



Central venous catheter (CVC) fracture is a common complication. The aim of this study is to examine risk factors resulting in CVC fracture and compare outcomes of children undergoing CVC repair versus replacement” Zens et al (2018).

Abstract:

INTRODUCTION: Central venous catheter (CVC) fracture is a common complication. The aim of this study is to examine risk factors resulting in CVC fracture and compare outcomes of children undergoing CVC repair versus replacement.

METHODS: A retrospective chart review was conducted from 2000 to 2016 for children with tunneled CVCs. Children with CVC fractures were compared to those without to identify risk factors resulting in fracture. Children with fractured CVCs were divided into repair or replacement treatment groups and outcomes compared. A logistic regression model determined independent predictors of CVC-associated bloodstream infections (CLABSI) after fracture.

RESULTS: In the 236 children with CVCs, the fracture rate was 29.2%. Fractured CVCs were more common with double lumen CVC ($p = 0.040$) and children whose indication was total parenteral nutrition ($p = 0.003$). Given children often underwent multiple repairs or replacements. 98 CVC repairs and 41 replacements were analyzed. CVC replacements had longer durability than repair (181.98 vs. 98.9 days, $p = 0.038$). There were no differences in

CLABSI incidence for repair vs. replacement (OR 0.5 CI 0.05-4.97) after controlling for other factors.

CONCLUSIONS: CVC fracture is a frequent complication in children with tunneled CVCs. CVC repair has no increased incidence of CLABSI but eliminates the intraoperative and anesthetic risks of CVC replacement.

TYPE OF STUDY: Retrospective cohort study.

LEVEL OF EVIDENCE: Level III.

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Reference:

Zens, T., Nichol, P., Leys, C., Haines, K. and Brinkman, A. (2018) Fractured pediatric central venous catheters – Repair or replace? *Journal of Pediatric Surgery*. October 5th. .

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