

Patterns of Antibiotic Susceptibility in *Staphylococcus aureus* Isolated From Clinical Samples in Ten Years, Babol, Iran

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Background & Objectives: *Staphylococcus aureus* is a common bacterium causing a wide broad of nosocomial and community acquired infection. Increasing of drug resistant strains particularly methicillin-resistant *S. aureus* (MRSA) cause complicated infection. This study was performed to determine patterns of antibiotic susceptibility of *S. aureus* and to evaluate risk factors related to these patterns.

Methods: This retrospective study was carried out on from 1996 to 2006. 300 *S. aureus* were isolates from blood, urine respiratory secretion and various tissues. Disk diffusion antibiogram methods was performed to find out resistance or susceptibility of *S. aureus* isolates to several antibiotics including Penicillin, Vancomycin, Cephalothin, Oxacillin, Methicillin and ect. Information about age, sex, underlying disease, surgery and the kind of specimens were obtained from recorded data in hospital file. Data were analyzed by SPSS, v.11; software.

Results: These finding demonstrated that 95 – 100% of the isolates were resistance to penicillin during this decade. The resistance rate to Vancomycin was increased from 17% to 43.9%. The rate of resistance of *S. aureus* to Cephalothin, Ciprofloxacin, Gentamicin, Oxacillin, Methicillin and linezolid were 38.5%, 28.7%, 28.6%, 92.7%, 39.7% and 2.5%, respectively. The resistance rate to Cephalothin, Ciprofloxacin, Gentamicin and vancomycin was significantly increased in isolates which separated from elder patients.

Conclusion: According to these results, the resistance rate to various antibiotics such as methicillin, Oxacillin and vancomycin increased. Therefore, treatment should be perform on base of microbiological analysis and empiric treatment with new drugs be supposed to be prescribed with precaution.

Keywords: Antibiotic Resistance; Disk Diffusion Test; *S. aureus*