

Changes in Prevalence of Tyrosine Phosphorylation Motifs of CagA Protein of Helicobacter Pylori in During 2005-2011

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Background & Objectives: The presence of the *cagA* gene and/or phosphorylation motifs in translocated effector protein CagA, of *Helicobacter pylori* is associated with more severe clinical outcomes. This study was aimed to assess the prevalence of *cagA* tyrosine phosphorylation motifs (TPMs) of *H. pylori* in population of southwest of Iran.

Methods: A total of 302 *H. pylori* positive gastric biopsy specimens were evaluated during a cross sectional study in 2005 to 2011. Endoscopic findings of pathologist were recorded at the time of the consultation by the pathologist help. Prevalence of *cagA* gene and its TPMs (A, B, C and D) were evaluated by PCR using specific primer. Statistical analyses were performed using the χ^2 test and p-values less than 0.05 were taken to indicate statistically significance.

Results: The prevalence of *cagA* gene and *cagA* TPMs A, B, C and D were 92%, 24.2%, 17.2%, 24.8% and 41% respectively. Data showed that, prevalence of *cagA* gene has not changed during these years, but rate of CagA TPMs changed during these years, so that prevalence of TPM A, B, C and D were 10%, 25.7%, 58.6% and 15.7% in 2005 and 66%, 58.8%, 36.8% and 47% in 2011. Statistical analysis showed relationship between gastric erosion and *cagA* ($p=0.007$) and strong association between gastritis and TPM-C ($p=0.002$) and TPM-D ($p=0.001$).

Conclusion: Overall, our results showed high changes in prevalence of TPMs of *H. pylori* *cagA* gene. So that, TPMs B and D became more prevalent as well as sharp increase in prevalence of TPM-A while prevalence of TPM-C decreased during these years. Also, based on our findings, it seems that TPMs C and D of *cagA* gene are associated with some gastric disorders in patients infected by *H. pylori*.

Keywords: *H. pylori*; CagA Alleles; TPMs