## Antibiotic Susceptibility of *Staphylococcus aureus* and *Enterococcus* Spp. Isolated from some Hospitals in Tehran

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## Abstract

**Background and Objective:** Vancomycin-resistant enterococci (VRE) and methicillin-resistant *Staphylococcus aureus* (MRSA) are the leading nosocomial pathogens in Iran. We aimed at evaluating the resistance patterns of *Staphylococcus aureus* and enterococci to the antibiotics recommended by Clinical and Laboratory Standards Institute (CLSI).

**Material and Methods:** Two-hundred forty *Staphylococcus aureus* and 203 *Enterococcus* isolated from urine, wound, blood, trachea, stool and other clinical specimens of inpatients and outpatients were obtain from some hospitals in Tehran. Sensitivity of *S. aureus to* oxacillin, vancomycin, chloramphenicol, nitrofurantoin, erythromycin, clindamycin and linezolid were determined by disk diffusion according to CLSI (M100-S22) guidelines. Likewise, sensitivity of enterococci to ampicillin, vancomycin, teicoplanin, tigecycline, linezolid, tetracycline, chloramphenicol and nitrofurantoin was invesditated by the same method.

**Results**: Of 240 S. aureus isolates, 56%, 46.6% and 40.4% were resistant to oxacillin, erythromycin and clindamycin, respectively. We found one S. aureus isolate with low susceptibility to vancomycin (VISA; 0.5%). All S. aureus isolates were sensitive to chloramphenicol, nitrofurantoin and linezolid. Of 203 Enterococcus spp., 47.3%, 24.6%, 9.4%, 85.2%, 11.3% and 4.4% were resistant to ampicillin, vancomycin, teicoplanin, tetracycline, chloramphenicol and nitrofurantoin, respectively. All these isolates were sensitivity to tigecycline and linezolid.

**Conclusion:** Resistance of *S. aureus* isolates to oxacillin, erythromycin and clindamycin was significant. Enterococci isolates were remarkably resistant to ampicillin, vancomycin, teicoplanin, tetracycline, chloramphenicol and nitrofurantoin. Given our results, we suggest vancomycin, chloramphenicol, linezolid and nitrofurantoin for *S. aureus* infections and tigecycline and linezolid as drugs of choice for enterocoocal infections treatment.

Keywords: Staphylococcus aureus, Enterococcus, Tehran, Hospitals