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Helicobacter pylori as a Risk Factor for Digestive Malignancies

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Abstract

Background: Helicobacter pylori is a recognized Group 1 carcinogen and the primary pathogenic driver of gastric adenocarcinoma. Although its role in gastric carcinogenesis is well characterized, its potential systemic oncogenic influence on extra-gastric digestive malignancies remains under clinical investigation. Objective: The main objective of this study was to assess whether anti-H. pylori seropositivity was associated with the presence of gastric or colonic neoplasms. A secondary, exploratory objective was to evaluate whether anti-H. pylori seropositivity was associated with the surgical outcome (R0 resection versus non-R0/non-curative surgery) in a separate series of patients operated on for digestive cancer.

Methods: We conducted a retrospective cross-sectional study of 330 patients evaluated between February 2023 and May 2025 stratified by anti-H. pylori serological status, assessed using anti-H. pylori antibody testing. Logistic regression models were used to investigate associations between anti-H. pylori seropositivity and different types of neoplasms. An exploratory analysis included a separate series of 60 patients operated on for digestive cancer between April 2023 and December 2025.

Results: Anti-H. pylori seropositivity was associated with the presence of both gastric cancer (aOR 4.00, 95% CI 1.59-11.5, p = 0.005) and colon cancer (aOR 3.47, 95% CI 1.58-8.12, p = 0.003). The associations were consistent in sensitivity analyses, including Firth penalized regression. Occult gastrointestinal bleeding, a likely manifestation of the tumour, was more frequent in patients with colon cancer (17.3 % vs 7.7%; crude OR 2.50, 95% CI 1.20-5.26). In the surgical series of 60 patients who underwent surgery for digestive neoplasms, seropositivity was not associated with curative resection (OR for non-
curative surgery 0.99, 95% CI 0.35-2.74).

Conclusions: Anti-H. pylori seropositivity was associated with an increased prevalence of gastric and colonic neoplasia, with the strongest association observed for gastric cancer. Because serology does not confirm active infection and the study design was cross-sectional, these findings should be interpreted as associations rather than evidence of causality or preventive benefit from eradication therapy.

Keywords: Helicobacter pylori, gastric cancer, colon cancer, esophageal cancer, carcinogenesis, surgical outcomes