



马钱子碱、马钱子总生物碱与马钱子粉在大鼠体内药动学的比较

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中文摘要:目的:研究马钱子碱、马钱子砂烫炮制品总生物碱与马钱子粉在大鼠体内的药动学规律,探寻单成分与整体之间的相互影响。方法:给各组大鼠分别灌胃给予马钱子碱溶液、马钱子砂烫炮制品总碱溶液及马钱子粉混悬液,采用高效液相色谱测定大鼠体内马钱子碱的血浆浓度,血药浓度-时间曲线经3P97软件进行房室模型拟合并计算和比较各组药动学参数。结果:马钱子碱在大鼠体内的代谢过程符合二室模型,权重 $W=1/C^2$,方差分析结果表明,相同剂量的马钱子碱在3组不同的存在形式中,马钱子碱溶液组与马钱子砂烫炮制品总生物碱组在 C_{max} 、MRT有显著性差异($P<0.05$);马钱子碱溶液组与马钱子粉混悬液组在 C_{max} 、 AUC_{0-6} 、 AUC_{0-24} 有显著性差异($P<0.05$),其中马钱子粉混悬液组值最小。结论:马钱子砂烫炮制品总生物碱组可相对延长马钱子中有效成分马钱子碱的血浆滞留时间,马钱子粉混悬液组的生物利用度较低。

中文关键词:马钱子碱 马钱子总生物碱 马钱子粉 药动学

Comparison on *in vivo* pharmacokinetics of brucine, total alkaloids of Strychni Semen and Strychni Semen pulveratum in rats

Abstract: Objective: To study different *in vivo* pharmacokinetic regularity of brucine, total alkaloids of scorched sand-prepared Strychni Semen products and Strychni Semen pulveratum in rats, and probe into mutual impact between single component and compound. **Method:** Rats in each group were orally administered with brucine, total alkaloids of scorched sand-prepared Strychni Semen products and Strychni Semen pulveratum suspension. The *in vivo* plasma concentrations of brucine in rats were determined by HPLC. A compartment model was made for the blood drug concentration-time curve using 3P97 software package and the pharmacokinetic parameters of each group were calculated and compared. **Result:** The *in vivo* metabolic process of brucine in rats complied with the two-compartment model, weight $W=1/C^2$. The results of variance analysis showed that among three existing forms of brucine with same dosage, the brucine solution group and the total alkaloids group of scorched sand-prepared Strychni Semen products showed significant differences in C_{max} , MRT ($P<0.05$); and the brucine solution group and the Strychni Semen pulveratum suspension group showed significant differences in C_{max} , AUC_{0-6} and AUC_{0-24} , in which the latter displayed minimum C_{max} , AUC_{0-6} and AUC_{0-24} . **Conclusion:** The total alkaloids group of scorched sand-prepared Strychni Semen products showed a relatively longer retention time of effective components of brucine in plasma, while the Strychni Semen pulveratum suspension group showed a lower bioavailability.

Keywords: brucine total alkaloids of Strychni Semen Strychni Semen pulveratum pharmacokinetics

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