

Evaluation of Antibiotic Resistance Profiles of Staphylococci Isolated from Various Clinical Specimens

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Abstract : Objective: Goal of this study was to determine the antibiotic resistance of Staphylococcus aureus (S. aureus) and Methicillin resistant staphylococcus aureus (MRSA) strains isolated at Medical Microbiology Laboratory of ANS Application and Research Hospital, Afyon Kocatepe University, Turkey. Methods: S. aureus strains isolated between October 2012 and September 2016, from various clinical specimens were evaluated retrospectively. S. aureus strains were identified by both the conventional methods and automated identification system -VITEK 2 (bio-Mérieux, Marcy l'etoile, France), and Methicillin resistance was verified using oxacillin disk with disk-diffusion method. Antibiotic resistance testing was performed by Kirby-Bauer disc diffusion method according to CLSI criteria, and intermediate susceptible strains were considered as resistant. Results: Seven hundred S.aureus strains which were isolated from various clinical specimens were included in this study. These strains were mostly isolated from blood culture, tissue, wounds and bronchial aspiration. All of 306 (43,7%) were oxacillin resistant. While all the S.aureus strains were found to be susceptible to vancomycin, teicoplanin, daptomycin and linezolid, 38 (9.6 %), 77 (19.5 %), 116 (29.4 %), 152 (38.6 %) and 28 (7.1 %) were found to be resistant against to clindamycin, erythromycin, gentamicin, tetracycline and sulfamethoxazole/trimethoprim, retrospectively. Conclusions: Comparing to the Methicillin sensitive staphylococcus aureus (MSSA) strains, increased resistance rates of, trimethoprim-sulfamethoxazole, clindamycin, erythromycin, gentamicin, and tetracycline were observed among the MRSA strains. In this study, the most effective antibiotic on the total of strains was found to be trimethoprim-sulfamethoxazole, the least effective antibiotic on the total of strains was found to be tetracycline.

Keywords : antibiotic resistance, MRSA, Staphylococcus aureus, VITEK 2

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