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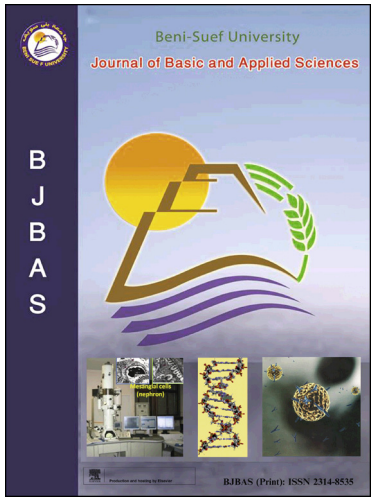

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Detection of Methicillin Resistant and Toxin-Associated Genes in *Staphylococcus aureus*

Cajethan Ezeamagu [1*], Irene Imanatue[1] Margaret Dosunmu[1,] Adebola Odeseye[2], Glory Baysah[1], Daniel Aina[1] Foluke Odutayo[3] and Grace Mensah-Agyei[1]

[1]Department of Microbiology, Babcock University, Ilishan-Remo, Ogun State, Nigeria

[2]Nigerian Institute of Science Laboratory Technology Ibadan, Oyo State, Nigeria

[3] Department of Basic Sciences, Babcock University, Ilishan-Remo, Ogun State, Nigeria

*****Correspondence: onyezecajeth@yahoo.com; Tel.: +2348033661588

Abstract

Methicillin-resistant *Staphylococcus aureus* is a problem in both healthcare institutions and community settings. This is due to its multi-drug resistant challenges. Hence, this study assessed the prevalence of methicillin resistant gene (*mecA*), exfoliative toxin (*eta* and *etb*) and toxic shock syndrome (tsst-1) genes in *S. aureus* isolated from clinical samples. A total of 120 clinical samples of patients (urine, high vagina swab (HVS), semen, wound swab, sputum and urethral swab) from a hospital laboratory were obtained. *S. aureus* was isolated and then identified with API-staph kit. Antibiotic susceptibility of the isolates was determined by agar diffusion while PCR was used to detect the presence of *mecA* and toxin-associated genes. Fifty *S. aureus* isolates were obtained at frequencies of 26(52%), 12(24%), 4(8%), 3(6%), 3(6%) and 2(4%) from the HVS, urine, semen, wound, sputum and urethral swab samples respectively. All the isolates of *S. aureus* were resistant to the antibiotics used in this study. *MecA*, *tsst-1*, *eta* and *etb* were detected in 19(38%), 7(14%), 3(6%) and 2(4%) of the isolates respectively. The prevalence of MRSA and its resistance pattern observed in this study was a signal that the health-care workers and the general public are at risk.

Keywords: *S. aureus*; Methicillin resistance; Staphylococcal toxins

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