

论著

治伤巴布剂对大鼠急性软组织损伤模型骨骼肌中AQP-3表达的影响

李前¹, 邵先舫¹, 刘志军¹, 严望², 李莹¹, 陈绍军¹

1. 湖南中医药大学附属常德医院, 湖南 常德 410005;
2. 湖南中医药大学研究生院, 长沙 410007

摘要:

目的:观察治伤巴布剂对大鼠急性软组织损伤模型骨骼肌中水通道蛋白3(AQP-3)表达的影响。方法:SD大鼠54只,随机分成3组,造模前1d使用10%的硫化钠对每只大鼠左后肢大腿外侧区域进行脱毛处理。正常对照组:仅在左后肢大腿外侧进行脱毛处理,并标记打击范围,不予打击造模;模型组:使用软组织打击器在脱毛区标记范围内予以打击建立急性软组织损伤肿胀的模型,不给任何药物处理;药物处理组:急性软组织损伤肿胀模型建立后立即在局部予治伤巴布剂外敷,另予胶布加强固定。造模后1h,6h,1d,3d,5d,7d六个时间点处死动物,每组每个时相点3只,在标记的区域切取肌肉组织,采用干湿比重法测定骨骼肌组织的含水量,应用实时荧光定量PCR、Western印迹法检测AQP-3 mRNA及蛋白的表达水平,并行相关分析。结果:检测的六个时间点中,模型组和药物处理组的肌肉组织含水量均高于正常对照组($P<0.05$),在3,5,7d三个时间点,药物处理组的含水量低于模型组($P<0.01$);药物处理组、模型组的AQP-3 mRNA及蛋白表达水平均高于正常对照组,且药物处理组高于模型组($P<0.01$)。结论:治伤巴布剂具有减轻急性软组织肿胀的作用,从而加速急性软组织损伤后修复的进程。

关键词: AQP-3 急性软组织损伤 骨骼肌 治伤巴布剂

Effect of curing-injury Cataplasma on expression of AQP-3 in skeletal muscle of rat model with acute injury in soft tissues

LI Qian¹, SHAO Xianfang¹, LIU Zhijun¹, YAN Wang², LI Ying¹, CHEN Shaojun¹

1. Changde Affiliated Hospital of Hunan University of Traditional Chinese Medicine, Changde Hunan 410005;
2. Graduate School, Hunan University of Traditional Chinese Medicine, Changsha 410007, China

Abstract:

Objective: To observe the effect of curing-injury cataplasma on the expression of aquaporin protein 3 (AQP-3) in skeletal muscle of rat model with acute injury in soft tissues.

Methods: A total of 54 SD rats were randomly divided into 3 groups, and by using 10% sodium sulfide the depilating treatment was made in the thigh lateral of each left hind leg 1 day before modeling. The depilatory area in the control group was merely marked with striking range, not attacked for modeling. In the depilatory area of the modeling group, the blowing apparatus was used to attack the marked range to establish the model of soft tissue swelling with acute injury, to which none medication was given. In the drug treatment group, immediately after establishing the model of soft tissue swelling with acute injury, curing-injury cataplasma was scattered on the stricken area, and fixed with bandage. After the modeling, the rats were killed at 1 h, 6 h, 1 d, 3 d, 5 d, and 7 d, 3 rats in each group at each time point. In the marked area some tissue was taken, and the dry/wet proportion method was used to detect the water content in the skeletal muscle. Western blot and qPCR method were used for the AQP-3 protein and the level of gene expression.

Results: At the six time points, for the modeling and drug treatment groups, the water content of skeletal muscle was higher than that of the control group ($P<0.05$). At 3 d, 5 d and 7 d, the water content in the drug treatment group was lower than that of the modeling group ($P<0.01$); for the modeling and drug treatment groups, AQP-3 protein and the level of gene expression were higher than those of the control group. There was significant difference between the drug treatment group and the modeling group ($P<0.01$).

Conclusion: Curing-injury cataplasma can relieve soft tissue swelling with acute injury, and accelerate the repair process after the injury.

Keywords: AQP-3 soft tissue with acute injury skeletal muscle curing-injury cataplasma

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通讯作者: 邵先舫, Email: yanwanghnzy@163.com

作者简介: 李前, 博士研究生, 主治医师, 主要从事骨伤科的临床研究。

作者Email: yanwanghnzy@163.com

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