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RESEARCH ARTICLE

Investigation of Pantone-Valentine leukocidin gene among Methicillin resistance for *Staphylococcus haemolyticus* isolates from Cesarean section infections in Al-Basrah governate, Iraq

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ABSTRACT

Background: The methicillin-resistant (MR) *staphylococci* are mainly characterized via the presence of the *mecA* gene that encodes the production of a low-affinity Penicillin-binding protein (PBP) known as (PBP2a). the *pvl* as a virulence factor of the synergy-menotropic venom virulence. The *pvl* is a part of family of homeotropic toxin that is composed of two various components and works together on the cellular membrane synergistically.

Methods: One hundred and fifty swab samples were collected from women who had cesarean sections at Al-Basrah Teaching Hospital between October 2022 to January 2023. The Vitek[®] 2 system test revealed for identifying growth. Genomic DNA was extracted from *S.haemolyticus* isolates according to Geneaid kit protocol, the extraction DNA was amplified by using PCR for *mecA* gene detection using a specific primer approximately (533bp) and amplified the *pvl* gene detection using detection using specific primer approximately (433bp).

Results: From October 2022 to January 2023, one hundred and fifty swab samples were collected. The samples showed 57 (38%) positive bacterial growth, distributed 51 (89.5%) Gram-positive bacterial isolates, while 6 (10.5%) gram-negative bacterial isolates, by Using the Vitek[®] 2 system, various bacterial species were identified. Out of 34 Gram -positive bacteria isolates, the most predominate *Staphylococcus hemolyticus* 28(82.4%). while the Gram negative bacteria isolates included *Klebsiella spp* 4(66.7%) isolates, , *Escherichia coli* 2 (33.3%) isolates. out of (n = 34) isolates *Staphylococcus spp.* were distributed to 28 (82%) *S.haemolyticus* and 6 (18%) *S.aureus* isolates were gave positive results for detection of the *mec A* gene. While out of (n = 34) isolates were divided into 25 (74%) *Staphylococcus spp* isolates gave a positive result for the detection of the *pvl* gene, while the 9 (26%) isolates were shown negative results for the detection of the *pvl* gene

Conclusions: Most isolates of *S.haemolyticus* and *S.aureus* were producing Methicillin resistance *mecA* gene and Pantone-Valentine leukocidin (*pvl*) gene

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