

# Abstract

*Staphylococcus aureus* is an important cause of nosocomial and community-associated infections in every region of the world. Clindamycin is one of the alternative agents used to treat *S. aureus* infections and accurate identification of CL resistance is important to prevent therapeutic failure. Unfortunately, inducible CL resistance is not detected by standard susceptibility tests. The aim of the present study was to detect the prevalence of inducible CL resistance among clinical isolates of *S. aureus* and to determine the susceptibility pattern of iMLS<sub>B</sub> *S. aureus* isolates to various antimicrobials. Different clinical samples were collected from 310 patients suffering from various bacterial infections. Different specimens were cultured and the isolates were identified by conventional microbiological methods. Antibiotic susceptibility testing was performed by Kirby-Bauer disk diffusion method and inducible CL resistance was determined by using the double-disk diffusion method (CL induction or D-zone test). One hundred clinical isolates of *S. aureus* (78 MRSA and 22 MSSA) were recovered. Inducible CL resistance was detected in 17% of the isolates (11% D and 6% D<sup>+</sup>), whereas constitutive resistance, negative and susceptible phenotypes were detected in 32%, 12% and 39% of the isolates respectively. Moreover, the constitutive resistance phenotype predominated among MRSA isolates (37.2%) while most of the MSSA isolates (63.6%) showed the susceptible phenotype. All iMLS<sub>B</sub> isolates were susceptible to vancomycin and linezolid and it was found that the inducible resistance phenotype was more susceptible to augmentin, cefoperazone, gentamycin and ciprofloxacin than was the constitutive resistance phenotype. It was concluded that without the D-zone test, *S. aureus* isolates with inducible CL resistance may be misclassified as CL susceptible, resulting in underestimation of CL resistance rate.

**Key words:** *S. aureus*, inducible CL resistance, D-zone test.