We provide comprehensive multicenter benchmark data regarding rates of HAI within dedicated pediatric CICUs. We confirm that while rare, HAI of all types are associated with significant resource utilization and mortality” Alten et al (2017).

Abstract:

BACKGROUND: Health-care associated infections (HAI) represent serious complications for patients within pediatric cardiac intensive care units (CICU). HAI are associated with increased morbidity, mortality, and resource utilization. There are few studies describing the epidemiology of HAI across the entire spectrum of patients (surgical and non-surgical) receiving care in dedicated pediatric CICUs.


RESULTS: HAI occurred in 2.4% of CICU encounters at a rate of 3.3 HAI/1000 CICU days, with 73% of HAI occurring in children <1 year. Eighty encounters (14%) had ≥ 2 HAI. Aggregate
rates for the four primary HAI: CLABSI 1.1/1000 line days; CAUTI 1.5/1000 catheter days; VAP 1.9/1000 ventilator days; SSI 0.81/100 operations. Surgical and non-surgical patients had similar HAI rates/1000 CICU days. Incidence was twice as high in surgical encounters, and increased with surgical complexity; postoperative infection occurred in 2.8% of encounters. Prematurity, younger age, presence of congenital anomaly, STAT 4-5 surgery, admission with an active medical condition, open sternum, and extracorporeal membrane oxygenation were independently associated with HAI. In univariable analysis, HAI was associated with longer hospital length of stay and durations of urinary catheter, central venous catheter, and ventilation. Mortality was 24.4% in patients with HAI vs. 3.4% in those without, p<0.0001.

CONCLUSIONS: We provide comprehensive multicenter benchmark data regarding rates of HAI within dedicated pediatric CICUs. We confirm that while rare, HAIs of all types are associated with significant resource utilization and mortality.

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