429~433.PA-MSHA疫苗增强急性髓细胞白血病源DC对Treg的抑制作用[J].刘媛媛,张连生,柴 晔,曾鹏云,岳玲玲,吴重阳,李莉娟.中国肿瘤生物治疗杂志,2010,17(4)

PA-MSHA疫苗增强急性髓细胞白血病源DC对Treg的抑制作用 点此下载全文

刘媛媛 张连生 柴 晔 曾鹏云 岳玲玲 吴重阳 李莉娟

兰州大学 附属第二医院 血液肿瘤科，甘肃 兰州 730030;兰州大学 附属第二医院 血液肿瘤科，甘肃 兰州 730030;兰州大学 附属第二医院 血液肿瘤科，甘肃 兰州 730030;兰州大学 附属第二医院 血液肿瘤科，甘肃 兰州 730030;兰州大学 附属第二医院 血液肿瘤科，甘肃 兰州 730030;兰州大学 附属第二医院 血液肿瘤科，甘肃 兰州 730030

基金项目：甘肃省科技支撑计划项目(No.0804NKCA115)

DOI：

摘要：

目的： 探讨带有甘露糖敏感血凝菌毛的铜绿假单胞菌（Pseudomonas aeruginosa with mannose sensitive hemagglutination pili，PA-MSHA）疫苗处理后急性髓细胞白血病源性树突状细胞（dendritic cells derived from acute myeloid leukemia，AML-DC）对调节性T细胞（regulatory T cell，Treg）的抑制作用。 方法： rhGM-CSF和rhIl-4诱导的AML-DC分为对照组、PA-MSHA组和TNF-α组，培养24 h后观察3组AML-DC的形态、流式细胞术检测各组AML-DC的表型、MTT法和混合淋巴细胞反应检测AML-DC对淋巴细胞增殖的作用。磁珠法分离健康人外周血CD4 +T细胞，加入各组AML-DC中诱导Treg，ELISA法检测各组Treg上清液中IL-10、TGF-β的水平，流式细胞术检测Treg表面CD4、CD25的表达，RT-PCR法检测Treg中Foxp3 mRNA的表达水平。 结果： PA-MSHA组和TNF-α组AML-DC呈树突状形态，且CDIa、CD80、CD83、CD86和 HLA-DR表达较对照组明显升高（P<0.05）。PA-MSHA组和TNF-α组AML-DC诱导的T细胞增殖能力显著增强（P<0.05）。PA-MSHA组和TNF-α组AML-DC诱导产生的Treg分泌较低水平的IL-10、TGF-β（P<0.05），CD4、CD25的表达及Foxp3 mRNA水平均较对照组明显降低（P<0.05）。上述各指标PA-MSHA组和TNF-α组间均无明显差异。 结论： PA-MSHA疫苗可促进AML-DC的成熟，抑制初始T细胞向Treg的分化，增强AML-DC对AML患者Treg的抑制作用。

关键词：急性髓细胞白血病 带有甘露糖敏感血凝菌毛的铜绿假单胞菌 树突状细胞 调节性T细胞

PA-MSHA vaccine enhances inhibitory effect of acute myeloid leukemia-derived dendritic cells on regulatory T cells Download Fulltext

LIU Yuan-yuan ZHANG Lian-sheng CHAI Ye ZENG Peng-yun YUE Ling-ling WU Chong-yang LI Li-juan

Department of Hematology and Oncology, Second Hospital Affiliated to Lanzhou University, Lanzhou 730030, Gansu, China;Department of Hematology and Oncology, Second Hospital Affiliated to Lanzhou University, Lanzhou 730030, Gansu, China;Department of Hematology and Oncology, Second Hospital Affiliated to Lanzhou University, Lanzhou 730030, Gansu, China;Department of Hematology and Oncology, Second Hospital Affiliated to Lanzhou University, Lanzhou 730030, Gansu, China;Department of Hematology and Oncology, Second Hospital Affiliated to Lanzhou University, Lanzhou 730030, Gansu, China;Department of Hematology and Oncology, Second Hospital Affiliated to Lanzhou University, Lanzhou 730030, Gansu, China

Fund Project:Project supported by the Program of Science and Technology of Gansu Province (No. 0804NKCA115)

Abstract:

Objective: To investigate the influence of PA-MSHA (Pseudomonas aeruginosa with mannose sensitive hemagglutination pili) vaccine on the inhibitory effect of dendritic cells derived from acute myeloid leukemia (AML-DCs) on regulatory T cells (Treg). Methods: AML-DCs were induced with rhGM-CSF and IL-4 and were divided into three groups: control group, PA-MSHA, and TNF-a groups. After 24 h, the morphological features of AML-DCs in different groups were observed; the phenotypes were detected by flow cytometry; and the effect of AML-DCs on T cell proliferation was measured by mixed lymphocyte reaction and MTT assay. CD4 +T cells were collected by magnetic bead assay from healthy peripheral blood cells and were incubated with different AML-DCs to induce differentiation of Treg. Then IL-10 and TGF-β were detected in different Treg supernatants by ELISA; CD4 and CD25 expressions on different Treg were determined by flow cytometry; and Foxp3 mRNA expression was examined by RT-PCR. Results: AML-DCs in PA-MSHA and TNF-α groups showed typical dendritic morphology, increased expressions of CDIa, CD80, CD83, CD86 and HLA-DR (P<0 05), and enhanced abilities to induce proliferation of T cells compared with those in the control group (P<0.05). In addition, the levels of IL-10 and TGF-β, the expressions of CD4 and CD25 on Treg, and the expression of Foxp3 mRNA in PA-MSHA and TNF-α groups were all significantly lower than those in the control group (P<0.05), and these indices had no differences between PA-MSHA and TNF-α groups. Conclusion: PA-MSHA vaccine can promote the maturation of AML-DC, inhibit the differentiation of Treg from CD4 +T cells, and enhance the inhibitory effect of AML-DC on Treg of AML patients.

Keywords:acute myeloid leukemia Pseudomonas aeruginosa with mannose sensitive hemagglutination pili (PA-MSHA) dendritic cell regulatory T cell(Treg)

查看全文 查看/发表评论 下载PDF阅读器