The Prevalence of Toxin Shock Syndrome Toxin (TSST-1) Producing Clinical Isolates of *Staphylococcus aureus S*trains Isolated from Shohada Hospital in Tabriz, Iran

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Abstract

Background and objectives: *Staphylococcus aureus* is one of the most important etiological agents of hospital and community acquired infections. The enterotoxins and toxin shock syndrome toxin (TSST-1) are among the most common virulent determinants of this bacterium. They are also well-known for their super-antigenic properties. The incidence of TSST-1 producing strains is also very alarming. The aim of this investigation was to survey the prevalence of TSST-1 gene in the clinical isolates of S. aureus recovered from hospitalized patients in Shohada hospital of Tabriz, Iran.

Material and Methods: During one year period, 1454 specimens obtained from hospitalized patients were investigated. After doing Isolation and purification, the isolates were identified by routine bacteriological methodologies.Their antibiotic susceptibility patterns were determined by agar disk diffusion method. Following genomic DNA extraction by boiling method, the presence of TSST-1 gene was analyzed by PCR.

Results: A total 100 S. aureus isolates were recovered (6.87%). Antibiogram results indicate that all of the isolates are sensitive to linzolid; 83% of them are resistant to meticillin. The prevalence rate of TSST-1 gene in the isolates is 20%.

Conclusion: The high prevalence of TSST-1 gene in studied *S. aureus* strains and their circulation in the community can have a potentially alarming effect on general health of community.

Key words: *Staphylococcus aureus*, TSST-1, Antibiotic resistance, PCR