Original Paper

**Atypical Yersinia virulence markers isolated from children with diarrhea**

Soltan Dallal MM (Ph.D)¹,², Vafaei Z (M.Sc)³, Rahimi Foroushani A (Ph.D)⁴
Haghi Ashtiani MT (M.D)⁵, Sharifi Yazdi MK (Ph.D)⁶,⁷
Kavan M (M.Sc)³, Bakhtiai R (M.Sc)³, Nikmanesh B (Ph.D)⁸

¹Professor, Division of Medical Microbiology, Department of Pathobiology, School of Public Health, Tehran University of Medical Sciences, Tehran, Iran. ²Professor, Food Microbiology Research Center, Tehran University of Medical Sciences, Tehran, Iran. ³M.Sc in Medical Microbiology, Department of Pathobiology, School of Public Health, Tehran University of Medical Sciences, Tehran, Iran. ⁴Professor, Department of Epidemiology and Biostatics, School of Public Health, Tehran University of Medical Sciences, Tehran, Iran. ⁵Professor, Laboratory Children’s Medical Center, Tehran University of Medical Sciences, Tehran, Iran. ⁶Professor, Zoonosis Research Centre, Tehran University of Medical Sciences, Tehran, Iran. ⁷Professor, Department of Medical Laboratory Sciences, School of Para Medicine, Tehran University of Medical Sciences, Tehran, Iran. ⁸Assistant Professor, Department of Medical Laboratory Sciences, School of Para Medicine, Tehran University of Medical Sciences, Tehran, Iran.

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**Abstract**

**Background and Objective:** *Yersinia* is a gram-negative bacillus that cause diarrhea through consumption of contaminated food and water. This study was performed to identify the atypical *Yersinia* virulence markers isolated from children with diarrhea.

**Methods:** This descriptive cross-sectional study was done on 384 fecal samples of 0-14 years old children admitted at children medical center from August 2011 to August of 2012. Fecal samples, for the enrichment, after 21 days of incubation in alkaline buffer with pH=7.2 at 4 degree C, on days 7, 14 and 21 samples were cultured on CIN agar and Mac agar and then confirm the differentiation atypical *Yersinia* from other typical *Yersinia* species from fermentation of different sugars. Isolates were tested for marker of virulence including calcium dependence, auto agglutination, Congo red uptake and binding of crystal violet.

**Results:** Out of 384 stool samples, 4 (1.04%) were infected with *Yersinia* (*Yersinia frederiksenii, Yersinia kristensenii* and *Yersinia enterocolitica*). Out of these three, only two samples in association was positive with virulence markers.

**Conclusion:** Phenotypic markers can be used to study the properties of phenotypic strains of *Yersinia*.  

**Keywords:** *Yersinia enterocolitica*, Atypical *Yersinia*, Virulence marker, Diarrhea

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*Corresponding Author: Soltan Dallal MM (Ph.D), E-mail: msoltandallal@gmail.com*

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