

Prevalence of Extended Spectrum of Beta Lactamase Producers among Gram Negative Uropathogens

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Abstract : Urinary tract infection (UTI) is one of the most common infectious diseases at the community level with a high rate of morbidity . This is further augmented by increase in the number of resistant and multi resistant strains of bacteria particularly by those producing Extended spectrum of beta lactamases. The present study was aimed at analysis of antibiograms of E.coli and Klebsiella sp causing urinary tract infections. Between November 2011 and April 2013, a total of 1120 urine samples were analyzed,. Antibiotic sensitivity testing was done with 542(48%) isolates of E.coli and 446(39%) of Klebsiella sp using the standard disc diffusion method against eleven commonly used antibiotics .Organisms showed high susceptibility to Amikacin and Netilmicin and low susceptibility to Cephalosporins. MAR index was calculated for the multidrug resistant strains. Maximum MAR index detected among the isolates was 0.9. Phenotypic identification for ESBL production was confirmed by double disk synergy test (DDST) according to CLSI guidelines. Plasmid profile of the isolates was carried out using alkaline hydrolysis method. Agarose-gel electrophoresis showed presence of high-molecular weight plasmid DNA among the ESBL strains. This study emphasizes the importance of indiscriminate use of antibiotics which if discontinued, in turn would prevent further development of bacterial drug resistance. For this, a proper knowledge of susceptibility pattern of uropathogens is necessary before prescribing empirical antibiotic therapy and it should be made mandatory.

Keywords : escherichia coli, extended spectrum of beta lactamase, Klebsiella spp, Uropathogens

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