EP0090
ePoster Session
Reducing healthcare-associated infections: hands and more

Peripherally Inserted Central Catheters (PICCs) versus Central Venous Catheters (CVCs) in critically ill patients: is there a different risk for central line-associated bloodstream infections?

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BACKGROUND: Peripherally inserted central venous catheters (PICCs) serve as an alternative to short-term central venous catheters (CVCs) for providing intravenous access in the hospital. Although a number of studies suggest that PICCs are associated with a lower risk of central line-associated bloodstream infections (CLABSIs) than CVCs, other data support the contrary viewpoint. As the use of PICCs expands to include vulnerable populations, including those that are hospitalized and critically ill, determining the risk of CLABSI posed by PICCs relative to other CVCs is important for both cost and patient safety. We compared CVC- and PICC-related CLABSI rates developed in critically ill hospitalized patients.

MATERIALS/METHODS: We retrospectively examined critically ill patients with CVCs and those with PICCs hospital-wide during a 2-year period (2012 -2015). A CVC was defined as any central venous access device inserted into the internal jugular, subclavian, or femoral vein that terminated in the inferior vena cava or right atrium. PICCs were defined as catheters inserted in the basilic, cephalic, or brachial veins of the upper extremities with tips that terminated in the superior vena cava or right atrium.

RESULTS: A total of 1187 CVCs were placed for 9774 catheter-days, during which 52 patients had a CLABSI, for a rate of 5.32 per 1000 catheter-days. A total of 639 PICCs were placed for 11110 catheter-days, during which 18 patients had a CLABSI, for a rate of 1.62 per 1000 catheter-days (P=.002). The median time to development of infection was 23 days in the patients with a PICC and 13 days in patients with CVC (P=.03).

CONCLUSION: PICC lines were associated with significantly lower CLABSI rates comparing to CVC. Given their longer time to the development of infection, PICCs may be a safe alternative for prolonged inpatient IV access.