

Identification and Antibiotic Resistance Rates of Proteus Mirabilis Strains from Various Clinical Specimens in a University Hospital, 2013-2015

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Abstract : Objective: *Proteus mirabilis* (*P. mirabilis*) is one of Gram-negative pathogens in human and it causes urinary tract and nosocomial infections. *P. mirabilis* is susceptible to β -lactams, aminoglycosides, fluoroquinolones, and trimethoprim/sulfamethoxazole. It was aimed to investigate the resistance status to antimicrobial agents of *Proteus mirabilis* strains produced from samples sent to Afyon Kocatepe University, ANS Research and Practice Hospital, Microbiology Laboratory from different clinics and polyclinics during the period of 24 months. Methods: Between October 2013 and September 2015, a total of 30 *Proteus* were isolated from clinical samples of patients were hospitalized in intensive care units and in various departments of Afyon Kocatepe University, ANS Research and Practice Hospital. Identification of the bacteria was determined by conventional methods and VITEK 2 system (bioMérieux, France) was used additionally. Antibacterial susceptibility tests were performed by Kirby Bauer disc (Oxoid, Hampshire, England) diffusion method following the recommendations of CLSI. Results: Of the total 30 *Proteus* strains isolated from clinical samples, 19 from urine, 7 from wound, 4 from tracheal aspiration materials were isolated. Antimicrobial resistant for these strains were determined to 24,3% for meropenem, 26.2% for imipenem, 20.2% for amikacin 10.5% for cefepim, 33.3% for ciprofloxacin and levofloxacin, 31.6% for ceftazidime, 20% for ceftriaxone, 15.2% for gentamicin and 26.6% for amoxicillin-clavulanate, 26.2% trimethoprim-sulfamethoxale. Conclusion: In the present study, the highest number of clinical isolates of *P. mirabilis* were isolated from urine (63,3%), followed by the others (36,6%). The distribution of samples *P. mirabilis* strains to the clinics were as follows; 16,8% intensive care unit (ICU), 29,9% polyclinics, 53,3% hospital service units The most effective antibiotic on the total of strains were found to be cefepim, the least effective antibiotics on the total of strains were found to be trimethoprim-sulfamethoxale.

Keywords : proteus mirabilis, antibiotic resistance, intensive care unit, *Proteus* spp.

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