

Vancomycin Resistance Pattern of *Staphylococcus Aureus* among Clinical Samples

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Abstract

Background and Objective: Vancomycin is used for treatment of methicillin-resistant *S. Aureus* (MRSA) infections; therefore, resistance to this antibiotic is increasing. We aimed to determine the antibiotic resistance pattern and frequency of vancomycin resistant *S. Areas* (VRSA) strains isolated from clinical samples.

Material and Methods: In this cross-sectional study, 100 *S. Aureus* isolates collected from hospitals in Shiraz during six months, 2012, were identified by biochemical, microbiological and molecular methods. After determination of antibiotic susceptibility pattern by disc diffusion method and vancomycin agar screening test, Minimum Inhibitory Concentration (MIC) was determined by E-test for vancomycin, thicoplanin, linezolid and quinupristin-dalfopristin.

Results: The most resistant and the most sensitive antibiotic were ampicillin (%95) and quinupristin-dalfopristin (99%), respectively, and 44% of isolates were resistant to methicillin. In agar screening test, 48% of strains had reduced sensitivity and in disc diffusion 3% strains were resistant to vancomycin. In E-test method, only one isolate was resistant to vancomycin.

Conclusion: given the presence of VRSA and new antibiotic resistant strains, we recommend doing some intervention to prevent from spreading these strains in hospitals. .

Keywords: Clinical Specimens, *Staphylococcus Aureus*, Vancomycin, Antibiotic Resistance