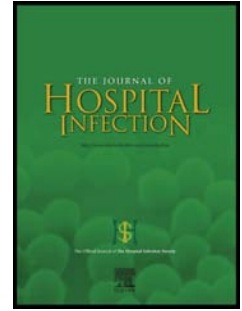


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Five-year prospective surveillance of nosocomial bloodstream infections in an Estonian paediatric intensive care unit

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P. Mitt *et al.*

## Five-year prospective surveillance of nosocomial bloodstream infections in an Estonian paediatric intensive care unit

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### SUMMARY

**Background:** Few studies provide rates of nosocomial bloodstream infections (BSIs) in mixed neonatal and paediatric intensive care units (PICUs).

**Aim:** To determine the rate, pathogens and outcome of BSIs in an Estonian PICU.

**Methods:** Data were collected prospectively from 1st January 2004 to 31st December 2008 in the PICU of Tartu University Hospital. The definition criteria of the US Centers for Disease Control and Prevention were applied for the diagnosis of laboratory-confirmed BSI.

**Findings:** A total of 126 episodes of BSI were identified in 89 patients (74 neonates, eight infants, seven patients aged >1 year). Among neonates 42 (57%) had birth weight <1000 g. The overall incidence of BSI was 9.2 per 100 admissions, incidence density 12.8 per 1000 patient-days. Primary BSI was diagnosed in 92 episodes. Central line (CL)-associated BSI incidence density for neonates was 8.6 per 1000 CL-days with the highest incidence (27.4) among neonates with extremely low birth weight. The most common pathogens were coagulase-negative staphylococci (43%) and *Serratia marcescens* (14%). Resistance to meticillin was detected in four out of seven *S. aureus* isolates (all were part of an outbreak) and 23% of Enterobacteriaceae were extended spectrum beta-lactamase (ESBL)-producing strains. Overall case-fatality rate was 10%.

**Conclusion:** We observed higher rates of BSIs in our mixed PICU than reported previously. High levels of antimicrobial resistance were detected. Future research should focus on the effects of infection control measures to prevent outbreaks and to decrease incidence of CL-associated BSI.

**Keywords:**

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