New broth - chromogenic Mueller Hinton agar procedure for urine samples – next-day result of Enterobacteriaceae antimicrobial susceptibility testing

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Abstract

Routine urine samples were processed by SP and RP and results of AST for 15 antimicrobial agents were compared.

List of antimicrobial agents studied: ampicillin (AM), amoxicillin-clavulanic acid (AMC), piperacillin-tazobactam (TZP), ciprofloxacin (CIP), cefuroxime (CXM), cefixime (CFM), ceftriaxone (CRO), ceftazidime (CAZ), cefepime (FEP), imipenem (IPM), meropenem (MEM), gentamicin (GM), amikacin (AN), co-trimoxazole (SXT), ciprofloxacin (CIP), nifuramin (FM).

Materials & Methods

The study was conducted on 200 isolates of Enterobacteriaceae from patients with urinary tract infection. Only results of monomicrobial growth of Enterobacteriaceae were considered in this study. Gram-negative rods were seen, suspension was diluted to McFarland 0.5 (Densicheck, bioMerieux, France) and used as inoculum for CLSI disk-diffusion. Mueller Hinton agar (MHA - BioMe, Italy) and antimicrobial discs (Becton Dickinson, USA) were used. Rapid methods or Vitek 2 (bioMerieux, France) were used for identification of isolates.

Conclusions:

1. The advantage of RP is correct result, confirmed by SP.
2. The performance analysis of rapid procedure, compared to standard procedure.
3. Further studies are necessary to determine rational use and performances of RP in different circumstances.