

International Society of Gastrointestinal Oncology
2011 Gastrointestinal Oncology Conference
September 15–17, 2011
[ABSTRACTS SELECTED FOR POSTER PRESENTATIONS](#)

[Colorectal Cancer](#)

abstr 1140

The Association between *Helicobacter pylori* infection and Colorectal Cancer: A Meta-Analysis of Epidemiologic Evidence

Basile Njei, MD, MSPH¹, Raxitkumar Jinjuvadia, MD,MPH², Augustine Salami, MD⁴, Sushil Kumar, MBBS³, Charles Jaiyeoba, MD², Faris El-Khider, MD², Chobufo Ditah,MD⁵, Ivo Ditah, MD, MPhil²

¹University of Connecticut School of Medicine, Farmington, CT, USA; ²Wayne State University School of Medicine, Detroit, Mi, USA; ³All India Institute of Medical Sciences, India; ⁴Henry Ford Hospital , Detroit MI,USA; ⁵University of Yaoundé 1, Cameroon

Background: The association between *Helicobacter pylori* infection (HPI) and gastric cancer is well known, but it is unclear whether HPI is also a risk factor for colorectal cancer. Several epidemiologic studies on the latter association have yielded conflicting results. It has been shown that the hypergastrinemia associated with HPI can result in colorectal mucosal proliferation with risk of dysplasia and thus malignancy. The aim of this study is to summarize available evidence on the association between HPI and CRC, evaluating its magnitude and direction in a meta-analysis.

Methods: Two reviewers independently conducted a systemic search on Medline, OvidSP and PubMed databases from January 1980 to July 2011 for studies on the association between HPI and CRC. Search terms included "Helicobacter pylori", combined with "colorectal cancer", "colon cancer", "rectal cancer", "gastrointestinal cancers", and/or "malignancy". The reference lists of eligible studies were next reviewed for additional studies on the subject. There was no language restriction to our search criteria. First, a combined analysis including all studies was done. Next, subgroup analysis by study design and country of study (USA vs. Europe vs. Asia) were also performed. Because a preliminary analysis of all included studies showed some evidence of heterogeneity, all analyses were done using the random effects model. Publication bias was assessed using the Begg's and Egger's tests and visual inspection of funnel plot. All analyses were performed using STATA 11.

Results: Sixteen case-control studies (14 retrospective and 2 prospective nested case-control) including 12,892 participants were included in the analysis. The age range of participants was 41 to 70 years. Overall, HP was associated with a 49% significantly higher risk of CRC (OR 1.49, 95% CI: 1.22-1.82; P < 0.001). By study design, the association persisted only among the retrospective studies with a pooled OR of 1.43 (95% CI: 1.31-1.56, P = 0.004). The subgroup analysis by study region showed significant associations in Europe (OR 1.35, 95% CI 1.09-1.66) and Asia (RR 1.43, 95% CI 1.29-1.58). Though there was a 17% higher risk noted among studies done in the USA, this was not statistically significant. There was no evidence of publication bias in all the analyses.

Conclusion: Current evidence on the association between *H. pylori* infection and CRC remains inconclusive. The absence of any association among the prospective studies (with less risk of bias) suggests that the association seen among the retrospective studies could be due to residual confounding. Though difficult to design, better quality data are required before a conclusive statement on the association between HPI and CRC can be made.