RECENT TRENDS OF BACTEREMIA IN PATIENTS WITH HEMATOLOGICAL MALIGNANCY

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Background: Bacteremia remains a major cause of life-threatening complication in patients with hematological malignancy. Catheter-related bloodstream infections (CRBSI) are a leading cause of nosocomial infections associated with significant mortality and costs. The aim of our study was to inventory the recent trends in epidemiology and incidence of microorganisms causing bacteremia in patients with hematological malignancy.

Methods: We performed a retrospective case series analysis of 502 laboratory confirmed episodes of bacteremia at hematology unit of Tsukuba University Hospital between 2010 and 2013. The major pathogens of bacteremia were investigated for their frequency, clinical background and susceptibility. Among the all cases of bacteremia, we investigated the rate of CRBSI.

Results: Of 3617 blood specimens cultured, 502 (13.8%) were positive. Among the isolates, 94.8% were aerobic or facultative anaerobic bacteria, 1.0% anaerobes, and 4.2% fungi. Staphylococcus epidermidis (19.3%) was isolated most frequently, followed by Escherichia coli (12.0%), alpha-hemolytic Streptococcus (7.4%), methicillin-resistant Staphylococcus aureus (6.8%), Stenotrophomonas maltophilia (5.4%), and Coagulase negative Staphylococcus (4.6%). The proportion of the microorganisms did not change remarkably during the study period. Although the number of bacteremia didn’t almost change between 2010 and 2012 (149 cases/year), it significantly decreased in 2013 (55 cases/year). A total number of 48 CRBSI were observed during the study period. A significantly lower rate of CRBSI was observed in patients who were inserted peripherally inserted central catheter (PICC) compared with the patients who were inserted conventional central venous catheter (CVC) (PICC: 1.0/1000 catheter days, CVC: 5.2/1000 catheter days, P < 0.01).

Conclusion: The results will contribute to safer management of patients with hematological malignancy by improving the choice of antibiotics and devices.