Risk Factors and Cost of Nosocomial Infections in Pediatric Patients With Traumatic Brain Injury

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Abstract

Aim: This study aimed to determine the factors that increase and decrease the presence of the nosocomial infections in pediatric patients with traumatic brain injury, and the effects on both treatment cost and length of hospital stay.

Methods: We performed a case-control study on patients admitted to the pediatric intensive care unit (PICU) with (n=66) or without (n=120) traumatic brain injury (TBI) between 2012 and 2014. The risk factors, length of stay, and costs of nosocomial infections, were determined.

Results: Data for 186 patients were analyzed. Hundred and twenty patients were controls (54 males vs. 66 females), while 66 were cases (27 males vs. 39 females). Seventeen out of the 186 PICU patients had nosocomial infections. The most isolated microbial agent was *Acinetobacter baumannii* (four cases). Thirteen (76.5%) out of the 17 infections were catheter-related bloodstream infections. The mean expenses per PICU patient were \$762, with an additional cost of \$2081 for patients with nosocomial contamination.

Conclusion: The use of catheters was the most critical risk factor for nosocomial infections in our study. The cost was probably underestimated for several reasons. Nevertheless, the findings supported our hypothesis about the additional burden of nosocomial spread on PICU patients. The results of this study should help to provide evidence on cost-effectiveness or calculating the cost-benefit ratio of reducing nosocomial infections in children.

Full Text

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Figures

Patients admitted (2012-2014)

- TBI

Figure 1

Study flow chart.

Supplementary Files

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