



## What's New in Treatment of *Helicobacter pylori*?

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*Helicobacter pylori* are Gram-negative, microaerophilic bacteria, and ubiquitous organisms, which are present in about 50% of the global population (1). Metaplastic changes in the stomach is a result of chronic infection with *H. pylori* infection, and can lead to peptic ulcer. The most common route of *H. pylori* infection is oral-to-oral or fecal-to-oral contact (2-4).

Generally, *H. pylori* is an asymptomatic disease with no specific clinical signs; possible symptoms, includes nausea, vomiting, abdominal pain, heartburn, diarrhea, hunger in the morning, and halitosis (5). Also, recent studies proved the role of *H. pylori* in the development of endocrinopathies (6). In the new guideline on the treatment of *Helicobacter pylori* by the Canadian association of gastroenterology and the Canadian *Helicobacter* study group, it is suggested that all *H. pylori* eradication regimens should be given for 14 days to replace the 10-day treatment (7).

Patient suspected of *H. pylori*, following laboratory study, should be done: first of all, fecal antigen test of *H. pylori* with 98% specificity and 94% sensitivity was performed, and in the next step, positive results obtained in the early stage of disease should be used in order to detect post-treatment eradication (7-9). Secondly, the Carbon 13 urea breath test should be done and when urease is present in the stomach, concentration of labeled carbon is high and will react with *H. pylori* infection (7, 9). Thirdly, although serology of *H. pylori* is not a good test for follow-up of treated patients, it has high specificity and sensitivity (> 90%), thus is useful for detecting new infected patients (10). Finally, anti-biogram is useful in geographic areas with a high resistance rate against metronidazole and clarithromycin (7).

Recommended first-line strategy include concomitant non-bismuth quadruple therapy (Proton Pump Inhibitor [PPI] + Amoxicillin + Metronidazole + Clarithromycin

[PAMC]) and traditional bismuth quadruple therapy (PPI + Bismuth + Metronidazole + Tetracycline [PBMT]) (7).

Also, it is recommended that PPI triple therapy (PPI + clarithromycin + either amoxicillin or metronidazole) is restricted to areas with known low Clarithromycin resistance (< 15%) or high eradication success with these regimens (> 85%), and rescue therapies include PBMT and levofloxacin-containing therapy (PPI + amoxicillin + levofloxacin). Rifabutin regimes should be restricted to patients, who have failed to respond to at least three prior options (7).

In Iran, due to increasing demand of therapy of *H. pylori* with short course treatment, it is highly recommended for all *H. pylori* eradication regimens to now last for 14 days.

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