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CYP2C19 Genotype-related Efficacy of Omeprazole for The Treatment of Infection Caused by *Helicobacter pylori*.

Y. Tanigawara, N. Aoyama, T. Kita, K. Shirakawa,
F. Komada (駒田 富佐夫), M. Kasuga, & K. Okumura.

Objective: Omeprazole is used for the treatment of infection caused by *Helicobacter pylori*, and it is metabolized by the polymorphic cytochrome P450C19 (CYP2C19). We have found that the anti-*H pylori* efficacy by the combination of omeprazole and antibiotics is related to the *CYP2C19* genotype.

Methods: One hundred eight patients with cultured *H pylori*-positive gastritis or peptic ulcer were treated with three regimens : quadruple treatment without proton pump inhibitors (n=25), dual treatment with omeprazole and amoxicillin (INN, amoxicilline) (n=26), and triple treatment with omeprazole, amoxicillin, and clarithromycin (n=57). The *CYP2C19* genotype was determined by the polymerase chain reaction-restriction fragment length polymorphism (PCR-RFLP) method and the assessment of the eradication of *H pylori* was based on all negative examinations, including culture, histology, and ¹³C-urea breath test.

Results: The eradication rates for the extensive metabolizers were 50% and 86% for the dual and triple treatments, respectively. In contrast, all of the poor metabolizers treated with omeprazole and antibiotics (n=15) showed an eradication of *H pylori*.

Conclusion : The anti-*H pylori* effect of dual treatment is highly efficient for *CYP2C19* poor metabolizers, which suggests that clarithromycin is not necessary as a first line of therapy for this type of patients. Genotyping can provide a choice for the optimal regimen based on individual *CYP2C19* genotype.