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Sufficient Effect of 1-week Omeprazole and Amoxicillin Dual Treatment for *Helicobacter Pylori* Eradication in Cytochrome P-450 2C19 poor Metabolizers.

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Omeprazole is widely used for the treatment of *Helicobacter Pylori* infection. It is metabolized by cytochrome P450 2C19 enzyme (CYP2C19) in the liver. Because this enzyme exhibits a genetic polymorphism, patients with low metabolic activity (poor metabolizers) may be exposed to higher concentrations of this drug than are patients who are extensive metabolizers. Eighty-six patients with cultured *H pylori*-positive gastritis or peptic ulcers who completed the treatment and assessment of anti- *H pylori* therapy were analyzed for CYP2C19 genotyping using a polymerase chain reaction-restriction fragment length polymorphism method [the wild-type or two mutant genes (m1 in exon 5 and m2 in exon 4), or both]. Patients were classified into three groups according to the *H pylori* eradication regimen: group I (n=21;omeprazole 40 mg/day and amoxicillin 2000 mg/day for 1 week); group II (n=21; group I regimen plus sucralfate 4000 mg/day, for 1 week); group III (n=44; group I regimen plus clarithromycin 800 mg/day, for 1 week). The combination of two mutant alleles (m1/m1, m1/m2, m2/m2-poor metabolizers) was observed in 13 of 86 patients (15%), and all poor metabolizer patients achieved *H pylori* eradication regardless of their treatment regimens. In addition, the eradication rates of the poor metabolizers were significantly higher than those of other genotypes who carry homozygous or heterozygous normal allele (extensive metabolizers) in group I or groups I and II combined. CYP2C19 genotyping can provide a new strategy to choose an optimal regimen, and this genotyping is especially useful for Japanese, as

the frequency of poor metabolizers is five times greater than that found among Caucasians.