

论著

PCR技术监测大蒜素及其与复方磺胺甲基异噁唑伍用治疗小鼠弓形虫病的研究

单连玉,杨秀珍,刘佩梅

天津医科大学寄生虫学教研室,天津 300070

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摘要

目的用聚合酶链反应(PCR)评价大蒜素及其与复方磺胺甲基异噁唑(SMZco)伍用治疗小鼠弓形虫病的疗效。方法昆明系小鼠147只,以2×10~4RH株弓形虫速殖子感染后随机分成5组,每组35只。A组和B组为大蒜素与SMZco联合用药组:其中A组两药用至7d后停用SMZco,大蒜素继续用至21d;B组两药用至14d后停用SMZ-co,大蒜素继续用至21d;C组为大蒜素单药组连续用药21d;D组为SMZco单药组连续用药7d;E组7只小鼠为未用药对照组。剂量;SMZco400mg/kg每天1次,大蒜素35mg/kg每天1次。于感染后5、10、15、20、25、30、40和50d从各组随机取3只小鼠,眼眶取血以及取肝实质组织分别提取DNA,PCR检测各组疗效。从各治疗组随机取9只小鼠观察其治疗后存活情况。结果实验小鼠感染后5d血样,除大蒜素组有特异性194bp带,其余各组均未见扩增带。感染后10d到观察结束,均未见特异性扩增带。感染后5d到50d,所有肝组织标本均有特异带,感染后5d扩增带较亮,治疗结束后到观察终止,扩增带较弱。分析结果表明,小鼠存活率,联合用药的A组为77.8%,B组为88.9%;C组小鼠在急性期即很快死亡;D组为44.4%。结论大蒜素与SMZco联合应用治疗弓形虫病具有协同作用,大蒜素单药治疗作用不明显,PCR技术可用于监测疗效及检测弓形虫隐性感染状态。

关键词 [弓形虫病](#) [聚合酶链反应](#) [大蒜素](#) [复方磺胺甲基异噁唑](#)

分类号

PCR in Evaluating the Effect of Allicin and Its Combination with SMZco on Murine Toxoplasmosis

SHAN Lian-yu,YANG Xiu-zhen,LIU Pei-mei

Department of Parasitology,Tianjin Medical University,Tianjin 300070

Abstract

Objective To evaluate the effect of allicin alone or combined with SMZco on murine toxoplasmosis by a specific, rapid, and sensitive PCR technique. Methods 147 mice were infected with 2×10~4 tachyzoites intraperitoneally and divided into 5 groups at random. Each group was divided into two sub-groups except an untreated group. One sub- group was used to get samples for PCR test and the other for observing the survival duration. The therapeutic grouping was as follows: group A, a combination of allicin and SMZco administered orally for 7 days and continued by allicin alone till 21 days; group B, the combination administered for 14 days and continued with allicin till 21 days; group C, allicin alone for 21 days; group D, SMZco alone for 7 days; group E, untreated control. The dosage was: SMZco 400 mg/kg·d and al- licin 35 mg/ (kg·d). PCR test was used to detect the parasites in samples of liver and blood from infected mice at 5, 10, 15, 20, 25, 30, 40 and 50 days after infection. Results Parasites were eliminated in the blood because no signal was seen in all the blood samples except for samples from group C at day 5 after infection. From day 10 after infection until the end of the experiment, no amplification of DNA was seen in all the samples. As for liver samples, signals were clear at day 5 post infection. From day 10 post infection till the day 50 post-infection, parasites were still detected, but the PCR products de- creased significantly than that of day 5 post-infection. Result showed that a combination of SMZco with allicin provided a significant protection. SMZco alone was also effective, but allicin alone was not. Conclusion When SMZco is used in combination with allicin, a much higher efficacy is received in the treatment of acute murine toxoplasmosis.

Key words [toxoplasmosis](#) [polymerase chain reaction\(PCR\)](#) [allicin](#) [sulfamethoxazole complex\(SMZco\)](#)

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