Tolerability and single dose pharmacokinetics of a new PDE5 inhibitor, DA-8159 in healthy male subjects

임형석, 홍경섭, 정재용, 조주연, 이소영, 장인진, 신상구

서울대학교병원 임상시험센터/임상약리실, 서울대학교 의과대학 약리학교실

DA-8159 is a new PDE5 inhibitor being developed for the treatment of erectile dysfunction. The objective of this study was to determine the pharmacokinetics (PK), safety, and the hemodynamic effect of DA-8159 in healthy male subjects. Five doses of DA-8159 (25mg, 50mg, 100mg, 200mg, 300mg) were given to 40 male subjects (6 for DA-8159, 2 for placebo per each dose). Blood and urine samples were collected up to 32 hours and 48 hours following DA-8159 administration, respectively. PK parameters were determined by non-compartment methods and the results were summarized in table 1. The PKs of DA-8159 are not consistent with linear kinetics.

No serious adverse events were reported in this study. The hemodynamic effect of DA-8159 was evaluated with ambulatory blood pressures, and with the total peripheral resistance measured by the computerized impedance cardiography. Considering the target dose ranges (50~100 mg), we could not find any significant hemodynamic effect of DA-8159.

Table 1. PK parameters of DA-8159

Dose (mg)	Cmax (ng/ml)		AUCinf (ng*h/ml)		Tmax (hour)	T1/2β (hour)		Fe (%)
	GeoMean	SD	GeoMean	SD	Median	GeoMean	SD	Mean
25	51.24	26.74	302.78	129.90	1.00	6.65	3.28	5.3
50	157.13	38.28	1027.63	168.06	1.25	10.50	2.39	8.36
100	401.27	125.63	2741.65	770.98	1.25	12.02	1.74	11.85
200	1107.43	278.12	7839.55	1028.91	0.76	9.72	1.95	14.74
300	1565.51	283.13	11524.55	3080.14	1.25	9.70	0.93	15.98