Improved outcomes for gram-positive bacteremia with rapid diagnostics and on-call pharmacy resident support

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Background: Delay is a critical determinant in bacteraemia associated with mortality. Rapid blood culture (BC) and microbial identification is critical for optimal antibiotic (ABX) choice and timely treatment. This study was conducted to determine the impact of the FilmArray Blood Culture Identification (BCID) Panel on time to optimal ABX choice and treatment in patients with contaminant bacteremia.

Methods: Patients with contaminant bacteremia in two phases were called to nurses. POST phases were called to postgraduate pharmacy residents and/or pharmacy residents (n=36) to discuss patient demographics, concomitant infections, and potential pathogens. ABX was escalated based on results from POST phases compared to PRE phases (2.4 vs 141.5 hours; 0.100). Patient characteristics were analyzed using Wilcoxon signed rank test for ordinal and continuous data. A post-hoc analysis was used for categorical data.

Results: The number of patients in each phase was PRE (n=33), POST (n=30), and POST (n=36). Median time to optimal ABX was shorter in POST phases compared to PRE phases (2.4 vs 141.5 hours; 0.100). Patient characteristics were analyzed using Wilcoxon signed rank test for ordinal and continuous data. A post-hoc analysis was used for categorical data. Figure 3. Median Time to ABX in Patients with Non-Contaminant Bacteremia

Conclusions: FilmArray BCID reduces time to pathogen identification. Studies demonstrate the need for active intervention on these steps. RAPID-1 and RAPID-2 phases were called to nurses. POST phases were called to postgraduate pharmacy residents and/or pharmacy residents (n=36) to discuss patient demographics, concomitant infections, and potential pathogens. ABX was escalated based on results from POST phases compared to PRE phases (2.4 vs 141.5 hours; 0.100). Patient characteristics were analyzed using Wilcoxon signed rank test for ordinal and continuous data. A post-hoc analysis was used for categorical data.

Table 2. Additional Outcomes in Patients with Non-Contaminant Bacteremia

Table 3. Characteristics of Patients with Non-Contaminant Bacteremia

Figure 4. ABX Outcomes in Patients with Contaminants

Figure 2. Patients Screened for Bacteremia

Figure 1. Bacterial Identification and Reporting of Results

Abstract

Objective

Methods

Results

Conclusions