Innovations in Pharmaceuticals and Pharmacotherapy

www.innpharmacotherapy.com

eISSN: 2321–323X
pISSN: 2395-0781

Research article

Virulence factors and antibiotic sensitivity pattern in *E. coli* isolated from extra intestinal infections in a tertiary care hospital

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Abstract

Identification of virulence determinants among the clinically isolated microorganisms assumes a greater significance in the patient management perspective.

Aim: To detect the virulence factors produced by Escherichia. coli isolated from various clinical samples, collected from patients with extra intestinal infections and to detect the antibiotic sensitivity pattern of the isolates.

Method: 130 isolates of E. coli obtained from various clinical samples, collected from patients with extra intestinal infections were screened for virulence factors such as haemolysin, cell surface hydrophobicity, serum resistance, mannose resistant haemagglutination and Gelatinase. 50 E. coli isolates obtained from stool samples of healthy subjects were included as controls for comparison with the study samples. Antibiotic sensitivity pattern of the isolates were detected by Kirby Bauer disc diffusion method.

Results: Among 130 isolates, 26 (20%) produced haemolysin, 36 (27.69%) were hydrophobic, 107 (82.31%) were serum resistant, 37(28.46%) were positive for mannose resistant haemagglutination and 2 (1.54%) produced Gelatinase, whereas among controls only 2 (4%) were haemolytic, 3 (6%) were hydrophobic, 4 (8%) were serum resistant, 2 (4%) were positive for mannose resistant haemagglutination and none of the control produced Gelatinase. More than one virulence factor in each sample was observed in 64 (49.3%) of isolates. 100% of isolates were resistant to Ampicillin and 100% were sensitive to Cefaperazonesulbactam and Imipenem.

Conclusion: Virulence of an organism results from the cumulative impact of one or several virulence factors which serve to distinguish potential pathogens from harmless intestinal strains.

Keywords: Virulence factor, Escherichia coli, Antibiotic, Haemagglutination, Gelatinase.

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