

Molecular Survey on Erythromycin Resistant Staphylococcus aureus isolated Patient Using PCR Method

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Introduction: Staphylococcus aureus is one of the most common causes of nosocomial infections acquired in the community that like many microorganisms, the increasing emergence of resistant strains to antibiotics was observed. erythromycin are potent bacteriostatic agents that often used in the treatment of staphylococcal. Enzymatic inactivation of this antibiotic by methylation of 50s section of the bacterial ribosome is the major mode of mechanisms for bacterial resistance to this drug .The aim of this study was to investigate the molecular antibiotic erythromycin-resistant strains of Staphylococcus aureus isolated clinical centers in Rasht in 2015. **Materials and methods:** In this study 200 clinical isolates were collected patients in rasht educational hospitals. Staphylococcus aureus isolates were identified by standard biochemical test. Antibiotic susceptibility pattern determined by disk diffusion method (according to the CLSI) and minimum inhibitory concentration (MIC). For detection of resistance genes were used PCR method and was sequenced. **Results:** 66 strains of Staphylococcus aureus were identified. Based on the phenotypic investigation on erythromycin resistance by disk diffusion method, 53.3% resisting ,33.33% moderately resistant and 63/13% sensitive. Macro dilution method with resistance at 100% of the minimum inhibitory concentration showed 250 µg/ml In this method, PCR (100%) strains were resistant to the antibiotic erythromycin and the results were confirmed by sequencing the gene ermA. **Conclusion:** According to the result, the disk diffusion method is not reliable methods for determining antibiotic resistance and final approval need to be done. With macro dilution broth and the PCR methods. The prevalence of resistance to the antibiotic erythromycin indicates that this antibiotic to treat staphylococcal wound infections and is not suitable discharge and use of alternative antibiotic treatment is recommended.

Keywords : Key words: Staphylococcus aureus, erythromycin, antibiotic resistance,

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