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# Prospective Analysis of Antibiotic Susceptibility Patterns of MRSA in a Turkish University Hospital

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**Abstract:** Methicillin-resistant Staphylococcus aureus (MRSA) is an important nosocomial pathogen. The prevalence of MRSA in many countries is increasing and, in some hospitals, more than half of all S. aureus disease isolates are MRSA. MRSA strains are becoming increasingly multiresistant, and have recently developed resistance to vancomycin, which has been used successfully to treat MRSA for more than 30 years. In-vitro determination of resistance patterns of S. aureus is critical in terms of administering suitable antimicrobial treatments. The objective of this study was to identify the frequency of MRSA from various clinical samples and resistance patterns against various antibiotics used broadly for treatments. All isolated S. aureus strains were identified using standard procedures and tested for oxacillin resistance according to methods of the National Committee for Clinical Laboratory Standards. A total of 345 coagulase-positive Staphylococci and 187 MRSA were isolated. We found that the incidence of MRSA in intensive care units (ICUs) and burn center was 23.4% (145/620) and 29.6% (32/108), respectively. This rate was 7% (10/143) in the other units. Resistance rates of MRSA were 29.9% for trimethoprim-sulfamethoxazole, 60.8% for clindamycin, 71.8% for erythromycin, 7.7% for teikoplanin, 90.1% for gentamycin, 88.8% for ofloxacin, 88.1% for norfloxacin and 100% for penicillin. All isolates were found to be sensitive against vancomycin. In our region, although methicillin resistance increased in S. aureus strains, teicoplanin resistance remained low in MRSA, suggesting an effective alternative treatment for Staphylococcus aureus infections. These results indicated that vancomycin seemed to be the only antimicrobial agent effective against MRSA and it could be the choice of medicine in treating multidrug resistant MRSA infection.

**Key Words:** Staphylococcus aureus, MRSA, antibiotic, resistance, susceptibility

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