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实验研究

紫外线减毒弓形虫ZS1株滋养体在小鼠体内的细胞免疫反应

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摘要

目的： 探讨紫外线减毒弓形虫ＺＳ１ 株在小鼠体内的免疫保护性和细胞免疫反应。方法： 用波长为２５３７°Ａ 的紫外线照射弓形虫ＺＳ１株滋养体， 照射高度为５ ｃｍ ， 照射时间６０ ｍ ｉｎ。小鼠于免疫后４５ ｄ 用同株滋养体攻击感染， 攻击后４ ｄ 剖杀， 与单免疫组、单感染组及正常对照组小鼠比较其脾Ｔ淋巴细胞增殖反应及其亚群的变化。结果： 小鼠接种紫外线减毒弓形虫ＺＳ１ 株滋养体后能正常存活， 于接种后４９ ｄ 各组织未查见滋养体、包囊或假包囊； 免疫组攻击感染后存活时间较单感染组延长； 体外特异抗原刺激后， 可诱导免疫组及免疫攻击组强的脾Ｔ淋巴细胞增殖反应； 免疫攻击组ＣＤ４＋ Ｔ细胞明显下降， ＣＤ４＋ ／ＣＤ８＋ 比率倒置； 免疫组、免疫攻击组及感染组的ＮＫ细胞活性均明显增强。结论： 紫外线减毒弓形虫ＺＳ１株滋养体疫苗能够诱导免疫小鼠产生一定的抗攻击感染保护力， 其中ＣＤ８＋ Ｔ细胞和ＮＫ细胞可能发挥着重要作用。

关键词 弓形虫 紫外线减毒 脾淋巴细胞增殖 CD4~+/CD8~+T细胞 NK细胞

分类号

CELLULAR IMMUNE RESPONSE IN MICE VACCINATED WITH UV-ATTENUATED TOXOPLASMA GONDII ZS1 STRAIN TROPHOZOITES*

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Abstract

AIM: To explore the protective effect and cellular immune response of uv-attenuated ZS1 strain trophozoites of Toxoplasma gondii in mice. METHODS: The ZS1 strain trophozoites of T.gondii were irradiated by uv-light with 2537 \{°A\} wave length for 60 minutes. Mice were divided into 4 groups. Group 1 was vaccinated alone, group 2 was challenged with normal ZS1 trophozoites on d45 after vaccination, group 3 was infected alone, and group 4 was normal control. The changes in splenic T cell proliferation, level of CD4+ and CD8+ T cell, and NK cell activity were compared. RESULTS: Group1 mice survived normally, no trophozoite,pseudo-cyst or cyst was detected in the tissues on d49 after vaccination. Group 2 mice survived longer than those of group 3. The T lymphocyte proliferation in response to soluble antigen of T.gondii was significantly enhanced in group 2, and suppressed in group 3. The level of CD4+ T cell in group 2 was decreased, resulting in a reverse of CD4+/CD8+ ratio. The NK cell activities in groups 1, 2 and 3 were all significantly increased. CONCLUSION: The uv-attenuated vaccine of T.gondii ZS1 strain could induce certain protective immunity against challenge infection, in which CD8+ T cell and NK cell might play an important role.\;

Key words Toxoplasma gondii uv-attenuated splenic lymphocyte proliferation CD4+/CD8+ T cell NK cell

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