

## The relationship between Helicobacter Pylori infection and chronic obstructive pulmonary disease

### Abstract

**Background:** Chronic obstructive pulmonary disease (COPD) is a disease that is systematically characterized by an abnormal inflammatory response affecting the airways, interstitium, and vascular bed through reactions to gas and particles, especially cigarette smoke. Recent studies have shown an association between Helicobacter pylori infection (H. pylori) and many inflammatory diseases. Helicobacter pylori is a gram-negative, microbial bacterium that can be resistant to acidic stomach conditions and can interfere with gastric urease production. In this study, we examined the relationship between Helicobacter pylori infection in patients with COPD and the prevalence of Helicobacter pylori infection. We addressed COPD patients.

**Aim:** Determining the association between Helicobacter pylori infection and chronic obstructive pulmonary disease.

**Methods and material:** This case control study is based on the Persian cohort study of patients who were referred to the Digestive disease Research Center after being identified in the pulmonary clinic for H. pylori fecal antigen. Information on demographic variables and other related variables were obtained. Finally, the collected information was entered into SPSS software version 24 and the results were displayed descriptively using distribution and frequency tables and graphs and analytical statistics were analyzed using T-test and logistic regression.

**Results:** Out of 250 patients, 134 (53.6%) tested positive for Helicobacter pylori and 116 (46.4%) tested negative. Out of a total of 250 non-infected people; 106 patients (42.4%) were positive and 144 patients (57.6%) were negative. The two groups were statistically significantly different based on chi-square test ( $P = 0.012$ ).

**Conclusion:** Based on the analysis of the results of the present study, there is a direct and significant relationship between Helicobacter pylori and COPD, which can be due to the effect of bacteria on lung growth in early life and also the development of systemic inflammation throughout life.

**Keywords:** Infection, Helicobacter pylori, chronic obstructive pulmonary disease