



斯氏狸殖吸虫感染大鼠致肝纤维化形成过程中IL-4和IFN- γ 表达及意义

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Expression of IL-4, IFN- γ in the liver fibrosis of rats infected by *Pagumogonimus skrjabini*

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摘要 探讨斯氏狸殖吸虫感染大鼠致肝纤维化形成过程中细胞因子IL-4和IFN- γ 表达及意义,为阐明Th1/Th2在斯氏狸殖吸虫感染大鼠肝纤维化形成及调节作用提供实验依据。SD大鼠36只,随机分为正常对照组($n=6$)、感染1周组($n=5$)、感染2周组($n=5$)、感染4周组($n=5$)、感染8周组($n=5$)、感染12周组($n=5$)和感染16周组($n=5$),每鼠腹腔注射斯氏狸殖吸虫囊蚴15个。按感染时间处死各组大鼠,观测各项指标。HE染色和V G染色观察肝组织纤维化病理形态学变化。免疫组织化学法测定IL-4, IFN- γ 在大鼠肝纤维化形成过程中的表达动态变化。HE染色和V G染色肝组织病理形态学结果显示:随着感染时间的延长,胶原纤维面积比值(S/T)和肝纤维化评级在逐渐增加,肝组织纤维化的程度逐渐加重。免疫组织化学显示:IFN- γ 的表达阳性细胞百分率在1~8周逐渐增加,到第8周末时达到最大,在12周到16周又逐渐减少;而IL-4表达阳性细胞百分率在1~16周逐渐增加,到第12周末IL-4表达开始增加迅速。斯氏狸殖吸虫感染大鼠可引起肝脏纤维化病变,IL-4和IFN- γ 在斯氏狸殖吸虫感染大鼠致肝纤维化形成过程中表达增加,其纤维化病变程度与感染时间、IL-4和IFN- γ 的表达增加有关。提示Th1细胞分泌的细胞因子IFN- γ 和Th2细胞分泌的细胞因子IL-4在斯氏狸殖吸虫感染大鼠致肝纤维化的自发性免疫调节中起作用。

关键词: IL-4 IFN- γ 斯氏狸殖吸虫 肝脏纤维化 免疫组化

Abstract: To explore the expression and significance of interleukin-4 and interferon- γ in liver fibrosis formation of rats infected by *Pagumogonimus skrjabini*, and to show that Th1/Th2 played the role of regulation in the process. Thirty-six rats were randomly divided into two groups: the control group with 6 rats and infected group with 30 rats. The Infected group was divided into 6 groups by the infected time: A group (1 week), B group (2 weeks), C group (4 weeks), D group (8 weeks), E group (12 weeks), F group (16 weeks). Every rat was infected by the peritoneal injection of 15 *Pagumogonimus skrjabini* metacercariae. The rats were sacrificed and indicators were observed. The pathomorphology changes of liver fibrosis were observed by the HE staining and VG staining. Immunohistochemical technique is applied to measure the dynamic changes of expression of interleukin-4, interferon- γ . The results of liver pathomorphology showed that with the extension of infected time, the ratio of collagen fiber area (S/T) and the grading of liver fibrosis gradually increased, meanwhile the degree of liver fibrosis gradually deepened. The results of immunohistochemistry showed that the percentage of the expression of INF- γ in the positive cells gradually increased during the 1st to 8th week after infection and reached the peak at the end of the 8th week, then gradually decreased in 12th to 16th week; The percentage of the expression IL-4 in positive cells gradually increased in 1st to 16th week after infection, the expression of IL-4 began to rise rapidly at the end of 12th week. The study suggested that the infection of *Pagumogonimus skrjabini* in rats could cause liver fibrosis, and the expression of IL-4 and IFN- γ increased in liver fibrosis formation, the extent of liver fibrosis was associated with the infected time and the expression of IL-4, IFN- γ . The study prompted that cytokines IFN- γ secreted by Th1 and IL-4 secreted by Th2 all played a role in spontaneous immune regulation during the liver fibrosis formation of rats infected by *Pagumogonimus skrjabini*.

Key words:

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