

## Molecular Detection of Inducible Clindamycin Resistance Among Staphylococcal Strains Isolated from Clinical Specimens

Rashid Ramazanzadeh\*<sup>1</sup>; Shadi Abdollahi<sup>2</sup>

1-Molecular Research Center and Microbiology Department, Faculty of Medicine, Kurdistan University of Medical Science, Kurdistan, Iran

2- Department of Microbiology, Faculty of Science, Azad Islamic University of Zanjan, Zanjan, Iran

atrop\_t51@yahoo.com

**Background & Objectives:** Macrolide, lincosamide and streptogramin B (MLSB) antimicrobial agents are used in the treatment of staphylococcal infections that prevents the binding of the antibiotic to 23S rRNA. The aim of this study was to molecular detection of inducible clindamycin resistance among Staphylococcal strains isolated from clinical specimens.

**Methods:** Twenty hundred staphylococcus strains has been isolated from nose and throat swabs of patients in Sanandaj Toohid and Besat hospitals. Antimicrobial susceptibilities were determined by using disc diffusion methods, Methicillin resistance by agar screen test and inducible clindamycin resistance by the D-Test. A multiplex PCR was performed, using primers specific for erm (A, B, C, TR) genes.

**Results:** Out of 200 isolates, 18.5% were MRSA and 32% MRCNS. From 80 erythromycin resistant staphylococci isolates 48 were coagulase negative staphylococci and 32 were *S. aureus*. Among the 48 CONS isolates, 11.63% expressed the MLSB-inducible phenotypes. By using PCR, the 5.41% erm (A), 5.41% erm(B), 3.13% erm(C) were harbored genes. The ermTR gene was negative in all isolates. Among the 32 *S. aureus* isolates 9.38%, expressed the MLSB-inducible phenotype. By using PCR of these isolates harbored the 2.22%erm (A), 2.22% erm (B), 2.22% erm(C), and 2/22% ermTR genes.

**Conclusion:** This is the first study to show the rate of inducible clindamycin clinical isolate and erm genes in Sanandaj. Also, the rate of erm genes was high in CONS isolates than *S. aureus*. This date indicate the transfer of resistance gene from nonpathogenic to pathogenic strains. Therefore screening and control of these resistance genes has been suggested in clinical laboratories.

**Keywords:** Coagulase Negative Staphylococci; *S. aureus*; MLSB; D-Test; erm