

Comparison of Bactec plus Blood Culture Media to BacT/Alert FAN plus Blood Culture Media for Identification of Bacterial Pathogens in Clinical Samples Containing Antibiotics

Authors : Recep Kesli, Huseyin Bilgin, Ela Tasdogan, Ercan Kurtipek

Abstract : Aim: The aim of this study was to compare resin based Bactec plus aerobic/anaerobic blood culture bottles (Becton Dickinson, MD, USA) and polymeric beads based BacT/Alert FA/FN plus blood culture bottles (bioMerieux, NC, USA) in terms of microorganisms recovery rates and time to detection (TTD) in the patients receiving antibiotic treatment. Method: Blood culture samples were taken from the patients who admitted to the intensive care unit and received antibiotic treatment. Forty milliliters of blood from patients were equally distributed into four types of bottles: Bactec Plus aerobic, Bactec Plus anaerobic, BacT/Alert FA Plus, BacT/Alert FN Plus. Bactec Plus and BacT/Alert Plus media were compared to culture recovery rates and TTD. Results: Blood culture samples were collected from 382 patients hospitalized in the intensive care unit and 245 patients who were diagnosed as having bloodstream infections were included in the study. A total of 1528 Bactec Plus aerobic, Bactec Plus anaerobic, BacT/Alert FA Plus, BacT/Alert FN Plus blood culture bottles analyzed and 176, 144, 154, 126 bacteria or fungi were isolated, respectively. Gram-negative and gram-positive bacteria were significantly more frequently isolated in the resin-based Bactec Plus bottles than in the polymeric beads based BacT/Alert Plus bottles. The Bactec Plus and BacT/Alert Plus media recovery rates were similar for fungi and anaerobic bacteria. The mean TTDs in the Bactec Plus bottles were shorter than those in the BacT/Alert Plus bottles regardless of the microorganisms. Conclusion: The results of this study showed that resin-containing media is a reliable and time-saving tool for patients who are receiving antibiotic treatment due to sepsis in the intensive care unit.

Keywords : Bactec Plus, BacT/Alert Plus, blood culture, antibiotic

Conference Title : ICPMI 2018 : International Conference on Pathology and Microbiology of Infections

Conference Location : Dublin, Ireland

Conference Dates : July 23-24, 2018