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This study was conducted to investigate the pharmacokinetic characteristics of a synthetic opioid, Tridol?Capsule (tramadol hydrochloride from Yuhan Pharmaceutical Co., Ltd., Korea) in 24 healthy Korean volunteers after a single dose administration. The volunteers received two capsules of 50 mg dose. Plasma samples were obtained over a 24-hour interval, and tramadol concentrations were determined by validated HPLC methods with a fluorescence detector. From the plasma tramadol concentration vs. time curves, the areas under the plasma concentration curves of tramadol (AUC) were 2731 ± 1210 ng h/ml and peak serum concentrations of 321.6 ± 123.6 ng/ml were reached 2.3 h after oral administration of two Tridol capsules. The half-lives of absorption were 0.80 ± 0.68 h and the lag-time 0.14 ± 0.12 h. In the terminal phase the biological half-lives of tramadol were 6.6 ± 2.2 h.

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Identification of urinary metabolite(s) of CKD-712 by gas chromatography/mass spectrometry in rats

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Examination was made of the urinary metabolite(s) of CKD-712, which is a chiral compound, named S-YS49 derived from higenamine (one component of *Aconite spp.*) derivatives. First of all, to analyze the metabolite(s) of CKD-712, a simple and sensitive detection method for CKD-712 was developed by using gas chromatography-mass spectrometry(GC/MS). Urine was collected from adult male Sprague-Dawley rats(250±10g) in metabolic cage for 24hr after oral administration of 100 mg/kg of CKD-712. The recovery of CKD-712 after extraction and concentration with AD-2 resin column was above 90 % from rat urine. The detection limits of CKD-712 in urine was approximately 0.1 ng/mL. It has well been suggested that isoquinoline possessing catechol moiety such as CKD-712 should be subjected to the catechol-O-methyl transferase activity in vivo. We detected three major peaks of presumed CKD-712 metabolites in the total ion chromatogram obtained from the rat urine sample after oral administration of CKD-712. From these results, it is assumed that the urinary metabolites are mono-methylation in the naphthyl moiety (metabolite I), methylation at the C-6 or 7 hydroxy group in the isoquinoline moiety and hydroxylation at in the naphthyl moiety (metabolite II), and methylation at the C-6 or 7 hydroxy group in the isoquinoline moiety (metabolite III).

[PE2-22] [04/18/2003 (Fri) 09:30 - 12:30 / Hall P]

Kinetic behavior of sophoricoside by gas chromatography/mass spectrometry in rats

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