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MOLECULAR STUDY OF PANTON VALENTINE LEUKOCIDIN GENE AND MECA AMONG STAPHYLOCOCCUS AUREUS ISOLATED FROM HOSPITAL ACQUIRED INFECTIONS AND COMMUNITY ACQUIRED INFECTIONS

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Aim: In the present study, the aim was to define the prevalence of Pantone Valentine leukocidin gene and MecA genes among community acquired infection (CAI) and hospital acquired infections (HAI) due to *S.aureus* strains.

Materials & Methods: The study was performed on one hundred ninety six *S.aureus* strains isolated from clinical samples from hospital acquired infections obtained from HAI or CAI. *S.aureus* isolates were subjected to molecular study for MecA gene and Pantone Valentine leukocidin (PVL) by multiplex polymerase chain reaction (multiplex-PCR).

Results: PVL gene was significantly detected in higher frequency in CAI (41.9%), $P=0.0001$ compared to HAI (16.1%). However, MecA gene was detected significantly in HAI (23.6%), $P=0.02$ compared to CAI (10.8%), The majority of Methicillin-resistant *Staphylococcus aureus* (MRSA) strains had PVL gene (66.7%).

Conclusion: The findings of the present study supports the hypothesis that PVL gene was significantly associated with community acquired infections. However, the combined presence of MecA gene and PVL were also common in *S.aureus* isolated from hospital acquired infections. PVL gene was prevalent in wound infections. Further studies are required to determine if PVL gene can be used as a distinctive marker for CAI infections in Egypt.

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