

Absence of *Helicobacter pylori* in The River Waters in the North of Iran

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Background & Objectives: *Helicobacter* is the most prevalent human bacterial pathogen in the world. It is estimated that 50% of the world's population is infected with this bacteria. Generally, the diseases caused by the *Helicobacter* include the stomach and duodenal ulcer, stomach inflammation, dyspepsia without the ulcer and stomach cancer. The main route of transmission the *Helicobacter* has not been described so far. The major purpose of this study was isolation and identification of *Helicobacter* from river waters in north of Iran.

Methods: In this study, 235 samples of the water were collected from different rivers located in different regions of the northern Iran (various cities of the Gilan and Mazandaran provinces) were during November 2010 until June 2011. The preT-KB Methods was used for isolation of *Helicobacter* spp. In order to extract the *Helicobacter*'s DNA from the collected samples, the concentrated water samples entered into the BHI Broth. After incubation period, DNA was extracted from the bacterium using phenol-chloroform conventional Methods technique. In order to identify the presence of the *Helicobacter* in the samples, a PCR was conducted to amplify 16S rRNA gene by a pair of primers specific for the *Helicobacter* genus.

Results: In general of 235 samples cultured on the used media, even one case of the bacterium presence wasn't observed. The results of the PCR on the water samples proved the lack of the presence of this *Helicobacter* DNA.

Conclusion: Considering that the applied technique could identify the number of 10² bacteria and 0.1 µg of DNA in each milliliter, we believe that the under studied samples in this geographical region lack the *Helicobacter* sp.

Keywords: *Helicobacter*; River Waters; North of Iran