

Screening & prevention of gastric cancer

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Gastric cancer is the fifth most common cancer in the world, with the majority of cases arising in East Asia. The age-adjusted incidence of gastric cancer has steadily declined, not only because of improvements in sanitation and hygiene, but also because the eradication of *Helicobacter pylori* has become a common clinical practice in the treatment of peptic ulcers. Nonetheless, the absolute number of new cases is unchanged in high-risk areas because the population is increasingly elderly, and a larger proportion of persons has been exposed to risk factors for decades. Gastric cancer is characterized by rapid progression and a high case-fatality rate when diagnosed at an advanced stage. It is of paramount importance to design an effective cancer prevention strategy at the population level. The traditional approach for prevention of gastric cancer is one of secondary prevention and emphasizes the use of endoscopy to identify early cancer and provide curative treatment. In 2005, the Nobel Prize in Physiology or Medicine was awarded jointly to Barry Marshall and Robin Warren for their discovery of the *H. pylori* and its role in gastritis and peptic ulcer disease. Because chronic inflammation is a common risk factor for carcinogenesis, it was suggested that primary prevention of gastric cancer could be achievable through a screen-and-treat strategy for *H. pylori* infection. Subsequently, a growing number of studies have aimed to investigate this topic. In December 2013, a Working Group Meeting was hosted in Lyon, France by the International Agency for Research on Cancer to review the accumulated evidence that supported the use of mass eradication of *H. pylori* as a strategy to prevent gastric cancer. On the basis of the favorable results from the randomized controlled trials and observational studies, the expert working group confirmed that this strategy was effective; a recommendation has been made to encourage health-care agencies to include such a strategy in national cancer control programs. In January 2014, a global consensus meeting was held in Kyoto, Japan to evaluate the management of *H. pylori*-related gastritis, a precursor to gastric cancer. Similarly, consensus has been reached in the conclusion that eradication of *H. pylori* can prevent gastric cancer and the recommendation that all carriers of *H. pylori* should be treated to eradicate this pathogen.

To summarize, the major question currently is no longer whether we should eradicate *H. pylori*. Instead, our attention should be focused on how we can accomplish this goal on the population level, i.e., identifying those with *H. pylori* infection among the asymptomatic population and eradicating their *H. pylori* infection before the development of gastric cancer. In addition, it would also be desirable to identify persons with gastric cancer at the preclinical detectable phase. The program must also be integrated into national healthcare priorities to allow the limited resources to be most effectively allocated.