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论文

黏菌素对小鼠神经行为功能影响

代重山[1], 李继昌[1], 李健[2], 刘洋[1]

1. 东北农业大学动物医学学院药理与毒理教研室,黑龙江 哈尔滨 150030;
2. Facility for Anti-infective Drug Development and Innovation,Monash Institute of Pharmaceutical Sciences Monash University

摘要：

目的 探讨黏菌素对小鼠运动及感觉功能影响。方法 40只昆明系雌性小鼠分为硫酸黏菌素高、中、低剂量组(静脉注射15.0、7.5、5.0 mg/kg)和对照组(等量生理盐水),每组10只,连续给药7 d,并于第1、3、7、15 d进行神经行为学测试。结果 高剂量黏菌素组小鼠体重明显降低;给药后3、7、15 d,高剂量黏菌素组小鼠热痛觉阈值分别为(56.50±7.32)、(72.50±16.30)、(54.75±4.11)s,均长于对照组的(41.33±9.87)、(39.50±8.06)、(38.33±7.23)s(*P*<0.01);高剂量黏菌素组小鼠在给药后7、15 d,平衡力指数分别为(162.66±11.01)、(180.43±10.12)s,均低于对照组的(200.60±9.02)、(215.00±8.66)s(*P*<0.01);给药后7 d,高剂量黏菌素组小鼠后肢撑力指数增大至(3.71±0.08)cm,高于对照组的(3.54±0.12)cm(*P*<0.05)。结论 黏菌素可引起小鼠热觉传导异常、运动神经损伤和运动协调能力降低。

关键词： 黏菌素 运动功能 感觉功能 小鼠

Effects of colistin on neurobehavior in mice

DAI Chong-shan, LI Ji-chang, LI Jian, et al

Department of Pharmacology and Toxicology,College of Veterinary Medicine,Northeast Agricultural University,Harbin,Heilongjiang Province 150030, China

Abstract:

Objective To investigate the neurotoxic effect of intravenous colistin on mice motor and sensory functions.Methods Forty female Kunming mice were randomly divided into high-dose group(15 mg/kg),moderate-dose group(7.5 mg/mg),low-dose group(5 mg/kg),and control group(0.9% saline)(10 in in each group).Colistin sulfate was administered intravenously for 7 days and neurobehavioral test were conducted in the mice on 1,3,7,and 15 day after treatment.Results Compared with the control group,the body weight decreased in the mice treated by high-dose colistin.On the day 3,7,and 15,the thermal withdrawal thresholds were 56.5?7.32,72.5?16.3,and 54.75?4.11 s in high-dose group,which were higher than that of the control group(*P*<0.01 for all).On the day 7 and 15,the balance time were 162.66?11.01 and 180.43?10.12 s in high-dose group,which were lower than that of the control group (*P*<0.01).On the day 7,the hind limb landing foot splay was increased to 3.71?0.075 cm in high-dose group,which was significantly higher than that of the control group(*P*<0.05).Conclusion The results confirm that colistin could induce abnormal conduction of heat,motor nerve damage and decreased coorrdination ability of muscles in mice.

Keywords: colistin motor function sensory function mice

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通讯作者: 李继昌

作者简介:

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