Plasma loxoprofen concentrations were measured using HPLC with UV detector and analyzed by standard two-stage (STS) method. The population pharmacokinetic parameters of loxoprofen were evaluated according to several PK models such as 1-compartment model without lag time, 2-compartment model without lag time and noncompartmental method using WinNonlin. In the case of 2-compartment model without lag time, population mean Volume/F, K_{01}, K_{10}, T_{max} and C_{max} were 64.53 ×102 ㎖, 2.79 hr^{-1}, 0.90 hr^{-1}, 0.52 hr and 4.73 ㎍/㎖, respectively. The coefficient of variation (CV) of the parameters ranged from 9.5 to 143.37%. Based on the noncompartmental methods, mean loxoprofen $t_{1/2,\lambda}$, Volume/F, $AUC_{0-\infty}$, CL/F, MRT, T_{max} and C_{max} were 1.74 hr, 1.44 ×104 ㎖, 10.5 ㎍·hr/㎖, 5.74 ×103 ㎖/hr, 2.19 hr, 0.5 hr and 6.27 ㎍/㎖, respectively. Loxoprofen data were well fitted to 2-compartment model without lag time rather than other PK models. And also, weight, age and creatinine were not correlated with the pharmacokinetic parameters obtained from 2-compartment model without lag time.

[OE-5] [04/20/2001 (Fri) 14:30 - 14:45 / Room 4]

Effect of Prokinetic Agents, Cisapride and Metoclopramide, on the Bioavailability in Humans and Intestinal Permeability in Rats of Ranitidine, and Intestinal Charcoal Transit in Rats

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To investigate the effect of cisapride and metoclopramide on the bioavailability of drugs, ranitidine was administered to healthy volunteers following pretreatments with or without the prokinetic agents. Cisapride or metoclopramide was administered orally 30 min prior to an oral administration of ranitidine. The serum concentrations of ranitidine were determined by an HPLC method and the bioavailability parameters of the groups with the prokinetic agent pretreatment were compared with those of the control group. The effects of these prokinetic drugs on the in vitro apparent permeability of ranitidine across the rat jejunum, and on the in vivo intestinal charcoal transit in rats were also examined. Either of the pretreatments shortened the Tmax of ranitidine in humans significantly. The AUC of ranitidine in human subjects was also decreased significantly in the case of cisapride pretreatment. However, no changes were observed for the Cmax and T1/2. Rat studies revealed that cisapride and metoclopramide had no influence on the in vitro permeability of ranitidine or the in vivo intestinal charcoal transit. These data indicated that the changes in the Tmax and AUC in humans are not related with the intestinal permeability or intestinal transit of ranitidine. The shortened Tmax of ranitidine appears to be due to accelerated gastric emptying of the drug. However, underlying mechanisms for the decreased AUC of ranitidine in the case of cisapride pretreatment are currently unclear.

Oral Presentations - Field F

[F1. Clinical Pharmacy] [F2. Social Pharmacy]

[OF-1] [04/20/2001 (Fri) 14:45 - 15:00 / Room 4]

Evaluation of Influencing Factors on Theophylline(TP)

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Theophylline(1.3-dimethylxanthin, TP) and its derivatives are used worldwide to treat patients with asthma. But it is very difficult to determine initial dose of TP as there is no studied pharmacokinetic parameters for korean.
The objective of this study is to evaluate the influencing factors on TP pharmacokinetics in Korean patients as studying the population pharmacokinetic characteristics. The data were obtained from TDM consultation service sheets in pharmacy. The TDM data of patients were selected from inclusion criteria which were based on compliance and the numbers of TDM service (more than three times). SSPS program was used to analyse factors such as sex, age, height, weight, TP dosage form, dose, concurrent medication, drinking, smoking, herbal medication, concurrent medication. The student's t-test was used for sex, drinking, smoking, herbal medication and the regression analysis was done for age, dose, weight.