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论文

染料木黄酮在Beagle犬体内的药代动力学染料木黄酮在Beagle犬体内的药代动力学

周四元;梅其炳;杨兴斌;李欣;胡玉珍;王剑波

第四军医大学 1. 药理学教研室, 2. 生理学教研室, 3. 药物研究所, 陕西 西安 710032

摘要：

目的研究染料木黄酮(genistein)在Beagle犬体内的药代动力学。方法染料木黄酮ig后用反相高效液相色谱法测定犬血浆、尿及粪便中原型药物浓度,血浆药物浓度-时间数据用3P97药代动力学软件分析。结果Genistein在Beagle犬体内的代谢符合一室模型,ig后0.29 h达药峰浓度,*t*1/2 Ke为0.52 h。给药后24 h内有10.79%的原型药物由尿排出,21.55%的原型药物由粪便排出。60 h内有13.00%的原型药物由尿排出,有52.46%的原型药物由粪便排出。结论Beagle犬ig染料木黄酮后吸收迅速,血浆中药物的消除速度快,药物主要以原型经尿和粪便排出体外。

关键词： 染料木黄酮 药代动力学 高效液相色谱法

Pharmacokinetics of genistein in Beagle dogs

ZHOU Si-yuan; MEI Qi-bing; YANG Xing-bin; LI Xin; HU Yu-zhen; WANG Jian-bo

Abstract:

AimTo study the pharmacokinetics of genistein in Beagle dogs. MethodsGenistein, suspended in 0.5% CMC-Na solution, was orally administered to Beagle dogs at the dose of 5.34 mg·kg^{-1}. At various time intervals, 1.5 mL of blood was drawn from the vein of dogs in their front legs. At the same time, urine and feces were collected. After the collection, the feces were homogenized with physiological saline (to 1 g feces, 10 mL physiological saline were added). The genistein in plasma, urine and homogenized feces was extracted twice by vortexing with 2.0 mL mixture of methyl tert-butyl ether and pentane (8∶2). The organic phase was transferred into tubes and evaporated in ventilation cabinet. The residue was dissolved in 50 μL of methanol and 20 μL of the solution was drawn and detected by high-performance liquid chromatography. The pharmacokinetic parameter was calculated by 3P97 software. ResultsThe plasma concentration-time curve was fitted to a one-open-compartment model. The peak time was 0.29 h, and the elimination half-life was 0.52 h. After genistein was administered, 10.79% of genistein were excreted from urine and 21.55% from feces within 24 h. It was also found that 13.00% genistein were excreted from urine and 52.46% from feces within 60 h. ConclusionIt showed that the speed of absorption and elimination of genistein was high in Beagle dog, and genistein was mainly excreted in the form of parent compound in urine and feces.

Keywords: pharmacokinetics high-performance liquid chromatography half-life genistein

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作者简介:

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