

## Detection of Multidrug Resistant Patterns and Associated-genes of Methicillin Resistant *Staphylococcus aureus* (MRSA) Isolated from Clinical Specimens

Eun-Gyoung Lim, Young-Hee Kim, Ji-Yung Mun, Yung-Bu Kim  
and Yang-Hyo Oh

*Department of Microbiology, College of Medicine, Pusan National University, Pusan, Korea*

MRSA was isolated from the clinical specimens obtained from the clinical patients at *Pusan National University Hospital, Pusan, Korea*. The sensitivities against various antibiotics were examined by using disc diffusion test and associated genes such as *mecA*, *mecR1*, *mecI* and *femA* were detected by polymerase chain reaction.

Among seventy-nine strains of MRSA, 38 strains (48.1%) were sensitive to streptomycin and 32 strains (40.5%) to cefoperazone, while one strain (1.3%) were resistant to vancomycin. In considering the result of this study, 7 strains showed resistance to 9 kinds of different antibiotics, 12 strains were to 8 kinds, 24 strains were to 7, 25 strains were to 6, 9 strains were to 5 and 2 strains were resistant to 4 antibiotics. Among seventy-nine strains

of MRSA, 67 strains were coagulase positive and twelve were coagulase negative.

In the detection of MRSA associated genes by PCR method, *mecA*, *mecR1*, *mecI* and *femA* were detected in 30 strains (44.8%), 28 strains (41.8%), 23 strains (34.3%) and 15 strains (22.4%), respectively. *mecA* type that is without *femA* were found in 21 strains (31.3%), *femA* type that is without *mecA* were in 6 strains (9.0%) and *mecA-femA* type were in 9 strains (13.4%). *MecA* type that is without regulator genes were separated in 4 strains (6.0%), while *mecA-mecR1-mecI* type that are with regulator genes were separated more to be 17 strains (25.4%). There was little statistical significance between multidrug resistance and MRSA associated genes.