Factors associated with Urinary tract infections caused by extended spectrum β-lactamase (ESBL) producing organisms in Sri Lanka

S. Fernando¹, N. Luke¹, S. Wickramasinghe¹, B. Sebastiampillai¹, M. Gunathilake¹, N. Miththinda¹, S. Silva¹, R. Premaratna²
¹ Professorial Medical Unit, Colombo North Teaching Hospital, Ragama, Sri Lanka, Ragama, Sri Lanka
² Faculty of Medicine University of Kelaniya, Ragama, Sri Lanka

Background: Urinary tract infections (UTI) caused by extended-spectrum β-lactamase (ESBL)-producing organisms are a major burden in clinical practice. Hospitalization in the past 3 months, antibiotic treatment in the past 3 months, age over 60 years, diabetes mellitus, Klebsiella pneumoniae infection, previous use of second or third-generation cephalosporins, quinolones or penicillins are known associations and risk factors for ESBL-UTI.

Methods & Materials: A descriptive study was conducted over a period of 6 months from January - July 2015 recruiting patients with UTI caused by ESBL producing organisms, who were admitted to the Professorial Medical unit, Colombo North Teaching Hospital, Ragama Sri Lanka in order to identify risk factors and associations. Data were obtained using a pre-tested interviewer administered questionnaire and from relevant medical records after obtaining informed written consent.

Results: 52 patients were recruited; males 30 (57.7%), mean (SD) age 64.1(12.6) years. Of them, 46 (88.5%) had diabetes mellitus, 32 (61.5%) had hypertension and 10 (19.2%) had chronic liver disease as comorbidities. 20 (38.5%) had Klebsiella pneumoniae infection. Biochemical and/or ultrasonographic evidence of acute pyelonephritis was observed in 18 (34.6%). Hospitalization during the past 3 months was seen in 24 (46.2%) and history of urinary catheterization in 18 (34.6%). Features of obstructive uropathy such as hydronephrosis, hydrourereter and prostatomegaly were seen in 4 (7.7%) patients each. Antibiotic treatment in the past 3 months was observed in 32 (61.5%); penicillins in 18 (34.6%), 3rd generation cephalosporins in 16 (30.8%), quinolones in 14 (26.9%) and 2nd generation cephalosporins in 12 (23.1%). 18 (34.6%) had received more than one antibiotic within the past 3 months. 8 (15.4%) patients each had received antibiotics prior to developing ESBL-UTI.

Conclusion: Similar to other studies, diabetes mellitus, recent antibiotic treatment, hospitalization and catheterization were observed in our patients with ESBL-UTI. The fact that only 53.8% of patients had received antibiotics at community level and 38.5% of patients had never received antibiotics prior to developing ESBL-UTI suggest high prevalence of ESBL producing organisms at community level.