제 6차 임상약리학회 추계학술대회

Interaction of Lansoprazole and Theophylline in Korean and Caucasian Subjects, Characterized for CYP2C19

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Lansoprazole(LAN) is a potent gastric proton-pump inhibitor that has been shown to induce the activity of hepatic microsomal CYP1A2 which is the major isoform of theophylline(THP) metabolism. We conducted a multiple center, placebo-controlled cross-over study of the effect of multiple dose LAN (60mg/day p.o. for 7 days) on the pharmacokinetics(PKs) of a single i.v. dose of aminophylline(6mg/kg) in healthy volunters characterized for CYP2C19 genotype. The study compared the PKs of LAN and THP in 5 Caucasian extensive metabolizers(EMs), 6 Korean EM, and 7 PMs of CYP2C19. The PKs of LAN were significantly different among groups ; AUCs were $1.55 \pm 0.20 \mu g \cdot hr/ml$ in Caucasian EMs, $7.01 \pm 0.72 \mu g \cdot hr/ml$ in Korean EMs, and $14.34 \pm 2.60 \mu g \cdot hr/ml$ in PM($p<0.001$). The administration of LAN did not change i.v. THP clearance compared with placebo in any group. The magnitude of change of THP clearance was not significantly different among groups($p=0.7$) and did not exhibit any correlation with AUC of LAN($r>0.1$). These data suggest that usual therapeutic doses of LAN have no clinically significant influence on apparent clearance of THP even in PMs of CYP2C19. Caucasian EMs of CYP2C19 exhibit greater LAN clearance than Korean EMs, suggesting that CYP2C19 is more active in Caucasian.