

# The frequency of PAI and Fim H virulence genes in E. coli bacteria isolated urinary tract infection in Rasht

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**Background:** Uropathogenic Escherichia coli (UPEC) is one of the most important etiologic agent of urinary tract infection (UTI). UPEC strains have various types of virulence factors such as adhesins, toxins and iron uptake systems. Virulence genes are located on transmissible genetic elements and/or in particular locus on the chromosome called pathogenicity islands (PAI). The purpose of this study was frequency of PAI and Fim H virulence genes in E. coli bacteria isolated urinary tract infection in Rasht. **Materials and Methods:** This study was performed on 50 isolates Escherichia coli which collected patients with UTIs in several laboratories in Rasht. Escherichia coli was identified using standard techniques of biochemistry and microbiology. Prevalence of virulence genes Fimh and PAI was performed by using PCR methods. Then, Antibigram were used with 9 conventional antibiotics for all bacteria. **Results:** Our results showed that 76% of women and 24% of men were infected. That indicated the high rate of urinary tract infection in females was more than males. The PCR results showed that 42 (84%) isolates were positive for fimH gene and 38 (76%) isolates were positive for PAI gene. 33 (66%) isolates were positive for both genes. E. coli had the most susceptibility to gentamicin, cefepime and chloramphenicol and the most resistance to penicillin and amoxyclav. **Conclusion:** Our study showed that the PAI and Fim H virulence genes were highly prevalent among the E. coli strains. therefore, these genes could be studied as targets for medical interventions. Gentamicin, cefepime and chloramphenicol are good choice for the the treatment of urinary tract infections caused by E. coli. ion antibiotics for urinary infection therapy should be based on the local prevalence of pathogenic bacteria and antibiotic sensitivities rather than on a universal guideline.

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**Keywords : Uropathogenic Escherichia coli, Virulence genes, Antibiotic Resistance**

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