

论文

气相色谱法测定人血浆中非洛地平浓度及药代动力学

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摘要:

采用气相色谱—电子捕获检测法测定人血浆中非洛地平浓度,研究中国男性正常人口服该药的药代动力学规律,为临床应用提供依据。血浆样品经乙醚—正己烷(2:1)萃取浓缩后进行测定。结果表明非洛地平浓度在0.5~10ng·ml<sup>-1</sup>范围内线性良好( $\gamma=0.9991$ )。此法简便易行,精密度高,日内、日间的RSD分别小于5.09%及8.62%。回收率平均为97.3%±4.0%。测定了10名健康者单次口服非洛地平10mg后不同时间的血药浓度并计算了相应的药代动力学参数。

关键词: 非洛地平 气相色谱—电子捕获 药代动力学

DETERMINATION OF FELODIPINE CONCENTRATION IN HUMAN PLASMA BY GC-ECD AND STUDY OF ITS PHARMACOKINETICS

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Abstract:

A rapid, accurate and sensitive gas chromatographic method using electron-capture detector (GC-ECD) was developed for the determination of felodipine concentration in human plasma. Nimodipine was used as internal standard. The plasma samples were extracted using a mixture of ethyl ether and n-hexane (2:1) to give mean recoveries of 97.3% of felodipine. The extracts were separated by a 5% SE-30 glass packed column (2 m×3 mm). The detection limits for felodipine was 0.25 ng·ml<sup>-1</sup>. The precisions (RSD%, n=5) of within day and day to day were less than 5.09% and 8.62%, respectively. The pharmacokinetic parameters of felodipine in ten men were investigated by this method. The concentration-time curve was fitted to a two-compartment model. Its main pharmacokinetic parameters were:  $T_{1/2\alpha}=0.76$  h,  $T_{1/2\beta}=16.09$  h,  $C_{max}=4.78$  ng·ml<sup>-1</sup>,  $T_{max}=2.01$  h,  $AUC=45.2$  h·ng·ml<sup>-1</sup>.  
Keywords: GC-ECD Pharmacokinetics Felodipine

收稿日期 1997-09-16 修回日期 网络版发布日期

DOI:

基金项目:

通讯作者:

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