



Is there a relationship between helicobacter pylori infection and esophageal cancer?

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Abstract

Background: Several studies had shown that *Helicobacter pylori* infection is inversely associated with esophageal cancer. These studies had claimed that infection had associated with protective effect. However, other studies come out with different conclusion about the relationship, as a result, the issue has remained controversial.

Objective: The aim of this systematic review and meta-analysis was to examine the association between *Helicobacter pylori* infection and esophageal cancer.

Method We searched the PubMed, Cochrane library, Google scholar data bases. Meanwhile, we retrieved some articles from the references of selected articles. Case-control and cohort studies were included in this systematic review and meta-analysis up to December 2018.

Result: Eleven studies were included to this systematic review and meta-analysis and about 912 articles were retrieved from 8 countries and 6953 people were enrolled. The mean age the participants were 62.649. Summary odds ratios and 95% confidence intervals were calculated using the DerSimonian-Laird method. Q-statistics and I² statistics were calculated to examine heterogeneity. Subgroup analyses were conducted via histological types. To assess publication bias, funnel plot, Begg's test, Egger test, Trim and Fill, Contour enhanced funnel plot, cumulative meta-analysis and influential or sensitivity analysis were undertaken.

A significant association was observed between *Helicobacter pylori* infection and esophageal carcinoma (OR: 0.6; 95% CI: 0.42-0.85) (I-squared=80.6%, p=0.000). In addition, after sub- group analysis by sub-types, an association was observed between esophageal adenocarcinoma and helicobacter pylori infection OR (95% CI) was 0.47 (0.3 – 0.75). However, statistical significance was not observed between esophageal squamous cell carcinoma and *Helicobacter pylori* infection (OR =0.68 (95% CI) was (0.42 – 1.09).

Conclusion: Our results suggests that an inverse association was observed between *Helicobacter pylori* infection and esophageal adenocarcinoma, however, statistical significance was not observed between *Helicobacter pylori* infection and esophageal squamous cell carcinoma.

Keywords: *Helicobacter pylori*, esophageal cancer, adenocarcinoma, squamous cell carcinoma, colonization

Biography

Berhe Dessalegn Tuamay, a 37 years old academician. He got his first degree in medical laboratory technology from Haromaya University and his second degree in public health from Mekelle University. Currently, he is doing his PhD in Addis Ababa University, College of Health Sciences in epidemiology of cancer predominantly in esophageal cancer. He is in the rank of an assistant professor of public health. He is having ample of experiences at various health facilities at different positions as a clinician and an academician. He served his university as head department of public health and associate dean of college of health sciences for three years. He participated in several researches and consultancy services. He had more than 20 publications in peer reviewed international



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