

Evaluation of the Modified Hodge Test, Metallo- β -lactamases E Test and AmpC Disk Test for Phenotypical Detection of Carbapenem Resistant *Acinetobacter baumannii*

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Background & Objectives: The production of carbapenemases is an important mechanism responsible for the carbapenem resistance. the resistance due to MBL and other carbapenemase production has a potential for rapid dissemination, as it is often plasmid mediated. the rapid detection of carbapenemase production is necessary to initiate effective infection control measures to prevent their dissemination. Consequently, A simple and inexpensive testing methods for screening of carbapenemase producers is essential. The purpose of the present study, evaluate the various Methods for detection of carbapenemases, AmpC and MBLs in *Acinetobacter baumannii*.

Methods: A total of 62 *Acinetobacter baumannii* were screened for imipenem resistance by Kirby-Bauer disc diffusion Methods and E-test for imipenem. MBL Etest determined for all isolates while Modified Hodge test was used for isolates which showed intermediate or susceptible zones for imipenem as well as AmpC disk test were used for the detection AmpC β -lactamases in isolates by negative MHT .

Results: Of 62 *Acinetobacter baumannii*, 10 isolates were sensitive to imipenem by disk diffusion methods while all strains were resistant to imipenem by E-test. 45 isolates were MBL producers by Etest. Out of a total 10 isolates which were showing intermediate or susceptible zone for imipenem by disk diffusion methods, 5(50%) were positive for carbapenemase production by modified Hodge test, while of 5 strains by negative MHT, 4 strains were AmpC β -lactamase producers.

Conclusion: Based on these findings, AmpC β -lactamase is also a contributory factor for carbapenem resistance among the *Acinetobacter baumannii* and Modified Hodge test is an easy and simple test to be performed to detect carbapenemases producing bacteria.

Keywords: MHT; AMPc; Carbapenem