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ABSTRACT

Background

The optimal time to reinsert central venous catheters (tCVC) after a documented central line associated blood stream infection (CLABSI) is unclear. The goal of this study is to identify risk factors for children who develop persistent bacteremia after tCVC removal due to CLABSI.

Methods

We performed a retrospective case-control study from a tertiary children's hospital. Children who underwent removal of a tCVC due to CLABSI were included in our analysis. Our primary outcome was persistent bacteremia after tCVC removal defined by a persistently positive blood culture. Salient patient demographic and clinical factors were extracted from the medical record.

Results

A total of 140 patients met inclusion criteria and 27 (19%) had a persistent CLABSI after removal of the tCVC. There were no significant differences between the patients who cleared their bacteremia and those who develop persistent bacteremia. The median (IQR) time to positive blood culture after tCVC removal was 2.7 days (1.7– 4.0).

Conclusions

We did not identify any patient risk factors distinguishing between a child who will clear a CLABSI versus develop a persistent CLABSI after tCVC removal. Blood stream infection clearance was rapid after tCVC removal, supporting a brief line holiday prior to tCVC reinsertion.

Key Words: Central Venous Catheter, CLABSI, bacteremia, children
Level of Evidence: Level III Retrospective Case-Control Study

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