variations between groups, but also race differences between Korean and western people.

[PE2-7] [2003-10-11 09:00 - 12:30 / Grand Ballroom Pre-function]

Pharmacokinetics of CJ-11555:Improvement of Bioavailability

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Purpose: The objective of the study was to elucidate the pharmacokinetics of CJ-11555, anti-cirrhotic agent, in different physical properties and vehicles. Methods: 8-week-old male intact rats were administered CJ-11555 either intravenously (20 mg/0.6 mL/kg, NMP:PEG400, 1:1) or orally (50 mg/2 mL/kg, various vehicles). Different particle sizes of CJ-11668 and various vehicles were applied to characterize CJ-11555 in vivo. Following the administration in rats, the plasma concentrations were determined by HPLC. Result: Micronized particle showed a significant increase in AUC by 160% as compared with non-micronized CJ-11555. However, no statistical different pharmacokinetic profiles among micronized CJ-11555s were found with the exception of Tmax. Suspensions in PEG and olive oil also play role in increasing AUC by 13% and 149%, respectively, as compared with suspension in saline. Conclusion: CJ-11555 has a low bioavailability due to its physical properties, however this study showed that smaller particle and liphophilic vehicle were beneficial to improve its bioavailability. In addition, this study suggest that dissolution rate would be the major concern to optimize the formulation of CJ-11555 in the future.

[PE2-8] [2003-10-11 09:00 - 12:30 / Grand Ballroom Pre-function]

Drug Interaction between Diltiazem and Quercetin in Rabbits

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The purpose of this study was to investigate the effect of quercetin(2.0, 10, 20 mg/kg; combined or pretreated) on the pharmacokinetic parameters and the bioavailability of diltiazem(15mg/kg) orally to rabbits. The plasma concentration of diltiazem pretreated with quercetin(pretreated group) were increased significantly ($p<0.01$) compared to that of control, but those of diltiazem combined with quercetin(combined group) were not affected. Area under the plasma concentration-time curve (AUC) of diltiazem pretreated with quercetin was significantly ($p<0.01$) higher than that of control. Peak concentration (Cmax) of diltiazem pretreated with quercetin were significantly increased ($p<0.01$) compared to that of control. Time to peak concentration (Tmax) of diltiazem pretreated with quercetin decreased significantly ($p<0.05$) than that of control. Half-life ($t_{1/2}$) of diltiazem pretreated with quercetin was significantly prolonged ($p<0.05$) compared to that of control. Based on these results, it might be concluded that quercetin may enhance bioavailability of diltiazem due to the inhibition of cytochrome P450 and P-glycoprotein, which are engaged in diltiazem absorption and metabolism in liver and gastrogintestinal mucosa, respectively.

[PE2-9] [2003-10-11 09:00 - 12:30 / Grand Ballroom Pre-function]

New Analytical Method of Methyltestosterone in Human Serum by Gas Chromatography/ Maa Spectrometry for Pharmacokinetics and Bioequivalence Studies in Human Volunteers

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A simple, specific and sensitive method for the determination of methyltestosterone (MT) in human serum has been developed by gas chromatography/mass spectrometry with the purpose of conducting pharmacokinetic and bioequivalence studies of MT. This method involves the use of liquid-liquid extraction with diethyl ether and

derivatization with MSTFA, using 1 ml of serum obtained from volunteers orally taken 50 mg MT. MT showed good resolutions in this conditions and no significant interfering peaks were observed. The detection limit is less than 5 ng/ml. A good linearity (r >0.9996) was obtained in the range of 5-250 ng/ml MT. Intra-day accuracy bias and precision (CV%) were 0.39-8.01% and 2.76-12.56% and inter-day accuracy bias and precision were 0.42-7.99% and 2.29-17.69%, respectively. The developed method was applied on the pharmacokinetic study of MT after oral administration (50 mg MT) to 8 healthy human volunteers. The principal pharmacokinetic parameters resulted in 275.2 ± 126.5 ng.hr/ml of $AUC_{0\rightarrow 24hr}$, 95.9 ± 67.1 ng/ml of C_{max}, 1.13 ± 0.79 hr of T_{max}, 0.164 ± 0.034 hr^{-1} of K_e, and 4.39 ± 0.90 hr of $t_{1/2}$. This data indicate that the method is suitable for the studies of clnical pharmacokinetics of methyltestosterone and its analogues (This work was supported by the Korea Food and Drug Administration Grant, KFDA-03142-EQI-504).

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

Bioequivalence Assessment of Shinpoong "Dompil?" Tablets Containing Domperidone Maleate in Healthy Korean Volunteers

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The bioequivalence of two tablet formulations of 12.72 mg domperidone maleate (Shinpoong "Dompil?" tablets vs. Janssen Korea "Motilium-M?" tablets) was assessed in healthy Korean volunteers after oral administration in a randomized crossover study. Blood samples were collected at specified time intervals, and plasma concentration was measured as the amount of domperidone base using a validated HPLC method. The pharmacokinetic parameters of $AUC_{0\rightarrow 48}$, C_{max}, T_{max} and $t_{1/2}$ were determined from plasma concentration-time profile of two formulations. Any significant statistical differences were not observed between these two formulations. On the evaluation of bioequivalence according to Korea Food and Drug Administration Guideline, 90% confidence limits after logarithmic transformation fell within the acceptable range (log 0.8 ~ log 1.25). Based on these data, it can be concluded that two domperidone maleate tablets showed comparable pharmacokinetic profiles, which means that the Shinpoong "Dompil?" tablet is bioequivalent to the Janssen Korea "Motirium-M?".

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

Bioequivalence of Ersteine™ Capsule to Erdos™ Capsule(Erdosteine 300 mg)

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The purpose of the present study was to evaluate the bioequivalence of two Erdosteine capsules, Erdos™(Dae Woong Pharmaceutical Co., Ltd.) and Ersteine™(Dae Won Pharmaceutical Co., Ltd.), according to the guidelines of Korea Food and Drug Administration (KFDA). Twenty-four normal male volunteers, 23.88 ± 2.89 year in age and 68.50 ± 7.71 kg in body weight, were divided into two groups and a randomized 2×2 cross-over study was employed. After three capsules containing 300 mg of erdosteine per capsule were orally administered, blood was taken at predetermined time intervals and concentrations of erdosteine in plasma were determined using HPLC. Pharmacokinetic parameters such as AUC_t, C_{max} and T_{max} were calculated and ANOVA test was utilized for the 7statistical analysis of the parameters using logarithmically transformed AUC_t, and C_{max}, untransformed T_{max}. There were no sequence effects between two formulations in these parameters. The 90% confidence intervals for the log transformed data were acceptance range of log0.8 to log1.25(e.g., log0.9062~log1.0758 and log0.8918~log1.0938 for AUC_t and C_{max}, respectively). The major parameters, $AUC_t$and C_{max}, met the criteria of KFDA for bioequivalence indicating that Erdos™ capsule is bioequivalent to Ersteine™ capsule.

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

Study on the Protein Binding of Anti-cancer Agent, 2"-O-benzoylcinnamaldehyde, using Ultrafilteration and Flurescence Spectrometry