

## عنوان مقاله:

Molecular and Phenotypic Characterization of Methicillin-Resistant Staphylococcus aureus in Community and Hospital Acquired Infections in Bandar Abbas

## محل انتشار:

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## خلاصه مقاله:

**Backgrounds:** This study aimed to assess the molecular characteristics of methicillin-resistant Staphylococcus aureus (MRSA) strains isolated from community-acquired (CA) and hospital-acquired (HA) infections in Bandar Abbas, southern Iran. **Materials & Methods:** This descriptive cross-sectional study was conducted on 110 S. aureus strains isolated from 59 outpatients and 51 inpatients during 2018-2019. Antimicrobial susceptibility testing was performed using disc diffusion method. Epsilonometer test was used to measure vancomycin minimum inhibitory concentration (MIC). Cefoxitin disc (30 µg) was used to screen MRSA isolates. The presence of mecA gene was examined by PCR method. Staphylococcal cassette chromosome mec (SCCmec) types were detected in S. aureus isolates using multiplex-PCR. Chi-square and Fisher's exact tests were used to analyze the results. **Findings:** Out of 110 isolates, 45 (40.9%) isolates carried the mecA gene: 20 (39.2%) isolates from inpatients and 25 (42.4%) isolates from outpatients. MRSA isolates showed the highest resistance to azithromycin (69.8%), tetracycline (60.4%), and clindamycin (32.1%), respectively. Vancomycin MIC against MRSA isolates ranged from 0.75 to 5 µg/mL. SCCmec type I, III, IV, and V were detected in 20 (44.4%), three (6.7%), 16 (35.5%), and six (13.3%) isolates, respectively. **Conclusion:** The predominant SCCmec types were type I and type IV, which were detected in CA- and HA-MRSA isolates, respectively. No significant difference in the presence of SCCmec type III and antibiotic resistance was found between CA- and HA-MRSA isolates, indicating the possibility of cross-infection between these isolates. Developing appropriate treatment protocols to prevent the spread of MRSA infections in the community is currently an urgent need.

## کلمات کلیدی:

Staphylococcus aureus, Methicillin resistance, Drug resistance, Iran, Penicillin-binding protein

## لینک ثابت مقاله در پایگاه سیویلیکا:

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