The Prevalence of Antibiotic Resistance Pattern of Staphylococcus Aureus Isolated from Nasal Carriage of Surgical Ward’s Staff in Shahidrajaee Hospital of Tonekabon, Iran

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Abstract

Background and Objective: Staphylococcus aureus is one of the important factors causing nosocomial infections. Typically 25-30 percent of healthy people carry the bacteria in their anterior nasal cavity. The physicians (50%), nurses (70%) and hospital staff (90%) are the carriers of this bacteria, leading to the infection of inpatients. The emergence of antibiotic-resistant Staphylococcus strains to vancomycin and methicillin has brought about several problems in treatment of the infections caused by Staphylococcus strains. Hence, we aimed to study the frequency of staphylococcus aureus carriers and resistance pattern among medical personnel of the surgical ward in ShahidRajaee hospital, Tonekabon.

Material and Methods: This analytic-descriptive study was conducted on the samples taken from nasal carriage of medical staff of surgical ward (N=120). Antibiotic-resistant Staphylococcus strains was assessed by antibiogram and disk diffusion (DAD), in accordance with CLSI standards.

Results: Of 34 (28.33%) who are nasal carriers of staphylococcus, 12 are over 30 years old and 24 under 30. Based on antibiogram, 1.97% of specimens are sensitive to Gentamicin and Co-trimoxazole, 1.94% to Ciprofloxacin, 2.88% to Vancomycin and 6.20% to Methicillin. In addition, 100% of specimens are resistant to Ampicillin, 1.97% to Penicillin and 2.88% to Amoxicillin. Four isolates are resistant, both to methicillin and vancomycin.

Conclusion: In this study, the spectrum of S. aureus resistant and sensitive strains to some antibiotics is similar to other studies, but a dramatic increase is seen in the rate of MRSA and non-susceptible cases to vancomycin. The Effectiveness of Penicillin, Amoxicillin and Ampicillin is still very low on S. aureus samples.

Key words: Prevalence Resistance Pattern, Staphylococcus aureus, Medical Staff, Nasal Cavity, Tonekabon