15$). The thrombosis rate for Mediport patients was 3.13 clots/1000 versus 7.65/1000 line days for PICC patients, but the difference was not significant ($P= 0.11$).

CONCLUSION: The differences observed suggest that placing PICCs versus Mediports in new ALL patients with SN may result in a lower incidence of CLABSIs in the first month of therapy without a significant increase in thrombosis.

Reference:

Berger, R., Messina, A.F., Chandler, N.M., Amankwah, E.K. and Shaw, P.H. (2020) Instituting a New Central Line Policy to Decrease Central Line-associated Blood Stream Infection Rates During Induction Therapy in Pediatric Acute Lymphoblastic Leukemia Patients. *Journal of Pediatric Hematology/Oncology*. February 14th. doi: 10.1097/MPH.0000000000001748. (Epub ahead of print).