

عنوان مقاله:

The prevalence of exotoxins, adhesion, and biofilm-related genes in *Staphylococcus aureus* isolates from the main burn center of Tehran, Iran

محل انتشار:

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خلاصه مقاله:

Objective(s): The present study investigated the prevalence of genes encoding for exotoxins, adhesion and biofilm factors in *Staphylococcus aureus* isolates obtained from samples in a referral burn hospital in Tehran, Iran. **Materials and Methods:** *S. aureus* isolates obtained from patients, personnel and surfaces in the wards of a burn hospital were identified and confirmed by biochemical and molecular tests, respectively. The susceptibility of isolates was determined using the disk diffusion method. Virulence factors were detected by multiplex PCR. **Results:** The frequency of *hla*, *hly*, *hld*, *hlg*, *tst* and *pvl* genes was 92.8%, 34.7%, 89.8%, 11.9%, 10.7%, and 0.5% respectively. The results revealed that the *hla* gene had the highest frequency among isolates (94.4% for methicillin-resistant *S. aureus* (MRSA) and 89.8% for methicillin-susceptible *S. aureus* (MSSA)). The most prevalent adhesion and biofilm-related gene was *eno* (85.6%). The prevalence of the remaining genes was as follows: *fib* (71.8%), *clfB* (70%), *cna* (59.2 %), *fnbB* (17.9%), *icaA* (72.4%), and *icaD* (85.6%). The incidence of *fib*, *hly*, *hlg*, and *tst* genes was significantly higher in MRSA isolates compare to the MSSA isolates. Moreover, the resistance rates for all antibiotics were higher in MRSA isolates except for nitrofurantoin and chloramphenicol antibiotics. **Conclusion:** Data indicate the high prevalence rates of virulence factors among *S. aureus* isolates, especially MRSA strains in the burn hospital. This should to be taken into account in the development of an effective infection control policy and continuous monitoring of drug resistance in hospitals.

کلمات کلیدی:

MRSA, virulence factors, Adhesin and biofilm genes, Burn, Iran

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