

The aim of this study was to examine the epidemiology of CLABSIs in tunneled CVCs and analyze their risk factors in a general pediatric population” Paioni et al (2019).

Abstract:

BACKGROUND: Central line-associated bloodstream infections (CLABSIs) are among the most common complications of central venous catheters (CVCs). The aim of this study was to examine the epidemiology of CLABSIs in tunneled CVCs and analyze their risk factors in a general pediatric population.

METHODS: Children with a tunneled CVC inserted at the University Children’s Hospital Zürich between January 2009 and December 2015 were eligible for the study. The influence of CVC dwell time on the risk of CLABSI was examined using life tables. Hazard ratios (HRs) for CLABSIs were analyzed using Cox regression for age and diagnosis with cluster robust standard errors.

RESULTS: Fifty-five CLABSIs were observed in 193 patients with 284 tunneled CVCs. Overall, CVCs in children with gastrointestinal disorders and in children 2 to 5 years of age showed the highest incidence rates of 6.06 and 5.85 CLABSIs per 1,000 catheter days, respectively, during the first 90 days after placement. Gastrointestinal disease (HR, 3.89; 95% CI, 2.19-6.90; $P < .001$) and age 2 to 5 years (HR, 2.48; 95% CI, 1.45-4.22; $P = .001$) were identified as independent risk factors for CLABSI. In children without gastrointestinal disease, tunneled CVCs showed an increasing risk of CLABSI after a dwell time of 90 days.

CONCLUSIONS: The need for tunneled CVCs requires the evaluation of targeted CLABSI prevention measures, especially in young children with underlying gastrointestinal disease.

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Reference:

Paioni, P., Kuhn, S., Strässle, Y., Seifert, B. and Berger, C. (2019) Risk factors for central line-associated bloodstream infections in children with tunneled central venous catheters. American Journal of Infection Control. August 6th. doi: 10.1016/j.ajic.2019.06.027. .