

论文

乙氧苯柳胺的测定及其在大鼠的药代动力学研究

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摘要:

目的: 建立乙氧苯柳胺在大鼠血清中的测定方法,并研究乙氧苯柳胺软膏(ETO)在大鼠体内的药代动力学。方法: 采用HPLC方法测定大鼠涂抹ETO后血清中的乙氧苯柳胺的浓度。色谱柱为C₁₈柱,250 mm×4.6 mm(L×ID), 10 μm, 流动相为甲醇-水(含0.05%磷酸)=63:37, 流速为1.1 mL.min⁻¹, 检测波长: UV 290 nm。结果: 在10~500 ng.mL⁻¹范围内具良好线性关系, 方法回收率为94.5%~104.8%。大鼠皮肤涂抹ETO 100, 200和400 mg.kg⁻¹后, C_{max}和AUC均与剂量呈正相关。结论: 本法简便、准确、重现性好, 可用于ETO的药代动力学研究。在100~400 mg.kg⁻¹范围内, ETO的吸收和消除呈一级动力学特征。

关键词: 乙氧苯柳胺 高效液相色谱法 药代动力学

DETERMINATION OF ETOFESALAMIDE AND ITS PHARMACOKINETICS IN RATS

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Abstract:

AIM: To develop an HPLC method for the determination of etofesalamide in serum, and to study the pharmacokinetics of etofesalamide ointment (ETO) in rats. METHODS: A Shimadzu LC-6A high performance liquid chromatograph equipped with a constant temperature oven set at 40°C was used. The UV absorbance detector was set at 290 nm, and a 250 mm×4.6 mm(L×ID) column packed with C₁₈ with a 10 μm particle size was used. The mobile phase consisted of methanol-water(0.05% H₃PO₄) =63:37 with a flow rate of 1.1 mL.min⁻¹. Ketoprofen was used as the internal standard. The above HPLC method was used to determine the level of etofesalamide in rat serum. The main pharmacokinetic parameters were obtained by 3P97 program. RESULTS: A good linearity was obtained from 10~500 ng.mL⁻¹ of etofesalamide in rat serum with γ=0.9998. The detection limit was 5 ng.mL⁻¹. The recovery was more than 94%. The relative standard deviation of within-day and between-day in the level of 20,100 and 500 ng.mL⁻¹ was 5.82%, 2.43%, 1.78% and 7.77%, 4.01%, 1.09%, respectively. The main pharmacokinetic parameters of ETO after a single external application to rat are shown in table 3. There was good correlation between C_{max}, AUC and doses, with the correlation coefficient (γ) 0.9986 and 0.9999, respectively. CONCLUSION: The established HPLC method was a simple and accurate method for the determination of etofesalamide in serum. The results of the pharmacokinetic study of ETO showed that it exhibited first order kinetic characteristics.

Keywords: HPLC pharmacokinetics etofesalamide

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