

Virulence Phenotypes among Multi Drug Resistant Uropathogenic E. Coli and Klebsiella SPP

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Abstract : Urinary tract infection (UTI) is one of the most common infectious diseases seen in the community. Susceptible individuals experience multiple episodes, and progress to acute pyelonephritis or uro-sepsis or develop asymptomatic bacteriuria (ABU). Ability to cause extraintestinal infections depends on several virulence factors required for survival at extraintestinal sites. Presence of virulence phenotypes enhances the pathogenicity of these otherwise commensal organisms and thus augments its ability to cause extraintestinal infections, the most frequent in urinary tract infections(UTI). The present study focuses on detection of the virulence characters exhibited by the uropathogenic organism and most common factors exhibited in the local pathogens. A total of 700 isolates of E.coli and Klebsiella spp were included in the study. These were isolated from patients from local hospitals reported to be suffering with UTI over a period of three years. Isolation and identification was done based on Gram character and IMVIC reactions. Antibiotic sensitivity profile was carried out by disc diffusion method and multi drug resistant strains with MAR index of 0.7 were further selected. Virulence features examined included their ability to produce exopolysaccharides, protease- gelatinase production, hemolysin production, haemagglutination and hydrophobicity test. Exopolysaccharide production was most predominant virulence feature among the isolates when checked by congo red method. The biofilms production examined by microtitre plates using ELISA reader confirmed that this is the major factor contributing to virulence of the pathogens followed by hemolysin production.

Keywords : Escherichia coli, Klebsiella spp, Uropathogens, virulence features

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