

The use of blood culture bottles with antimicrobials inhibiting resins and its influence in positivity.

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Abstract:

Introduction: Health care assistance has been suffering constant challenges when it comes to bloodstream infections and blood culture is one of the most important tests for the diagnosis of bacteremia. Efforts in attempt to reduce detection time and the positivity of clinical samples are constantly being made in microbiology laboratories, either by reducing the automation speed or by producing faster assays. This study aims to evaluate, during the period of January, 2013 to June, 2015 the positivity rate of aerobic and anaerobic blood culture bottles, which contain an antibiotic inhibitor resin (PLUS) and blood culture bottles without the resin (ST) from BD BACTEC™ FX (BD Diagnostic Systems, Sparks, MD, USA). **Methods:** In this period, 19588 samples were evaluated. They were inoculated in aerobic PLUS bottles (n=7910), aerobic Standard bottles (n=6407), anaerobic PLUS bottles (n=2177) and anaerobic Standard bottles (n=3094). **Results:** Among the included samples, there was microbial growth in 2569 bottles, corresponding 13% of all samples. The positivity rate of aerobic PLUS bottles was 17.14%, aerobic Standard bottles 10.35%, anaerobic PLUS bottles 13.28% and anaerobic Standard bottles 8.44%. **Conclusion:** There was a statistically significant difference in the aerobic and anaerobic bottles positivity of type PLUS when compared to the Standard. Thus, it was possible to conclude that the antimicrobials inhibiting resins showed relevant, promoting the microbial growth.

Keywords: blood culture bottles, positivity, antimicrobials inhibiting resins.