



Is it really Necessary to Eradicate *Helicobacter pylori*?



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Letter to Editor

Helicobacter pylori is a Gram-negative bacterium that colonizes around 50% of world population. It is frequently associated with gastrointestinal diseases such as gastritis, peptic ulcer, and in some cases, can favour the development of gastric cancer. After the host colonization, *H. pylori* can cause chronic infection and disease in less than 10% of symptomatic individuals after several years. Thus, the apparent colonization of *H. pylori* requires a long time of establishment and the continuous stimulation of the inflammatory response to produce enough histological deterioration for disease expression [1].

Several virulence factors of *H. pylori* have been described (*i.e.* *cagA* and *vacA* genes). The presence of these factors can contribute to the development of a more aggressive form of the disease, although strains not carrying these virulence factors were also recovered from stomach of infected patients. As the colonization of *H. pylori* can be asymptomatic for decades, most cases of the disease (*i.e.* peptic ulcers) occur in patients older than 40 years, and around 1% of these individuals can evolve to gastric cancer [2]. Due to its long latent period of infection, the small numbers of cases of that evolve to gastric cancer and the detection of *H. pylori* in the faeces of mummified humans around 3,000 years ago some authors have hypothesized that this pathogen could be, in fact, more an ancestral commensal microorganism of humans than a true pathogen [3]. Reinforcing this hypothesis is the fact that the infection is transmitted early in life and is mainly in a family setting.

In the last years, it has been detected a decrease in the prevalence of *H. pylori* infection, especially in developed countries [4,5]. The improvement of sanitary conditions and changes in family size are two of many other factors that have contributed to the decrease of its transmissibility. As the prevalence *H. pylori*

decline, other diseases have been reported more frequently, such as asthma, obesity and an increase in the susceptibility to develop diarrheal diseases [6-8]. Additionally, *H. pylori* have been negatively associated with gastro-oesophageal reflux disease, Barrett's oesophagus, and adenocarcinoma of the oesophagus [9]. Thus, it seems that *H. pylori* interactions with human being have created double-edged sword.

The pros and cons of *H. pylori* infection have raised the question whether the eradication of *H. pylori* is really necessary from those infected and asymptomatic individuals to prevent future clinical complications. We are far to have reached a consensus between the scientific society and clinicians. However, it is important highlight that the eradication of *H. pylori* in some communities would be desire, like in Japan, where the population has a high risk to develop gastric cancer [10].

In fact, the eradication of *H. pylori* lead to peptic ulcer healing, reduces ulcer relapse rates, and prevents gastric cancer. But, the wide use of the standard triple therapy consisting of a proton pump inhibitor plus clarithromycin and amoxicillin results in declined rates of success and in resistance to clarithromycin and metronidazole also used in cases of hypersensitivity to amoxicillin [11]. Recent studies have suggested therapies containing fourth-generation quinolones, as a high rate of *H. pylori* eradication were demonstrated [12,13]. Thus, additional studies regarding effective therapies for *H. pylori* infection are necessary and it is important to emphasize that the chosen of antimicrobial has to be done based on susceptibility test and according to geographical region.

Take all these together, it is not possible to conclude if *H. pylori* act as a pathogen or as an ancestral commensal of humans. Additional studies exploring its interaction with the

host and the consequences of its eradication are necessary. One alternative to avoid the massive and unnecessary eradication of this microorganism in colonized and asymptomatic individuals is the early detection of gastric lesions, especially because *H. pylori* colonization can be important to human stomach.

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