**Clarithromycin- versus Metronidazole-Based Triple Therapy as First-Line Eradication for *Helicobacter pylori***

*H. pylori* is a gram-negative bacterium that colonizes human gastric mucosa and then causes a wide variety of gastric disorders. Chronic gastric infection due to *H. pylori* initially causes chronic active gastritis, which can then lead to the development of peptic ulcers, atrophic gastritis, gastric cancer, and mucosa-associated lymphoid tissue lymphoma. However, it should be noted that eradication of *H. pylori* reduces the risk for gastric cancer even in the presence of severe gastric atrophy and intestinal metaplasia. Thus, *H. pylori* eradication is the most effective strategy for prevention of gastric cancer.

Proton pump inhibitor (PPI)-containing triple therapy with amoxicillin (AMPC) and clarithromycin (CAM) is widely used as a first-line eradication therapy for *H. pylori*. Patients who demonstrate first-line eradication treatment failure are usually treated with PPI containing triple therapy comprising AMPC and metronidazole (MNZ). Although a multicenter study conducted in 2001 reported that the eradication rate using first-line therapy was around 90%, the rate decreased to 70–80% in 2014; a possible explanation for the decreased eradication rate is the prevalence of CAM-resistant *H. pylori*.

A prospective randomized controlled study published in 2017 aimed to compare the efficacy of CAM-based and metronidazole (MNZ)-based triple therapy in terms of *H. pylori* eradication. In this study, a total of 140 patients who underwent esophagogastroduodenoscopy for further examination and follow-up of upper gastrointestinal symptoms and *H. pylori*-associated diseases including peptic ulcers and chronic gastritis at Kindai University Hospital in Japan from June 2013 to August 2015 and Patients who underwent esophagogastroduodenoscopy for follow-up of post endoscopic submucosal dissection for early gastric cancer were enrolled.

Patients were randomly divided into two groups: EAC (*n* = 68) group and EAM (*n* = 72) group. Patients in the EAC group were administered esomeprazole 20 mg, CAM 400 mg, and AMPC 750 mg twice a day for 7 days, and those in the EAM group were administered esomeprazole 20 mg, MNZ 500 mg, and AMPC 750 mg twice a day for 7 days, two patients in each group dropped out owing to loss to follow-up or poor treatment compliance. Assessment of *H. pylori* infection was performed via rapid urease tests, culture methods, serum *H. pylori* antibody tests, and stool *H. pylori* antigen tests. Patients were regarded as *H. pylori*-positive when at least one of these tests yielded positive results.

*H. pylori* eradication rates were calculated via intention-to-treat and per protocol analysis and the eradication rates in the EAC and EAM groups were calculated in patients harboring CAM-susceptible and CAM-resistant strains. This study results in: *H. pylori* eradication rates per the ITT and PP analyses were 70.6% (48/68) and 72.7% (48/66), respectively, in the EAC group and the eradication rates were 91.7% (66/72) and 94.3% (66/70), respectively, in the EAM group. Thus, the eradication rates in the EAM group were significantly higher than those observed in the EAC group, as for the eradication rates were 87.9% (29/33) and 51.9% (14/27) in EAC-treated patients harboring CAM-susceptible and CAM-resistant *H. pylori* strains, respectively. In contrast, the eradication rates were 90.9% (40/44) and 95.7% (22/23) in EAM-treated patients bearing CAM susceptible and CAM-resistant *H. pylori* strains, respectively. None of the patients who completed the first-line eradication therapy showed serious adverse effects that required discontinuation of eradication therapy.

In conclusion MNZ-based triple therapy consisting of esomeprazole and amoxicillin is superior to CAM-based triple therapy containing esomeprazole and amoxicillin as first-line eradication treatment against *H. pylori*. Future studies directly comparing the efficacy and safety of *H. pylori* eradication regimens are necessary to establish an appropriate regimen as a first-line treatment.
References:


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