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Virulence factors and O-serogroups profiles of uropathogenic *Escherichia coli* isolated from Iranian paediatric patients

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Background: Uropathogenic *Escherichia coli* O- serogroups with their virulence factors are the most prevalent causes of UTIs.

Objectives: The present investigation was performed to study the virulence factors and O-serogroups profiles of UPEC isolated from Iranian pediatric patients.

Patients & Methods: This cross sectional investigation was performed on 100 urine samples collected from hospitalized pediatrics of Baqiyatallah Hospital, Tehran, Iran. Midstream urine was collected to decrease potential bacterial, cellular and artifactual contamination. All samples were cultured and those with positive results were subjected to polymerase chain reactions to detect *pap*, *cnf1*, *afa*, *sfa* and *hlyA* genes and various O- serogroups.

Results: We found that 37.5% of boys and 75% of girls had positive results for *Escherichia coli*. We also found that O1 (19.33%), O2 (13.33%), O6 (13.33%), O4 (11.66%), and O18 (11.66 %) were the most commonly detected serogroups. Totally, the serogroup of 5% of all strains were not detected. In addition, all of these O-serogroups were *pap+*, *cnf1+*, *hlyA+*, and *afa+*. Totally, *pap* (70 %), *cnf1* (56.66 %), and *hlyA* (43.33 %) were the most commonly detected virulence genes in the both studied groups of children. The *sfa* (30 %) and *afa* (26.66 %) genes had the lowest incidence rates.

Conclusions: Special health care should be performed on UTIs management in Iranian pediatric patients. Extended researches should be performed to evaluate relation between other O-serogroups and virulent genes.

Biography

Assistant Professor of Pediatric Nephrology , AJA University of Medical Sciences , Faculty of Medicine ,(Apr.2006 – Jan.2015), Associate Professor of Pediatric Nephrology , AJA University of Medical Sciences , Faculty of Medicine , (Jan.2015 - present), Head of Nephrology Department, Faculty of Medicine, AJA University of Medical Sciences (Apr 2006- Apr 2007), Member of Research Council, Faculty of Medicine, AJA University of Medical Sciences (Sep 2006- Sep 2007). She has been awarded as the Outstanding Professor of AJA University of Medical Sciences for the years (May 2006, 2007, 2008, 2009). She is the member of the Iranian Society of Nephrology (2001 – present), Iranian Societies in Pediatric Nephrology (ISPN) (2001 – present), International Society of Nephrology (ISN) (2001 – present), Iranian society of Pediatricians (1997 - present)

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