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基础医学

CD40siRNA对EAM大鼠的作用及其对CD4+CD25+Treg的影响

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摘要：

目的 探讨CD40siRNA对EAM大鼠的治疗作用及对CD4+CD25+Treg的影响。方法 40只雄性Lewis大鼠随机分成4组，正常组、EAM模型组、CD40siRNA治疗组和siRNA治疗组，每组10只。于实验第1天、第8天正常组大鼠双后肢足垫区皮下注射PBS缓冲液，0.2mL/只；另3组大鼠双后肢足垫区皮下注射充分混合的猪心肌球蛋白，0.2mL/只。第8天CD40siRNA治疗组尾静脉注射25μL CD40siRNA慢病毒表达载体；siRNA治疗组尾静脉注射25μL siRNA慢病毒表达载体。第21天处死所有大鼠，用光学显微镜观测心肌病理积分；流式细胞仪分析大鼠脾脏中CD4+CD25+Treg的表达。结果 各组大鼠均无死亡，心肌组织病理积分CD40siRNA治疗组(11.70±2.95)明显低于EAM模型组(17.00±1.76)(P<0.05)，CD4+CD25+Treg的表达较EAM模型组明显上调［(40.7±4.0)% vs(12.2±1.1)%，P<0.05］。结论 CD40siRNA可减轻EAM大鼠的心肌炎症，其机制可能与上调CD4+CD25+Treg的表达有关。

关键词： EAM大鼠；CD40siRNA；心肌炎；调节性T细胞

Effect of CD40siRNA on CD4+CD25+ regulatory T cells in rats with experimental autoimmune myocarditis

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Abstract:

Objective To investigate the therapeutic effect of CD40 siRNA on viral myocarditis and its effect on CD4+CD25+ regulatory T cells (Treg). Methods A total of 40 male Lewis rats were randomly divided into four groups: normal control group, experimental autoimmune myocarditis (EAM) model group, CD40 siRNA treatment group and siRNA treatment group, with 10 rats in each group. On the 1st and 8th day, 0.2mL PBS buffer was injected subcutaneously into the two hind footpads of rats in the control group, while 0.2mL porcine cardiac myosin was injected subcutaneously into the two hind footpads of rats in the other three groups. On the 8th day, 25μL CD40siRNA lentiviral expression vector was injected into the tail vein of rats in the CD40siRNA treatment group, and 25μL siRNA lentiviral expression vector was injected into the tail vein of rats in the siRNA group. After all rats were sacrificed on the 21st day, myocardial pathological changes were observed with optical microscope, and CD4+CD25+Treg expression in rats' spleen was determined with flow cytometry. Results The myocardial histopathology integral of the CD40siRNA treatment group (11.70 ± 2.95) was significantly lower than that of the EAM model group (17.00 ± 1.76) (P<0.05). The CD4+CD25+Treg expression was significantly higher in the CD40siRNA treatment group (40.70±4.00) than in the EAM model group (12.20±1.10) (P<0.05). Conclusion CD40siRNA can relieve myocarditis in EAM rats. The mechanism may be related to the up-regulation of CD4+CD25+Treg expression.

Keywords: EAM rats; CD40siRNA; Myocarditis; Regulatory T cells

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