

Title: Antibiotic resistance and physicians' choice of antibiotic in urinary tract infections in Western Bangladesh

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Abstract:

Objectives: Antibiotic resistance is an important obstacle for treatment of UTI specially in low cost health setup of developing countries. The aim of this study is to investigate the resistance pattern of the common pathogens responsible for UTI in Bogra, Bangladesh. Specific factors associated with antibiotic resistance and prescription pattern were also explored to render data for appropriate empiric evidence-based antibiotic guidelines for this area.

Methods: This retrospective analysis was done among the patients presented with clinical suspicions of UTI for a period of 1 year from October 2016 to September 2017. A total 1256 patients were included in the study. A single clean catch midstream urine sample was collected per patient and samples with more than 10^5 CFU/mL bacteria were considered positive. 552 samples met the inclusion criteria and in these samples, the bacteria were identified by standard microbiological techniques and the profile of antibiotic susceptibility was obtained using Kibry-Bauer method following Clinical and Laboratory Standards Institute (CLSI) guidelines. Patients' characteristics, self reported previous antibiotic consumption history within last 1 year, presenting symptoms, empirical antibiotic prescription given at presentation are also recorded and statistical analysis was done using Stata 15 to investigate the possible factors associated with resistance.

Result: UTI was more common in women (61.5%) and its incidence varied with age, affecting more the elderly patients (29.6%). E coli was the predominant isolate (61.05%,n=337), followed by klebsiella (22.28%,n=123). E. coli showed very high frequency of resistance ranging from 54.30% to 77.15% to cefixime, ciprofloxacin, cotrimoxazole and nalidixic acid, moderately high resistance (47.18% to 48.96%) to cefipime, ceftazidime, ceftriaxone and azithromycin and low resistance (1.19% to 16.62%) to imipenem, amikacin, nitrofurantoin and netilimycin. Previous antibiotic consumption history revealed macrolides, cephalosporins and quinolones are mostly consumed antibiotic and 36.34% was based on self medication and 25.78% was recommended by quacks and drug sellers. 78.29% registered physicians used empirical antibiotic at presentation. Mismatching differences of antibiotic prescription and resistance were slightly evident.

Conclusion: High percentage of resistance to most of first line low cost antibiotics made the choice of empirical therapy critical. Continued surveillance, educational interventions and antibiotic stewardship programs for clinicians are necessary to fight the rising problem of antimicrobial resistance. Further exploration of physician prescribing behavior with development of evidence based empirical therapy for infectious diseases is recommended

Biography

I am Chandrika dasgupta , studying MBBS in 5th year at shaheed Ziaur Rahman Medical College,Bangladesh. I am very much interested in research and want to devote myself to invent new era in medical science.

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