Nicotine Pharmacokinetics in Rats is altered as a function of Age, impacting the Interpretation of Animal Model Data

Drug Metabolism and Disposition

Supplemental Table 1.

Pharmacokinetic Parameters of Nicotine and Metabolites following Intravenous Nicotine

	NIC		COT		NNIC		NNO	
Parameter[a]	**EA**	**AD**	**EA**	**AD**	**EA**	**AD**	**EA**	**AD**
C_{max} (ng/ml)	44 (26)	69 (18)	44** (9.8)	58 (12)	2.3* (0.9)	1.6 (0.9)	12 (6.3)	11 (1.2)
$t_{1/2}$ (min)	64	92	310	618	113	275	78	79
$AUC_{(10min-4hr)}$ (ng.hr/ml)	45*** (10)	92 (12)	141** (17)	191 (19)	6.0 (1.9)	4.9 (1.3)	25 (4.5)	26 (4.0)
$AUC_{(2–8hr)}$ (ng.hr/ml)	13 (13)	41 (21)	186** (28)	316 (34)	5.3 (3.1)	5.2 (2.0)	10 (5.5)	14 (3.7)
VD (L/kg)	5.0	3.2						
CL (L.hr/kg)	3.3	1.4						

[a] Mean (SD); NIC = Nicotine; COT = Cotinine; NNIC = Nornicotine; NNO = Nicotine-1'-N-oxide; EA = Early adolescent; AD = Adult . C_{max} = Maximal metabolite concentration, $t_{1/2}$ = Terminal half-life, AUC = Area under the plasma concentration-time curve from 10 min to 4 hr and 2 to 8 hr, VD = Initial volume of distribution, CL = Clearance. *p<0.05, **p<0.01,***p<0.001, significantly different from $AD_{(IV)}$ group.