Drug Interaction between Nifedipine and Paclitaxel in Rats
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The purpose of this study was to investigate the effect of nifedipine (10 mg/kg) on the pharmacokinetic parameters and the bioavailability of paclitaxel (50 mg/kg) orally coadministered and pretreated in rats. The plasma concentration of paclitaxel in combination with nifedipine was significantly (p<0.05 at 10 mg/kg coadmin., p<0.01 at pretreat.) increased compared to that of control, from 2 hr to 24 hr. Area under the plasma concentration-time curve (AUC) of paclitaxel with nifedipine was significantly (p<0.05 at 10 mg/kg coadmin., p<0.01 at pretreat.) higher than that of control. Peak concentration (Cmax) of paclitaxel with nifedipine were significantly (p<0.05 at 10 mg/kg coadmin. and pretreat.) increased compared to that of control. Elimination rate constant (Kel) of paclitaxel with nifedipine were significantly (p<0.05 at pretreat.) reduced compared to those of control. Half-life (t½) and mean residence time (MRT) of paclitaxel with nifedipine was significantly (p<0.05 at pretreat.) prolonged compared to that of control. Absolute bioavailability (AB%) of paclitaxel with nifedipine was significantly (p<0.05 at 10 mg/kg coadmin., p<0.01 at pretreat.) increased compared to that of control. Based on these results, it might be considered that nifedipine may inhibit cytochrome P450 and P-glycoprotein, which are respectively engaged in paclitaxel absorption and metabolism in liver and gastrointestinal mucosa.

[PE2-5] [2003-10-11 09:00 - 12:30 / Grand Ballroom Pre-function]

Bioavailability of Procarainamide HCl in human plasma using a simple HPLC
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We aimed at determining bioavailability of procainamide HCl, an antiarrhythmic drug, and developing a simple analysis in human blood using HPLC. A rapid and sensitive HPLC method was developed and validated using reverse-phase C18 column with retention time and limit of quantification of procainamide HCl being 2.58 min and 50ng/ml, respectively. Quantification was performed at 275 nm with caffeine as internal standard. The method involved a simple extraction. In order to study blood level profile in time, eight volunteers were enrolled and orally took 250 mg procainamide HCl once. The blood samples were collected from 0 to 10 h after the drug administration. Mean AUC and Cmax value were 4.42±0.94 (ug/ml hr) and 1.30±0.32 (ug/ml), respectively. And Mean Tmax and T1/2 value were 0.94±0.26 (hr) and 2.86±0.49 (hr). From the results we determine the bioavailability of procainamide HCl using a newly developed and useful HPLC method.

[PE2-6] [2003-10-11 09:00 - 12:30 / Grand Ballroom Pre-function]

Pharmacokinetic Study of Levosulpiride Tablets in Human Volunteers
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The purpose of this trial was to determine pharmacokinetic parameters and to characterize bioavailability of levosulpiride after oral administration in Korean healthy male volunteers. Thirty subjects were received a single oral dose of a tablet (Isomeric) containing 25 mg of levosulpiride. The plasma concentrations of levosulpiride were measured by a validated FLD-HPLC method and compared with those reported in the literature. Levosulpiride was absorbed slowly, revealing peak concentrations between 4 and 6 hr after oral administration. Based on the first-order kinetics, the rate constant for the absorption phase was obtained by method of residuals. Pharmacokinetic parameters for Isomeric tablet were revealed as follows: AUC 737.1±176.9 ng/hr/ml, Cmax 56.4±20.1 ng/ml, Tmax 4.2±1.6 hr, K 1.00±1.09 hr⁻¹, Kel 0.08±0.02 hr⁻¹, and T1/2 8.8±1.9 hr. In the aspect of bioequivalence, there was no significant difference between Isomeric tablet and the other product, Levopride tablet, which is available in the Korean market. In comparison with the published data in the literature, even though there was a linear relationship between dose and extent of bioavailability, there were not only intersubject