

论著

不同阶段应用抗L3T4单抗干预治疗对心肌病小鼠细胞因子的影响

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摘要 目的: 研究不同阶段应用抗L3T4单抗对心肌病小鼠Th1/Th2亚群及血清和心肌组织中细胞因子的影响, 探讨抗L3T4单抗治疗自身免疫性心肌病的机制。

方法: 用含有人线粒体ADP/ATP载体肽的免疫液免疫近交系BALB/c小鼠建立类扩张型心肌病模型(心肌病组); 以不含肽免疫液免疫小鼠作为对照组; 在用ADP/ATP载体肽免疫小鼠的前1 d连续3 d以400 μg抗L3T4单抗免疫小鼠获得早期治疗组; 心肌病组小鼠于第4个月初连续3 d给予抗L3T4单抗治疗获得中期治疗组, 单抗使用方法同早期治疗组。运用3色荧光标记流式细胞术检测小鼠脾脏中Th1/Th2的百分含量; 以ELISA法检测其血清中IFN-γ、IL-2、IL-4、IL-6和TNF-α水平; 实时荧光定量PCR法检测其心肌细胞因子基因表达。

结果: 早期治疗组Th1及Th2亚群明显低于心肌病组; 中期治疗组Th1相关细胞因子水平高于心肌病组, Th2水平介于心肌病组和早期治疗组之间。早期治疗组IFN-γ和IL-6与对照组相近, IL-2和TNF-α均高于对照组和心肌病组, IL-4介于前两组之间且与它们均有显著差异; 中期治疗组IFN-γ和IL-2水平介于对照组和心肌病组之间, IL-6和IL-4明显低于心肌病组。

结论: 不同阶段应用抗L3T4单抗能够阻断或减轻系统性和局部细胞因子的生成, 早期治疗较中期治疗对细胞因子的抑制作用更显著。

关键词 [心肌病](#); [细胞因子类](#); [抗L3T4单克隆抗体](#)

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Cytokine production in mice with experimental cardiomyopathy treated with anti-L3T4 monoclonal antibody at different stages

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Abstract

AIM: To clarify the mechanism of treating autoimmune cardiomyopathy at different stages with anti-L3T4 monoclonal antibody.

METHODS: Mice immunized with human mitochondria ADP/ATP peptides were used as the cardiomyopathy (DCM) group, and the sham-immunized mice were regarded as the controls. Mice receiving early treatment were immunized with the same peptides, followed by the injection of 400 μg of anti-L3T4 on day 0, 1 and 2 post-immunization. Mice in the late treatment group were immunized as of the early treatment group but anti-L3T4 was administered 3 months post-immunization. The cytokine expression was measured with three-color flow cytometry to quantitate the splenic Th1/Th2 cell subsets in the different groups of mice. In addition, serum and myocardial cytokines were measured by enzyme-linked immunosorbent assay and real-time PCR.
RESULTS: Th1 and Th2 subsets in the early treatment group were similar to those in control group, but were drastically lower than those in DCM group. Mice in the late treatment group showed an increased level of Th1-related cytokines, while the Th2 level was between the DCM and early treatment group. IFN-γ and IL-6 levels in early treatment group were similar to those in control group. In the early treatment group, IL-4 level was higher than that in control and lower than that in DCM group, whereas IL-2 and TNF-α contents were lower than those in control and DCM group. In the late treatment group, IFN-γ and IL-2 levels were higher than those in DCM group and lower than those in the early treatment group, while IL-6 and IL-4 levels were lower than those in DCM group.

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CONCLUSION: These results suggest that the cytokine production in cardiomyopathic mice may be repressed by treatment with anti-L3T4 at different stages. Early treatment with anti-L3T4 has better inhibitory function than treatment in late stage of autoimmune cardiomyopathy.

Key words [Cardiomyopathy](#) [Cytokines](#) [Anti-L3T4 monoclonal antibody](#)

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