



In a world of increasing resistance emerges a hope to eradicate *Helicobacter pylori*: Vonoprazan

Murakami K, Sakurai Y, Shiino M, Funao N, Nishimura A, Asaka M. Vonoprazan, a novel potassium-competitive acid blocker, as a component of first-line and second-line triple therapy for *Helicobacter pylori* eradication: a phase III, randomised, double-blind study. *Gut* 2016; pii: gutjnl-2015-311304.

Helicobacter pylori (*H. pylori*) infection is a common bacterial infection worldwide. Its prevalence ranges from more than 80 percent before age 50 in developing countries and 10 percent in individuals between 18-30 years of age and up to 50 percent in those older than 60 in developed countries (1). While the most common treatment includes triple therapy with a proton pump inhibitor, amoxicillin, and clarithromycin (2), treatment of *H. pylori* is an evolving topic without clear therapeutic guidelines.

Murakami et al. (3) performed a randomized, double-blind, multicenter trial to verify the non-inferiority of vonoprazan, a potassium competitive acid blocker to lansoprazole 30 mg in conjunction with amoxicillin and clarithromycin for first line treatment of *H. pylori* positive patients with either gastric or duodenal ulcer history. Second line treatment was also assessed by providing vonoprazan triple therapy to those who failed either vonoprazan or lansoprazole based triple therapy. This study was conducted in 46 sites in Japan between February 2012 and June 2013 and included 641 subjects who completed first line therapy and 50 patients who completed the second line therapy. The primary end point of the study was the first line eradication rate. The secondary end point was second-line eradication rate.

The patients were randomly assigned to four therapy groups which included either vonoprazan 20 mg or lansoprazole 30 mg with amoxicillin 750 mg and clarithromycin 200 mg or 400 mg. The first 50 subjects who failed their assigned triple based therapy received vonoprazan with amoxicillin 750 mg and metronidazole 250 mg. The first line eradication rate was 92.6% in the vonoprazan group versus 75.9% in the lansoprazole group. The second line eradication rate was 98%. These results demonstrated the effec-

tiveness of vonoprazan based triple therapy for both first line and second line eradication of *H. pylori*

Vonoprazan based triple therapy proves to be a reasonable option for treatment of *H. pylori*. In an era of an increasingly diverse patient population, comes an evolving bacterium with increasing resistance to antimicrobials. The eradication rates for *H. pylori* with triple therapy regimens have demonstrated a steady decline in the success rate which has decreased to 25-60% (4-6). This study revealed 92.6% eradication for first line eradication with vonoprazan, which is significantly greater than the indicated eradication with standard triple therapy. This high eradication rate has only been seen when using a quadruple regimen that included omeprazole, bismuth and two antibiotics as evidenced in a study by de Boer et al. (7). Hence, while there does not exist a desired treatment for *H. pylori*, vonoprazan may provide an effective alternative to both first line and second line treatments.

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