

Prevalence of Different Pathotypes of *Escherichia coli* Among Diarrheatic Adult Patients.

Maryam Razaghi; Masoud Alebouye*; Ehsan Nazemalhosseini; Parisa Torabi; Mohammad Reza Zali

Research Center for Gastroenterology and liver Diseases, Shahid Beheshti University of Medical Sciences, Tehran, Iran

maryam_razaghy@yahoo.com

Background & Objectives: Different pathotypes of *Escherichia coli* are associated with intestinal symptoms in adult patients with different degree, including enteropathogenic *E. coli* (EPEC), enterohemorrhagic *E. coli* (EHEC), enterotoxigenic *E. coli* (ETEC), enteroaggregative *E. coli* (EAEC), and invasive *E. coli* (EIEC). The aim of this study is detection of different pathotypes of *Escherichia coli* in adult patients with diarrhea to find the main responsible pathotypes associated with the disease.

Methods: Stool samples of 33 diarrheatic patients were cultured in McConkey agar. Direct inoculates of the culture media were incubated at 37°C under aerobic conditions. The plates were examined for bacterial growth at 24 hours and *E. coli* isolates were selected from other bacteria by differential standard biochemical tests. DNA of each isolate was extracted by boiling Methods and related genes for each pathotype (agg , pcvd , lt , st , eae, bfp , hly , stx1 , stx2 , ipa) were detected by PCR at specific conditions.

Results: All of the diarrhetic samples showed growth of *E. coli* in high numbers. PCR results showed higher frequency of STEC (hly, stx1 and stx2) in 13/33 of the specimens (39.39%). EAEC (agg and pCVD) was detected in 3/33 of the specimens (9.09%), while ETEC, EPEC, and EIEC were detected in lower frequencies, 3.03%, 0%, and 0%, respectively.

Conclusion: Diarrhea-inducing pathogens in patients residing in developing countries have been the subject of few studies, although a small number of reports have focused on the epidemiology of diarrheagenic pathogens among the adults' patients in Iran. Our study showed significant association between the presence of STEC and the symptom in these patients. Investigation of other virulence factors and enterotoxins among these isolates will help us to better evaluate this association.

Keywords: *Escherichia coli* Pathotypes; Diarrhea; PCR; STEC