Subtheme 1: Chronic illness and care   OP3

Antibiotic sensitivity pattern of uropathogens among inpatients with a positive urine culture at Teaching Hospital Jaffna

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Background and Objective: Inappropriate use of antibiotics has led to the emergence of antimicrobial resistance. This study describes the antibiotic sensitivity patterns of uropathogens and the association of age and sex with uropathogen isolated in adult inpatients with a positive urine culture at Teaching Hospital Jaffna.

Methods: All positive urine culture reports of adult inpatients (>18years) investigated at the Microbiological Unit of Teaching Hospital Jaffna during a 3-month period (October 1st to December 31st 2020) were analysed retrospectively. Data were extracted manually from the culture reports and then analysed with SPSS v27. Chi-Square test was used to assess the association between age, sex, and uropathogen. The critical value was set at 0.05.

Results: Data were extracted from 426 culture reports. The mean age was 53 years (SD 19.9); almost half (47.2%, n=201) of the reports were of patients ≥60 years, and the majority were female (60.1%, n=256). Antibiotics had been prescribed prior to culture to 183 (43%) patients, most commonly co-amoxiclav (24%, n=44). Coliforms were the commonest isolate (63.7%, n=270), followed by *Candida* spp (18.9%), *Pseudomonas* (8.2%), *Acinetobacter* (4.2%), *Enterococcus* (4.2%) and *Staphylococcus aureus* (0.7%). Age group (p=0.042) and gender (p=0.03) were significantly associated with the type of uropathogen. A large proportion of Coliform isolates showed resistance to several commonly prescribed antibiotics, including ampicillin (91%), ceftazidime (66.6%), ceftriaxone (60%), amoxicillin (51.9%), cefuroxime (46.1%), norfloxacin (43.6%), cotrimoxazole (41.5%) and ciprofloxacin (41.5%), while a substantial proportion was also resistant to nitrofurantoin (23.7%), gentamicin (22.4%), amikacin (16.9%) and meropenem (12.4%). A large proportion of *Pseudomonas* isolates showed resistance to aztreonam (66.6%) and cotrimoxazole (50%), while a substantial proportion was also resistant to meropenem (33.3%), ciprofloxacin (32.4%), norfloxacin (32.3%), gentamicin (30.3%), amikacin (30%) and ceftazidime (22.2%).

Conclusions: Antibiotic resistance is a worrying concern at Teaching Hospital Jaffna. A sizeable proportion of patients with urinary tract infections receive antibiotics prior to culture. Urine should be sent for culture before commencing antibiotics to ensure that treatment is guided by sensitivity patterns. Institutional policies are needed to guide prescription and monitor resistance to commonly prescribed antibiotics.

Keywords: Uropathogens, Antibiotic sensitivity pattern, Empirical antibiotic therapy, Coliforms