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Eradication rate of Helicobacter pylori according to genotypes of CYP2C19, IL-1B, and TNF-A

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Abstarc :

Background: Lansoprazole, amoxicillin, and clarithromycin are commonly used drugs for eradication of Helicobacter pylori (H. pylori). A few studies reported that the eradication rate was influenced by the functional polymorphism of CYP2C19, whose product metabolizes proton pomp inhibitors including lansoprazole. Methods: This study examined the eradication rate among 67 participants in the polymorphism study who visited Daiko Medical Center, Nagoya University from July 2004 to October 2005. The participants aged 20 to 69 years were classified into three group according to CYP2C19 genotype; rapid metabolizers (RM) with *1*1 genotype, intermediate metabolizers (IM) with *1*2 or *1*3 genotype, and poor metabolizers (PM) with *2*2, *2*3, or *3*3 genotype. For the genotype classification, G681A (681G for *1 and 681A for *2) and G636A (636G for *1 and 636A for *3) were genotyped by PCR with confronting two-pair primers (PCR-CTPP). They were also genotyped for IL-1B T-31C and TNF-A T-1031C by a duplex PCR-CTPP. Results: The eradication rate was 70.0% for RM, 93.9% for IM, and 85.7% for PM. The difference in the rate between RM and IM+PM was statistically significant (p=0.025). The eradication rate was highest for those with IL-1B -31CC; the p value was marginal among the whole subjects (÷2=3.78, p=0.05) and not significant among the RM group (÷2=1.60, p=0.21). The genotypes of TNF-A T-1031C had no associations with the eradication rate. But among the RM group, the odd ratio (OR) of the TNF-A CT for the eradication rate relative to TT was marginally reduced (OR=0.05, 95% confidence interval, 0.002-1.19).
Conclusions: The present study confirmed the low eradication rate for RM. The reproduced finding provides evidence that the CYP2C19 genotype is useful to predict the success of the treatment. For the RM group, alternative regimens expected to be with a higher eradication rate will be recommended, especially to those with the TNF-A -1031C allele.

Key Word :
Helicobacter pylori, Eradication, CYP2C19, IL-1B, TNF-A

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