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Effect of compatible herbs on the pharmacokinetics of effective components of *Panax notoginseng* in Fufang Xueshuantong Capsule

Key words: Fufang Xueshuantong; *Panax notoginseng*; Pharmacokinetics; Compatibility

Research Summary



Panax notoginseng **(Burkill) F.H.Chen**



Fufang Xueshuan Tong Capsule (FXT)

Monarch herb



Panax notoginseng **(Burkill) F.H.Chen**

Assistant herb



Salvia miltiorrhiza Bunge



Scrophularia ningpoensis Hemsl



Astragalus membranaceus (Fisch.) Bunge

Pharmacokinetic study

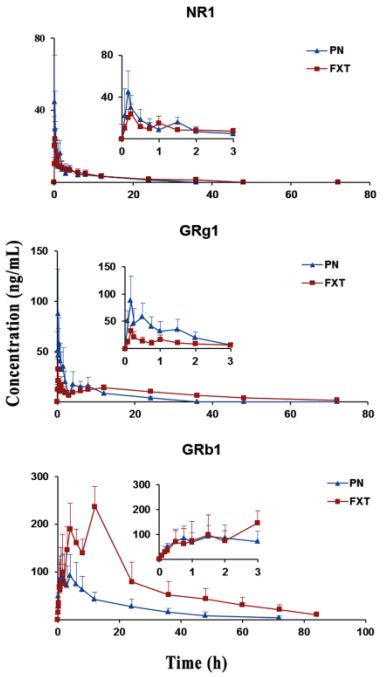


Blood samples

HPLC-MS-MS

Sample detection

Winnolin 4.1



FXT (compared with PN):

AUC ↑ ***T½*** ↑ ***MRT*** ↑ ***Cl*** ↓

Conclusions

The retention times and systemic levels of notoginsenoside R1, ginsenoside Rg1, and ginsenoside Rb1 in Fufang Xueshuantong capsule increased, compared of those in Panax notoginseng.

	NR1		GRg1		GRb1	
	PN	FXT	PN	FXT	PN	FXT
Ke(1/h)	0.089 ± 0.037	0.065 ± 0.035	0.084 ± 0.019	0.060 ± 0.014*	0.053 ± 0.017	0.039 ± 0.017
$T_{1/2}$ (h)	9.17 ± 4.21	12.64 ± 4.68	8.73 ± 2.40	11.98 ± 2.66	14.07 ± 3.99	20.87 ± 8.48
T_{max} (h)	0.17 ± 0.00	0.22 ± 0.04*	0.28 ± 0.17	0.17 ± 0.00	2.71 ± 1.47	12.00 ± 0.00**
C_{max} (ng/mL)	44.67 ± 25.79	24.80 ± 8.80	90.82 ± 42.00	32.48 ± 9.46*	102.17 ± 42.66	237.08 ± 42.42**
AUC_{0-t} (h·ng/mL)	105.53 ± 20.38	109.60 ± 26.00	274.63 ± 101.27	453.04 ± 76.42**	1730 ± 918	5797 ± 1908**
$AUC_{0-\infty}$ (h·ng/mL)	119.41 ± 22.09	133.90 ± 26.20	320.87 ± 105.96	478.22 ± 96.99*	1836 ± 988	6117 ± 1843**
Vd (mL/kg)	390609 ± 183186	423902 ± 188784	1152179 ± 463127	835441 ± 149883	233381 ± 105370	84423 ± 46266**
Cl (mL/h/kg)	29440 ± 5974	23227 ± 5360	90327 ± 26839	49507 ± 9290**	12490 ± 6590	2647 ± 606*
MRT_{0-t} (h)	8.40 ± 2.32	9.21 ± 2.85	7.72 ± 1.11	21.53 ± 3.05**	17.13 ± 2.48	24.85 ± 1.80**
$MRT_{0-\infty}$ (h)	12.41 ± 4.55	16.51 ± 5.68	12.19 ± 3.23	24.19 ± 4.92**	20.65 ± 3.21	30.33 ± 4.41**

*：$p < 0.05$ compared with PN group　　**：$p < 0.01$ compared with PN group

Innovation points

- **Pharmacokinetic profiles of Fufang Xueshuantong capsule was explored for the first time.**

- **Pharmacokinetic comparisons between Panax notoginseng and Fufang Xueshuantong capsule were studied for the first time.**

- **A strategy on clarifying the rationality of the compatibility of Fufang Xueshuantong capsule was provided through comparing the pharmacokinetic differences between *Panax notoginseng* and Fufang Xueshuantong capsule.**

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