

***Helicobacter pylori* prevalence: Are the data totally reliable?**

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Electronic word count (excluding abstract, references, tables, figures): 561

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Conflicts of Interest and Source of Funding: none declared.

Keywords: *Helicobacter pylori*; Diagnosis; Prevalence; Therapy; Resistance.

Dear Editor,

A recent retrospective study on *Helicobacter pylori* (*H. pylori*) prevalence was carried out from 2005 to 2017 on all children who underwent esophagogastroduodenoscopy (EGDS) due to symptoms suggestive of peptic diseases e.g. dyspepsia, or symptoms of gastrointestinal bleeding in Hong Kong region: 602 patients were included; 317 were girls and 285 were boys, mean age 13.4 years. From the results of the study, the authors hypothesized that the reduction in prevalence of *H. pylori* infection among adults and the decrease in the practice of sharing chopsticks during meals have led to a decrease in transmission of the bacteria among family members in Hong Kong. Furthermore, the failure of eradication with first line treatment was higher, possibly due to the increase in antibiotics usage and resistance.

Some aspects of this interesting study deserve a comment.

H. pylori is a slow-growing, micro-aerophilic, Gram-negative bacterium, usually acquired during childhood, whose natural habitat is the luminal surface of the gastric epithelium.

At least 50% of the world's human population carries the microorganism, with a prevalence much higher in developing countries than in developed countries [1].

Tang et al. [1] found an overall infection rate of *H. pylori* infection of 12.8% (95% CI, 10.1–15.5%), which was lower when compared to the figure of 25.6% from their previous review in 2005 [2].

This finding is not surprising since *H. pylori* infection is acquired in the preschool period and the risk declines sharply after 5 years of age. The higher prevalence in older age groups is thought to reflect a cohort-effect related to poorer living conditions in the past during childhood.

More surprising is the fact that only 10.3% of patients with gastritis and 39.5% of those with peptic ulcer disease had *H. pylori* infection.

The authors of the study [2] searched for *H. pylori* infection performing biopsies from the antrum. This is a correct approach if the patient is not currently treated with a proton pump inhibitor (PPI) drug and if patient does not undergo to EGDS due to gastrointestinal bleeding, in which cases false negative results may occur [3]. No data about the use of PPI by the children is given and a percentage of the patients underwent to EGDS due to gastrointestinal bleeding. Given these circumstances, a second test should have been done in case of *H. pylori* negativity to confirm these results.

H. pylori infection is accepted as the most important cause of gastritis and peptic ulcer in humans. Both *H. pylori* infection and non-steroidal anti-inflammatory drug (NSAID) use are independent risk factors for the development of peptic ulcer and associated bleeding. Data regarding the NSAID use from the study population would enrich the results.

A second interesting results was that the eradication rate with 1-week triple therapy (clarithromycin plus amoxicillin plus omeprazole) was only successful in 70.7%. This is not surprising since, at least in the West, the 1-week triple therapy has been abandoned due to the insufficient eradication rate [4]. Regarding the population in study the authors did not report data about a possible previous *H. pylori* treatment: hence, it is possible that someone could underwent to eradication treatment and this would influence the outcome of the study regarding both the *H. pylori* prevalence (in patients in which the previous therapy has been successful) and the eradication rate (in patients in which the previous therapy has not been successful).

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