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论文

氯唑沙宗及其代谢物的HPLC测定方法和药代动力学研究

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摘要:

目的旨在建立氯唑沙宗及其代谢物的方法。应用高效液相色谱法,内标物为5-fluorobenzoxazolone,经乙酸乙酯提取,紫外检测波长为287nm。结果表明,6-羟氯唑沙宗、内标物及氯唑沙宗的保留时间分别为6.12,10.47和18.65min。6-羟氯唑沙宗及氯唑沙宗在0.5～20μg·ml^{-1}血浆浓度范围内线性关系良好,回收率均在82.80%～100.76%之间,当日及日间相对标准差分别小于8%和11%。两药的最低检测浓度分别为0.2和0.5μg·ml^{-1}。多种常用药物对样品的色谱峰无干扰。曾对8名健康受试者单次口服氯唑沙宗400mg的药代动力学进行了观察。提示此方法可用于氯唑沙宗的体内氧化代谢研究。

关键词: 氯唑沙宗 药代动力学 高效液相色谱法

DETERMINATION OF CHLORZOXAZONE AND ITS METABOLITE 6-HYDROXYCHLORZOXAZONE IN PLASMA BY HPLC AND THEIR PHARMACOKINETICS

Li Ling and Zhang Yuan

Abstract:

A rapid and sensitive HPLC assay was developed for the quantitation of chlorzoxazone and its metabolite 6-hydroxychlorzoxazone in plasma. These compounds, as well as internal standard 5-fluorobenzoxazolone, were extracted with ethyl acetate, then were analyzed on Alltima C_{18} column with a mobile phase of acetonitrile-0.5% acetic acid, and detected at 287 nm. The retention times of 6-hydroxychlorzoxazone, internal standard and chlorzoxazone were 6.12 min,10.47 min and 18.65 min, respectively. The linearity of the method was tested in the concentration range 0.5～20μg·ml^{-1}, and the limits of detection of 6-hydroxychlorzoxazone and chlorzoxazone were found to be 0.2 and 0.5 μg·ml^{-1}, respectively. Inter day and intra day relative standard deviations(RSD) were below 8% and 11%. The recoveries of these two compounds were between 82.80%～100.76%. The pharmacokinetic profile of chlorzoxazone in human following an oral dose of 400 mg was studied. Both absorption and elimination of chlorzoxazone were found to be rapid in human. There seemed to be an obvious interindividual difference and perhaps an interracial difference as well, when compared with other races.

Keywords: Pharmacokinetics HPLC Chlorzoxazone

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