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Typification and Determination of Antibiotic Resistance Rates of Stenotrophomonas Maltophilia Strains Isolated from Intensive Care Unit Patients in a University Practice and Research Hospital

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Abstract : Objective: Stenotrophomonas maltophilia (S. maltophilia) has recently emerged as an important nosocomial microorganism. Treatment of invasive infections caused by this organism is problematic because this microorganism is usually resistant to a wide range of commonly used antimicrobials. We aimed to evaluate clinical isolates of S. maltophilia in respect to sampling sites and antimicrobial resistant. Method: During a two years period (October 2013 and September 2015) eighteen samples collected from the intensive care unit (ICU) patients hospitalized in Afyon Kocatepe University, ANS Practice and Research Hospital. Identification of the bacteria was determined by conventional methods and automated identification system-VITEK 2 (bio-Mérieux, Marcy l'toile, France). Antibacterial resistance tests were performed by Kirby Bauer disc (Oxoid, England) diffusion method following the recommendations of CLSI. Results: Eighteen S. maltophilia strains were identified as the causative agents of different infections. The main type of infection was lower respiratory tract infection (83,4 %); three patients (16,6 %) had bloodstream infection. While, none of the 18 S. maltophilia strains were found to be resistant against to trimethoprim sulfametaxasole (TMP-SXT) and levofloxacine, eight strains 66.6 % were found to be resistant against ceftazidim. Conclusion: The isolation of S.maltophilia starains resistant to TMP-SXT is vital. In order to prevent or minimize infections due to S. maltophilia such precuations should be utilized: Avoidance of inappropriate antibiotic use, prolonged implementation of foreign devices, reinforcement of hand hygiene practices and the application of appropriate infection control practices. Microbiology laboratories also may play important roles in controlling S. maltophilia infections by monitoring the prevalence, continuously, the provision of local antibiotic resistance paterns data and the performance of synergistic studies also may help to guide appropirate antimicrobial therapy choices.

Keywords : Stenotrophomonas maltophilia, trimethoprim-sulfamethoxazole, antimicrobial resistance, Stenotrophomonas spp.
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