

Bacterial bloodstream infections in a pediatric hospital in Niger

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Background

Hospital mortality in the treatment of complicated severe acute malnutrition (SAM) remains important and may be associated with the severity of complications at presentation and healthcare-associated infections (HAI). Data on the incidence of HAIs are scarce, particularly for children in resource-limited settings. Our study aimed to assess the risk of hospital-acquired bacteremia and describe the burden of antibiotic resistance of community and hospital-acquired bacteremia in severely malnourished children hospitalized in a district hospital in Madarounfa, Niger.

Materials/methods

Children 6-59 months of age admitted with complicated SAM were enrolled. Clinical, therapeutic and biological data were collected for each child until discharge. Blood samples were collected on admission and in the case of clinical deterioration >48 hours after admission for culture. Hospital-acquired bacteremia was defined as positive blood culture > 48 hours after admission among children with a negative culture at admission

Results

Between October 2016 and November 2017, 2,225 patients were enrolled and had blood culture on admission. Among them, the prevalence of

community-acquired bacteraemia was 9.3% and a hospital-acquired bacteraemia was confirmed in 1.3%. The most common causative pathogen in community-acquired bacteraemia was non-Typhi Salmonella (59.2%) while it was *Klebsiella pneumoniae* (18.2%) and *Acinetobacter baumannii* (15.2%) in hospital-acquired bacteraemia. Enterobacteria expressing extended-spectrum beta-lactamase were more frequent in hospital-acquired bacteraemia (86.7%) than in community-acquired bacteraemia (10.6%).

Conclusion

We showed high proportion of multidrug-resistant bacteria, specifically in hospital-acquired bloodstream infections. Reinforcement of infection prevention and control procedures should be considered.

Over 1-year period, the incidence of hospital-acquired bloodstream infections among children with SAM was around 1% with high proportion of multidrug-resistant bacteria.