Background: Enterococcus species, a major cause of bloodstream infection (BSI), are associated with high mortality, especially in vancomycin-resistant enterococci (VRE) cases. However, few large-scale data exist on enterococcal BSI in Japan. This study aimed to investigate the background, clinical manifestations, microbiological characteristics, and mortality of enterococcal BSI in a Japanese tertiary-care hospital, and identified predictive factors for 30-day mortality.

Methods: In our hospital-based retrospective case analysis, patients with enterococcal BSI from 2005 to 2014 at a tertiary-care hospital with 925 beds were identified from a laboratory database. Clinical data were taken from electronic medical records. Predictive factors for 30-day mortality were evaluated using univariate and multivariate analyses.

Results: In all, 411 patients with enterococcal BSI were noted (median age, 75 [interquartile range 64-82]). Enterococcus faecalis was noted in 200 patients (48.7%), E. faecium in 130 (31.6%), and nontoxigenic E. faecium in 128 (30.6%). Septic shock was the most common comorbidity (128 patients [31.1%]). Intestinal abdomen infection was the most frequent source (176 patients [42.8%]), but the source was not identified in 74 (18.0%). Ampicillin and vancomycin resistance rates were 32.0% and 2.2%, respectively. VRE cases were either E. faecalis, E. faecium, or VCM resistant. Effective antimicrobial therapy was seen in 18.0%.

Conclusion: Our cohort’s unique characteristic was the low VRE rate. Neither E. faecalis nor E. faecium was resistant to vancomycin. The mortality rates were similar to those observed in previous studies. CCI score, nontoxigenic E. faecium, and PBS were independent predictors for 30-day mortality.

Abstract

Introduction

Methods

Table 1: Summary of patients’ demographics, clinical characteristics, microbiological characteristics, and mortality of enterococcal BSI in a Japanese tertiary-care hospital, and identified predictive factors for 30-day mortality.

Table 2: Predictors of 30-day mortality, univariate and multivariate analyses

References


Conclusion

Correlation

*Resistance to VCM was in only 2.2%.*

*Neither E. faecalis nor E. faecium was resistant to VCM.*

*CCI score, nontoxigenic E. faecium, and PBS were independent predictors for 30-day mortality.*