Bacteraemia episodes were assessed to calculate a hospital-wide central line-associated blood stream infection (CLABSI) rate per 1000 catheter-days. Secondary objectives were to describe risk factors, microbiology and outcomes of children with CLABSI” Campbell et al (2018).

Abstract

AIM: Bacteraemia episodes were assessed to calculate a hospital-wide central line-associated blood stream infection (CLABSI) rate per 1000 catheter-days. Secondary objectives were to describe risk factors, microbiology and outcomes of children with CLABSI.

METHODS: A retrospective study was conducted at an Australian tertiary paediatric hospital in children <18 years who had blood culture sampling during the 2-year period, 2014-2015. All blood culture results were extracted from the hospital's laboratory information system. National Healthcare Safety Network Centres for Disease Control and Prevention definitions for bacteraemia classification were used. Central venous access device (CVAD) insertion and removal dates were obtained from a surgical electronic database and anaesthetic records and then manually validated. RESULTS: Of 11,774 processed blood culture bottles, 207 episodes of blood stream infection were observed. Eighty-five (41%) episodes were community-acquired bacteraemia (CA-B) and 122 (59%) health care-associated bacteraemia (HA-B), of which 73 (35%) were CLABSI. The hospital-wide CLABSI rate was 0.62 per 1000 catheter-days (95% confidence interval: 0.49-0.77). Conditions associated with CLABSI were malignancy (n = 45, 62%) and gastrointestinal failure (n = 6, 8%). Thirty-three (45%) CLABSI episodes developed in an outpatient setting. CONCLUSIONS: HA-B has a significant impact on child health, exceeding the number of CA-B at our hospital. Children with CVADs are vulnerable in both the inpatient and outpatient settings. Collecting robust data for a hospital-wide CLABSI rate is important to understand the full spectrum of paediatric CLABSI. The value of validating data using both electronic and manual methods is demonstrated.

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