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Comparative pharmacokinetics of borneol in cerebral ischemia-reperfusion and sham-operated rats

冰片在中风及假手术大鼠体内的药代动力学研究

Key words: Borneol, Pharmacokinetics, Cerebral ischemia-reperfusion, Xingnaojing

关键词：冰片；药代动力学；脑缺血再灌注；醒脑静

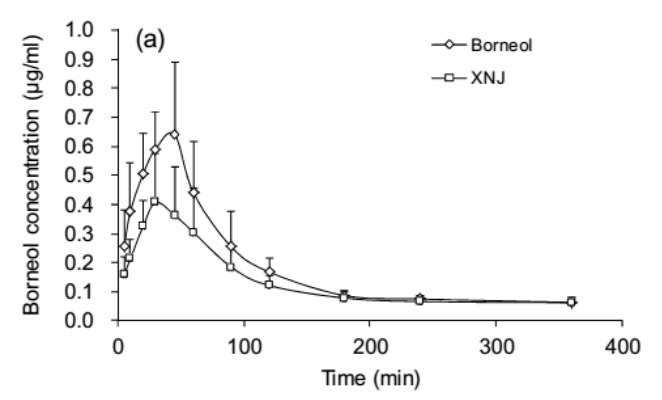
- Objective: to investigate the pharmacokinetics of borneol in the pathological conditions of stroke and evaluate the pharmacokinetic differences of borneol caused by stroke after oral administration of borneol and Xingnaojing (XNJ).
- Methods: ischemia-reperfusion (IR) and sham-operated (SO) rats both contained pure borneol subgroup and XNJ subgroupst. After oral administration , plasma samples were collected and detected with a specific gas chromatographic system-flameionization detector method. The cerebral ischemia-reperfusion model was created by reversible middle cerebral artery occlusion (MCAO). The pharmacokinetic parameters were analyzed using non-compartmental methods with Kinetica.
- Results: compared with the SO rats after administration of borneol, the maximum plasma concentration (C_{max}) and area under the curve (AUC) values in stroke rats significantly increased and the same phenomenon appeared after administration of XNJ. In the rats with the same physiological conditions, the C_{max} and AUC had higher values in the borneol subgroup
- Conclusions: the pathological damages of ischemia-reperfusion have a significant impact on the pharmacokinetic traits of borneol and that there are some components in XNJ inhibiting the absorption of borneol.

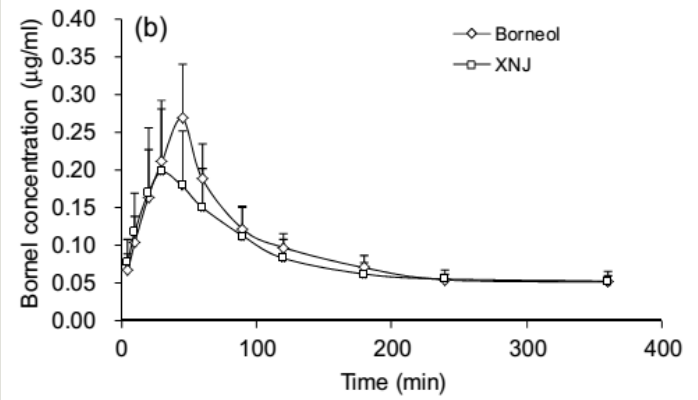
borneol

Xingnaojing

Ischemia-reperfudion rats

Sham-operated rats





the pathological damages of stroke will improve the absorption of borneol

Other components in XNJ also influence pharmacokinetics traits of borneol