Molecular Identification and Antibacterial Drug Resistance Pattern of Staphylococcus Aureus Isolated in Rasht, Iran

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Abstract

Background and Objective: Staphylococcus aureus is an important opportunistic pathogen causing a wide range of infections in human .Most clinical isolates of S.aureus are resistant to a number of antibiotics. For appropriate antimicrobial therapy, this study was conducted to determine antibacterial drug resistance patterns of S.aureus isolates obtained from different clinical samples in Rasht.

Material and Methods: the clinical isolates of S.aureus were collected from different clinical laboratories in Rasht. Thirty coagulase positive S.aureus strains were identified using biochemical tests and amplification of 23SrRNA and coa genes by polymerase chain reaction. Finally, the resistance pattern of the isolates to 16 selected antimicrobial agents was evaluated by disk diffusion method.

Results: the S.aureus isolates (75%) were resistant to methicillin and all of them were multidrug resistance. The isolates were high resistance to ampicillin (73%), amoxicillin (60%), cloxacillin (53%) and low resistance to vancomycin (7%) and gentamicin (10%).

Conclusion: given the high prevalence of methicillin resistant, multi drug resistant and presence of vancomycin resistant S.aureus isolates in Rasht, continuously monitoring of drug resistance pattern of S.aureus isolates is recommended for having appropriate therapeutic regime.

Keywords: Staphylococcus Aureus, Coagulase, Drug Resistance, PCR