Evaluation of Cytotoxin Genotypes of Helicobacter pylori in Stomach, Saliva and Dental Plaque of Dyspeptic Patients

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Background & Objectives: The aim of this study was to detect the presence of *Helicobacter pylori* and its virulent cagA genes in the oral cavity of individuals with upper gastric diseases.

Methods: Sixty-two individuals (42 ± 2.3 years) with dispepsy symptoms, referred for gastroscopy and who were H. pylori positive in the gastric biopsy, were recruited and separated in two groups: case group—individuals with gastric disease (n = 30); control group—individuals with no gastric disease (n = 32); saliva, dental plaque and biopsy samples were collected from all individuals. Oral and biopsy samples were analyzed by PCR using specific primers for *H. pylori* 16S ribosomal and cagA genes. PCR products were sequenced for DNA homology confirmation.

Results: *H. pylori* was detected neither in dental plaque nor in saliva in the control group. In the case group H. pylori DNA was detected in 16/30 (53.3%) saliva samples and in 11/30 (36.6%) dental plaque samples. The cagA gene was detected in 13/30 (43.3%) gastric biopsies, in 7/16 (43.8%) saliva samples, and in 3/11 (27.3%) dental plaque samples. Eighteen (60.0%) individuals in the case group were *H. pylori* positive both in oral and biopsy samples, and 8 (26.6%) of those were positive for cagA–H. pylori DNA. *H. pylori* and its virulent clone showed a higher prevalence in the oral cavity of individuals in the case group than in the control group ($p < 0.05$).

Conclusion: Our results suggest that dental plaque and saliva may serve as temporary reservoir for *H. pylori* and its virulent cagA variant in individuals with gastric disease.

Keywords: Helicobacter; Cytotoxin Genotypes; Stomach; Saliva; Plaque