

Abstract

Staphylococcus aureus produces a wide variety of exotoxins that contribute to its ability to cause disease in hosts. The pyrogenic toxin superantigens (PTSAGs) are a group of exotoxins secreted by some strains of *S. aureus*. The family of PTSAGs presently includes *TSST-1* and most of the staphylococcal enterotoxins. Identification of these factors is essential in the recognition of Pathogenic bacteria. The main objective of this study was to identify Enterotoxins A, B, C, D, E, Toxic shock syndrome (*TSST-1*) and Exfoliative toxin (A/B) genes of Methicillin-Resistant and Methicillin-Sensitive *Staphylococcus aureus* isolates collected from clinical samples by PCR method. The present study was conducted on 60 *Staphylococcus aureus* isolates. Methicillin-resistant and susceptible isolates were detected by oxacillin screening agar test as per CLSI guidelines. The bacterial genomic DNA was extracted by boiling method. Prevalence of genes encoding Toxic shock syndrome (*tst*), Exfoliative toxin (ETA/ETB), and Enterotoxin (seA, seB, seC, seD, seE) were detected by PCR and specific primers. Of total 60 *S.aureus* isolates 32 and 28 isolates were methicillin-resistant and sensitive, respectively. Frequency of enterotoxin, exfoliative and toxic shock syndrome genes in resistant isolates were %50, %21/87, %3/12, respectively. In sensitive isolates the prevalence of above genes were %10/71, %7/14, and % 0, respectively. The results indicated that the prevalence of methicillin resistant isolates and the strains carrying causative gene for Enterotoxin and Exfoliative, is high in Sistan region. Also, circulation of these isolates can lead to much more severe effects in individual patients with weak immune system.

Keywords : *Staphylococcus aureus*, Enterotoxin, Exfoliative, Toxic shock Syndrome



University of Zabol

Graduate School

Department of Biology

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Identification of Enterotoxin, Toxic shock syndrome and Exfoliative toxin
gene of Methicillin-Resistant and Methicillin-Sensitive *Staphylococcus aureus*
isolates collected from clinical samples

Supervisor

Dr. Ahmad Rashki

Advisors

Dr. S. Esmailzadeh Bahabadi

Dr. F.Haddadi

BY

Simin Sadat Ayati

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