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论文

血液微渗析技术研究酮洛芬在大鼠体内的药代动力学

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摘要：

目的考察酮洛芬微渗析体内外回收率及影响因素，研究酮洛芬静脉给药后非结合型药物在大鼠体内的药代动力学。方法大鼠颈静脉插入探针后，依次用不同浓度的灌注液对探针进行灌注，测定酮洛芬体内回收率及非结合型酮洛芬在大鼠体内的药代动力学。以高效液相色谱法测定微渗析液中药物浓度。体外回收率的测定采用浓差法。结果增量法及减量法测定的回收率一致。以浓差法测定的体外回收率为28.75%；反渗析法测定体内回收率为(40.3±2.7)%。酮洛芬静脉给药后非结合型药物的$T_{1/2}$，AUC和CL分别为(181±16) min，(112±27) μg·min·mL^{-1}和(0.22±0.05) min^{-1}。结论血液微渗析技术可用于研究非结合型酮洛芬在大鼠体内的药代动力学。

关键词： 微渗析 酮洛芬 药代动力学 高效液相色谱法

Pharmacokinetic study of ketoprofen in rat by blood microdialysis technique

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Abstract:

AimTo investigate the *in vitro* recovery and influencing factors of ketoprofen in microdialysis probe, and study the pharmacokinetic of unbound ketoprofen in rat after iv administration. MethodsThe recovery of ketoprofen was detected by a concentration difference method. After microdialysis probe was inserted into the jugular vein of male Wistar rats, the probe was infused with various concentrations perfusate. The *in vivo* recovery and the pharmacokinetics of unbound ketoprofen in rat were investigated. Dialysate samples were determined by HPLC. ResultsThe recovery detected by gain was as the same as that by loss; the recovery was independent of the drug concentration surrounding the probe. The *in vitro* recovery was 28.75% by concentration difference method and the *in vivo* recovery was (40.3±2.7)% by retrodialysis method. After iv administration of ketoprofen in rat, $T_{1/2}$, AUC and CL of unbound ketoprofen were (181±16) min, (112±27) μg·min·mL^{-1} and (0.22±0.05) L·min^{-1}, respectively. ConclusionMicrodialysis sampling can be used for the pharmacokinetic study of unbound ketoprofen in rat.

Keywords: ketoprofen pharmacokinetics HPLC microdialysis

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