

Antimicrobial Susceptibility Pattern of Bacteria Isolated From Blood Cultures in Central Teaching Hospital at Arak-Iran

Ehsanollah Ghaznavi Rad*¹; Alireza Amouzandeh¹; Mahtab Bonyadi¹; Mahsa Tabibnejad¹; Nona Taheri¹; Nasimeh Fard Mousavi¹; Marzieh Ranjbaran²; Masoud Sarafian²

1-Department of Microbiology and Immunology, Arak University of Medical Sciences, Arak, Iran

2-Department of Medical Microbiology, Vali-Asr Hospital, Arak University of Medical Sciences, Arak, Iran

ghaznaviehs@yahoo.com

Background & Objectives: Blood infections caused by opportunistic and pathogenic bacteria is a major problem for hospitalized patients and due to the high drug resistance, mortality is higher in these group. Therefore the purpose of this study is to determine the patterns of antimicrobial resistance in isolates of blood cultures at central hospital of Arak university of medical sciences.

Methods: This is a cross - sectional study. Samples were investigated for blood culture infection and antimicrobial susceptibility pattern. Of 2125 patients 229 bacteria were isolated. The resistance profiles of the strains for the main antibiotics were determined by disc diffusion Methods according to CLSI guidelines.

Results: Most number of bacteria isolated from samples were *staphylococcus epidermidis*. Of total 114 isolated from blood cultures 49 percent were resistant to cotrimoxazole, 46 percent to ceftizoxime and 42 percent to tetracycline. *E. coli* were 35 Number that 37 percent were resistant to ceftizoxime, 60 percent to cefamandole and 62 percent to ceftriaxone but 55% isolates were identified as extended spectrum beta-lactamases (ESBL) .Of 20 *staphylococcus aureus* isolates 10 percent were resistant to cotrimoxazole, 70 percent to tetracycline and 65 percent to gentamicin. Also 50 percent of *staphylococcus aureus* were resistant to oxacillin , hence recognized as MRSA. Of 10 *Klebsiella pneumoniae* isolates 66 percent were resistant to ciprofloxacin, 50 percent to ceftriaxone and 75 percent to cefamandole. Of 10 *pseudomonas* isolates 40 percent were resistant to imipenem and amikacin and 30 percent to ceftazidime. *Alcaligenes faecalis* showed (80%) resistance to ceftriaxone. Of 9 *Enterococcus* isolate 4 strain were resistant to vancomycin.

Conclusion: Wide range of antibiotic resistant from blood cultures isolates indicate that antibiotic prescription policy should be revised and infection control measure needs to be improved to prevent the distribution of multiple drug resistant strains in this hospital.

Keywords: Blood Culture; Antimicrobial Susceptibility Pattern; Hospital