

Preventing gastric cancer with antibiotics

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Helicobacter pylori, a bacterium found in about 50% of humans worldwide, can cause stomach ulcers and, in extreme cases, gastric cancer. In an article for *F1000 Medicine Reports*, Seiji Shiota and Yoshio Yamaoka discuss the possible eradication of *H. pylori* infections

Infection by the *H. pylori* bacterium can approach 100% in developing countries. Most infected people do not have symptoms, but many develop problems including [stomach ulcers](#). *H. pylori* causes more than 90% of all duodenal ulcers and can also contribute to the development of [gastric cancer](#), which is one of the world's biggest medical problems.

Shiota and Yamaoka, from Oita University, Japan, and Baylor College of Medicine, Texas, respectively, report on a large multicenter trial in Japan. Patients with early gastric cancer were randomly treated with *H. pylori* antibiotics after surgical resection and were followed up for three years. Patients who received antibiotic treatment had a significantly lower risk of developing gastric cancer, confirming the importance of careful management of *H. pylori*.

However, certain populations (e.g. India and Thailand) have a high prevalence of *H. pylori* infection but a low incidence of gastric cancer. It is thought that certain strains of *H. pylori* (especially east-Asian cytotoxin-associated gene [cagA]-positive strains) might carry an increased risk of developing gastric cancer, but currently identified cagA genotypes in the Asia-Pacific are not associated with cancer.

Shiota and Yamaoka write, "bacterial virulence factors, host genetic

factors, and environmental factors contribute to the risk for developing gastric cancer, and further studies are necessary."

But they warn that practitioners need to exercise caution with regard to widespread [antibiotic treatment](#), saying, "if all infected persons are to be treated, we should consider the increase in frequency of [antibiotic resistance](#) and unexpected consequences such as esophageal adenocarcinoma, asthma, and autoimmune disease."

More information: [f1000.com/reports/medicine/content/2/20](https://www.1000.com/reports/medicine/content/2/20)

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