

# # C745608 : MAJOR PHARMACOLOGY

KEY WORD: PEPTIC ULCER / *Helicobacter pylori* / GASTRIC MUCOSA / AMOXICILLIN / OMEPRAZOLE  
NATNIPA WANNACHAI : COMPARATIVE STUDY OF AMOXICILLIN LEVELS IN GASTRIC  
MUCOSA OF AMOXICILLIN AND AMOXICILLIN PLUS OMEPRAZOLE TREATED GROUPS.  
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Amoxicillin in gastric mucosa was quantitatively determined in 12 Non Ulcer Dyspepsia patients following the treatment with two regimens, placebo plus amoxicillin as regimen I and omeprazole plus amoxicillin as regimen II. The study was designed as blinded crossover intermittent 1 week as the washing period. Six antral gastric mucosa were biopsied at 1.5 hr. after oral administration. Blood samples were also collected before and after administration up to 6 hr. All samples were analysed for amoxicillin via HPLC technique. Emphasizing on the amounts of amoxicillin detected in gastric mucosa, highly intersubject variation were observed among them. The determined amount of amoxicillin in gastric mucosa were ranged to be 0.00-1.74 and 0.00-1.25 µg/mg for regimen I and regimen II respectively. Although the average amount were  $0.25 \pm 0.48$  for regimen I and  $0.28 \pm 0.40$  µg/mg for regimens II in which no statistically significant difference was observed ( $p=0.89$ ), each individual data can be versified into groups depending upon amount of amoxicillin in gastric mucosa. Amoxicillin in gastric mucosa was increased with omeprazole treatment, this was accounted for 50% of patients. Nevertheless, amoxicillin in gastric mucosa of 33% patients studied were decreased under omeprazole treatment and approximately 17% that no amoxicillin was detected at 1.5 hr. after administration. Therefore, effect of omeprazole on amoxicillin level in gastric mucosa could not be significatly observed. The additive effect between these two drugs are suggested to be futher studied. Pharmacokinetic parameters of amoxicillin in serum for all patients under regimen I and regimen II treatments showed no statistically significant difference at significant level 0.05. The mean  $C_{max}$  value were  $14.62 \pm 5.39$  and  $12.65 \pm 4.76$  µg/ml, the  $T_{max}$  were  $2.3 \pm 1.0$  and  $2.0 \pm 0.9$  hr., and the  $AUC_{0-6}$  were  $40.79 \pm 13.26$  and  $38.75 \pm 15.04$  µg/ml.hr in the regimen I and II, respectively. From these results, it is rather clarified that omeprazole does not effect the pharmacokinetic parameters of amoxicillin in serum.

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