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Detection of panton valantine leukocidin gene among Egyptian isolates of staphylococcus aureus

Panton valantin leukocidin (PVL) is a virulent factor, which is a pore forming exotoxin that is expressed by some *Staphylococcus aureus* strains. It is composed of two water soluble proteins Luk-F-PV and Luk-S-PV that cause death of polynuclear cells and monocytes. We conducted a study to determine the prevalence of PVL gene among *Staphylococcus aureus* isolates from Egyptian hospitals. Methicilin resistant and sensitive isolates of *Staphylococcus aureus* (MRSA and MSSA) were enrolled to detect PVL gene by polymerase chain reaction. Among the tested isolates of *Staphylococcus aureus*, 11.9% harbored PVL gene. There was no significant PVL prevalence difference between MRSA and MSSA. PVL gene was also detected among other Gram positive bacterial isolates. The highest PVL prevalence was observed in isolates from blood specimens (25%) and pus (10,2%), while only one pleural fluid sample was enrolled and was harboring PVL gene. Among enrolled isolates from males, 18.4% had PVL gene, while all isolates from females were PVL negative. Sensitivity and specificity of Chrom ID MRSA for direct detection of MRSA isolates were 64.3% and 96% respectively, as compared to conventional antibiotic sensitivity method. We concluded that PVL gene is significantly found among MRSA isolates from hospitals, Early detection of PVL carrying *S. aureus* is recommended in critical care areas to limit its spread and preferably to include both MRSA and PVL detection in one panel of multiplex PCR for PVL and *mecA* genes.

Biography

Ayman Kamal El Essawy has PhD in Microbiology, (Ain Shams University, Egypt), a diploma in Hospital Infection Control (Claude Bernard-Lyone 1 University, France) and a Diploma in Biostatistics (Ain Shams University, Egypt). He is fellow of Microbiology at Ain Shams University. He worked at Al Azhar University & American Naval Medical Research Unit No.3 (NAMRU-3) and Ain Shams University Genetic Engineering/biotechnology center. Head of laboratory department & Regional manager of infection prevention and control-Southern region, Magrabi Health, Saudi Arabia. His is publishing in the field of Microbiology and Molecular Microbiology. He is particularly interested in the study of bacterial resistance to antibiotics.

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