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**Original article**

**Antibiotic resistance pattern of Pseudomonas aeruginosa with special reference to Imipenem and Metallo-beta lactamase Production**

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**Abstract:**

**Introduction:** Pseudomonasaeruginosa is one of the most common pathogen causing nosocomial infections. Cephalosporins ,Carbapenem , Imipenem are the most effective treatment options for Pseudomonas aeruginosa. But now resistance to these drugs is also reported from many hospitals. Resistance is often mediated by Metallo-Beta-lactamases (MBL) production by Pseudomonas aeruginosa.The appearance of MBL genes and their spread among bacterial pathogens is a matter of concern with regard to the future of antimicrobial therapy. Rapid detection of metallo-beta- lactamases production is necessary to modify therapy and to initiate effective infection control to prevent their dissemination.

**Material & Method:** Pseudomonas aeruginosaisolates obtained from various clinical specimens were identified by conventional microbiological techniques. All these isolates were tested for antimicrobial susceptibility on Muller-Hinton’s agar by Kirby-Bauer disk diffusion method as per CLSI guidelines.

Pseudomonas aeruginosaisolates weretested for susceptibility or resistance to Imipenem (10 mcg) &Metallo- Beta-lactamases production bydisc potentiation test with EDTA impregnated Imipenem disc.

**Results:** Out of 100 Pseudomonas aeruginosa strains,19(19%) wereImipenemresistant, 41(41 %) were MBL

producers & 57(57%) were MDR strains .

**Conclusion:** The prevalence of MBL producers in our study is 41 %which calls for the implementation of continuous surveillance and the judicious selection of antibiotics in clinical practice.Early detection & prompt infection control is important to prevent further spread of MBLs to other gram negative bacilli .

**Keywords**: Pseudomonas aeruginosa ,Imipenem, MBL production