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Alarming multidrug resistance in community acquired urinary tract infections

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Background: Urinary tract infections are common illness in the community. In India and many other low and middle income countries presumptive antibiotic therapy is given to majority of patients without performing urine cultures. This is leading to alarming antibiotic resistance and significant economic burden to the patients when the initial presumptive antibiotic treatment fails.

Objective: To assess antimicrobial resistance pattern of uropathogens in community acquired urinary tract infections.

Methods: A prospective study was conducted at a hospital in South India over 12 months from August, 2015 to July, 2016. We collected isolates of *E.coli, Klebsiella* spp., and *Proteus* spp., from patients with community acquired urinary tract infection. Identification of bacteria and antibiotic susceptibility testing were performed on Vitek 2 (automated identification and sensitivity equipment based on CLSI guidelines). Multi drug resistant uropathogens were defined as strains resistant to at least two groups of antibiotics in addition to extended spectrum beta lactamase (ESBL) positivity.

Results: A total of 366 isolates (318 *E.coli*, 38 *Klebsiella* spp., and 10 *Proteus* spp.) were included in the study. Of these 235 (73.8%) *E.coli*, 26 (68.4%) *Klebsiella* spp., and 3 (30%) *Proteus* spp., isolates were ESBL positive. Further 51 (16%) *E.coli* and 2 (5.2%) *Klebsiella* spp., isolates were multidrug resistant. The most frequently encountered comorbidity is diabetes, seen in 117 (31.9%) patients. Tigecycline and Colistin appeared to be the most effective antibiotics in multidrug resistant cases.

Conclusion: There is an alarming increase of ESBL producing isolates in the last few years. Presumptive antibiotic therapy in urinary tract infections is to be based on regular community acquired resistance pattern analysis within a given centre. Rising multidrug resistance is a serious concern in countries like India due to significant economic burden. Urine cultures must be done in all the patients before starting presumptive antibiotic treatment.

Biography

Kalyan Koganti has completed his Master's degree in Internal Medicine from Manipal Academy of Higher Education, India. Later he was awarded his Post Graduate Certificate in Infectious diseases from London School of Hygiene and Tropical Medicine.

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