



儿茶凝胶的制备和抗炎药效学评价

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中文摘要:目的:制备儿茶凝胶,并对凝胶的释放行为和抗炎药效学进行研究。方法:以儿茶素和表儿茶素的含量总和占儿茶质量的百分比为提取率作为考察指标,采用正交试验,考察乙醇浓度、料液比、提取温度和超声时间4个因素对提取结果的影响,儿茶提取物以卡泊姆为基质,三乙醇胺为中和剂制成儿茶凝胶,对凝胶的体外释药性和大鼠抗炎药效进行研究。结果:超声波波提法提取儿茶的优化工艺条件为乙醇浓度为50%,料液比为1:12,超声时间为35 min,提取温度为60℃。儿茶凝胶处方卡波姆9 400.5 g,甘油5.0 g,儿茶提取物50.0 mL,三乙醇胺0.5 mL。儿茶凝胶细腻光洁、呈半透明,释放药物快,对角叉菜胶所致的大鼠足趾肿胀具有明显的抑制作用,作用时间与凝胶剂量呈正性相关。结论:儿茶凝胶配方合理,质量可控,具有明显的抗炎作用,可进一步研究开发。

中文关键词:儿茶 提取 凝胶 体外释放 抗炎

Preparation and pharmacodynamics studies on anti-inflammatory effect of catechu gel

Abstract:Objective: To prepare the gel of Chinese medicine catechu, study its release mechanism *in vitro* and observe the anti-inflammatory activity in rats. Method: Using the amount of catechin and epicatechin in dry extract as major evaluation factors, orthogonal experiment was carried out to investigate four influential factors of the ethanol concentration, ratio of raw material to solvent, ultrasonic time and extraction temperature. The catechu gel was prepared by using carbomer-940 as the gel base, and triethanamine as neutralizer. The experiments on drug-releasing profiles *in vitro* and the pharmacodynamics studies on the anti-inflammatory in rats were carried out, respectively. Result: The optimum condition of extraction from catechu was as follows, the concentration of ethanol, ratio of raw material to solvent, ultrasonic time, and extraction temperature were 50%, 1:12, 35 min and 60℃, respectively. The formulation of catechu gel was carbomer-9 400.5 g, glycerol 5.0 g, the extracts of catechu 50.0 mL, and triethanamine 0.5 mL. The gel was semitransparent and stable. The drugs released quickly. The catechu gel reduced the paw edema considerably in dose-dependent manner compared to carrageenan-induced rat. Conclusion: The formulation of the catechu gel is reasonable, and it shows remarkable anti-inflammatory activity. It is worth doing further research.

keywords: catechu ultrasonic extraction gel anti-inflammatory release *in vitro*

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