

**L0001 Impact of the rapid antimicrobial susceptibility test Accelerate Pheno™ System on Antibiotic Stewardship of sepsis**

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**Background:** Programs of Antibiotic Stewardship (AS) are mandatory to face the problem of antimicrobial resistance.

Informatics and technological advances in microbiology can support these programs. Accelerate Pheno™ System (ACC) can provide antimicrobial susceptibility (AST) results within 7 hours from a positive blood culture (BC), to rapidly optimize patient therapy.

The purpose of this study was to explore the role of ACC in AS of sepsis.

**Materials/methods:** Based on local epidemiology and availability of laboratory diagnostic technologies, an algorithm for ACC testing, after pathogen identification and resistance genes detection from monomicrobial bacterial BC, was set up (Figure 1). Demographic, clinical and therapeutic data were recorded for all patients included in the study together with time to report (TTR) of rapid and standard AST, duration of empirical antimicrobial therapy and switch to targeted therapy. Overall, 34 patients were included in the study. AST data were available for a total of 29/34 (85.29%) isolates.

**Results:** Among 438 microorganism-antimicrobial combinations, categorical agreement was observed in 97.95% cases, with 1.14% ME (5/438), an 0.68% mE (3/438), and 0.23% VME (1/438). No discrepancies were observed for carbapenems. TTR (mean ± SD) of ACC AST (27.15 ± 6.9 hrs) was significantly ( $p < 0.001$ ) shorter than that of standard method (47.87 ± 11.9 hrs). A switch from empirical to target therapy was observed in 11/29 patients (37.93%): de-escalation was observed in 7 patients and escalation in 4. In these patients, duration of empirical therapy was of 34.97 ± 22.04 hrs, significantly ( $p < 0.001$ ) lower than that of controls (55.8 ± 22.5 hrs).

**Conclusions:** ACC included in the laboratory workflow for positive BC based on clinical/microbiologist collaboration and algorithm sharing could positively impact on AS programs in a hospital.

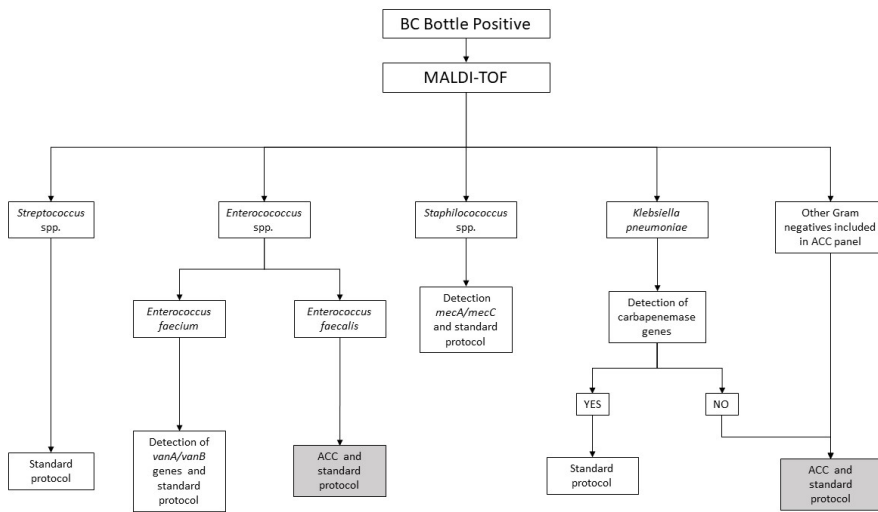


Figure . Algorithm for Accelerate testing

