Abstract

Background: Escherichia coli (E. coli) is the most important cause of urinary tract infections in hospitalized patients especially in intensive care unit (ICU). Colonization of E. coli and its attachment to uroepithelium are mediated by adhesins such as type 1 (fimH) and P (papC) fimbriae.

Objective: The aim of this study was to determine the frequency of type 1 and P fimbriae-encoding genes among uropathogenic E. coli isolates in ICUs.

Methods: In this descriptive study, 120 clinical isolates of uropathogenic E.coli were collected from patients with urinary tract infection in ICUs of Qazvin and Karaj hospitals during 2013 and 2014. All bacterial isolates were identified by standard laboratory methods and the fimH and papC genes were detected using the PCR method.

Findings: Forty (33.3%) isolates were positive for fimH gene and 5 (4.2%) isolates were positive for papC gene. Sixty six (55%) isolates were positive for both genes, and 9 (7.5%) isolates were negative for them.

Conclusion: The findings of this study showed the high frequency of type 1 and P fimbriae among uropathogenic E.coli isolates from ICU patients in the studied hospitals.

Keywords: Escherichia coli, FimH Protein, PapC Protein, Urinary Tract Infections, Intensive Care Units