

Detection and Characterization of Metallo Beta Lactamases Producing *Pseudomonas aeruginosa* from Burn Patients

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Background & Objectives: *Pseudomonas aeruginosa* is main factor of burn wound infections. For the treatment of these infections several antibiotic including carbapenem is used. Resistance to these antibiotic is caused by various mechanism and the most important can be pointed are producing of betalactamase enzyme like metallo beta lactamase which has wide range of substrate. With these consideration and valuable position, which these antibiotics have in the treatment of burn infections, leads us in this study to examine drug resistance and prevalence of *Pseudomonas aeruginosa* in the ghotbeddin hospital in Shiraz.

Methods: Patterns of antibiotic resistance of 270 strains of *Pseudomonas aeruginosa* which was isolated from patient with burn infection in ghotbeddin hospital during the years 1387-1388, were tested by disk diffusion methods (Kirby Bauer). Then all isolates which were resistant to carbapenem, studied by E test methods.

Results: Among 270 strains, we isolated 60 strains of metallo beta lactamase producing *Pseudomonas aeruginosa*. Among the antibiotics under the study ceftazidime has the most antimicrobial effects. No sensitivity to amikacin, cefepime, ampicillin and piperacillin was seen among the strains and the percent of sensitivity for aztreonam, tobramycin, gentamycin and ciprofloxacin was 2.4%.

Conclusion: With due attention to this results and increasing in antibiotic resistance observed in this study could be due to an irrational consumption rate of antibiotics so we should adopt best policy to prevent the spread of this enzyme to another strains or gram negative bacteria.

Keywords: Beta Lactamases; *Pseudomonas aeruginosa*; Burn Patients