

Co-occurrence of upper respiratory tract disorders with gastrointestinal infections of helicobacter pylori in patients: a systematic review and meta-analysis

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Abstract

Received: 14 Mar. 2022 Revised: 21 Mar. 2022 Accepted: 15 May. 2022 Available online: 22 May. 2022

Background: Helicobacter pylori infection and respiratory tract infection at the same time cause pathogenicity increase and death. The aim of this study was to evaluate the co-occurrence of upper respiratory tract disorders and gastrointestinal infections of H. pylori.

Methods: The present study was conducted as a systematic review and meta-analysis, from August 2019 to August 2020, at Qazvin University of Medical Sciences. Articles in the international databases (April 2001-December 2018) on the coexistence of upper respiratory tract disorders with H. pylori gastrointestinal infections were examined. The random effect model with a 95% confidence level was used to analyze the data.

Results: The highest prevalence of respiratory disorders co-occurrence associated with adenoid tissue (33%), nasal polyps (100%), chronic rhinosinusitis (71%) and gastrointestinal infections of H. pylori was reported in 2006 in Turkey, 2011 in Poland and 2015 in Egypt. Concurrent prevalence of the disease, according to the type of upper respiratory tract disorders in all studies, the estimated effect size according to the random model was 53% in chronic rhinosinusitis, 63% in nasal polyps, 62% in adenoid tissue and 60% in total, which was significant (P=0/000). The prevalence of co-occurrence of upper respiratory tract disorders with gastrointestinal infections of H. pylori in patients was estimated to be 61% at the age of more than 27 years and 60% at the age of fewer than 27 years. Pooled estimation of the concurrent prevalence of infection (in total) was estimated to be 60% and was significant among the studies (P=0/000).

Conclusion: The concurrent prevalence of upper respiratory tract disorders with gastrointestinal infections of H. pylori was observed to be almost equal and significant in elderly and young patients. Due to the fact that the simultaneous occurrence of two types of infections and diseases in people is very dangerous, screening of patients with each of these infections is necessary to identify the other infection and prescribe appropriate drugs.

Keywords: gastrointestinal disorder, helicobacter pylori, infection, respiratory disorders.