

论著

miR-155 在全身型重症肌无力中的作用及地塞米松对 miR-155 的影响

陈晓莉, 陈毓茜, 王玉忠, 颜梅, 张俊美, 刘群, 杨欢, 李静

中南大学湘雅医院神经内科,长沙410008

摘要: 目的:探讨miR-155 在重症肌无力发病中的作用及地塞米松(dexamethasone, DXM) 对miR-155 的影响。方法:采用qPCR 检测全身型重症肌无力(generalized myasthenia gravis, GMG) 患者组和健康对照组B 细胞,以及DXM干预后miR-155 的相对表达量。用MTT 法检测B 细胞的增殖反应,流式细胞术检测DXM 和PBS 干预组B 细胞表面CD80 和CD86 的表达,ELISA 检测两组细胞上清液中抗AChR-IgG 及其亚型IgG1, IgG2, IgG3 的水平。结果:GMG 外周血B 细胞中miR-155 的相对表达量高于健康对照组。DXM 组B 细胞中miR-155 相对表达量低于PBS 组;但两组之间B 细胞的增殖及CD80 和CD86 的表达均无明显差异;DXM 组培养上清中抗AChR-IgG1 的水平低于PBS 组,而抗AChR-IgG 及其亚型IgG2,IgG3 的水平无明显差异。结论:miR-155 高表达可能参与重症肌无力的发病;糖皮质激素抑制miR-155 的表达,可能通过调节B 细胞的抗体类别转换发挥其治疗作用。

关键词: 重症肌无力 miR-155 地塞米松 抗体类别转换

Role of miR-155 in myasthenia gravis and effect of dexamethasone on miR-155

CHEN Xiaoli, CHEN Yuqian, WANG Yuzhong, YAN Mei, ZHANG Junmei, LIU Qun, YANG Huan, LI Jing

Department of Neurology, Xiangya Hospital, Central South University, Changsha 410008, China

Abstract: Objective: To determine the role of miR-155 in the pathogenesis of generalized myasthenia gravis (GMG) and the effect of dexamethasone (DXM) on miR-155. Methods: The expression of miR-155 in B cells from the GMG patients and healthy controls was analyzed by qPCR. The B cells were cultured with DXM and PBS. The B cell proliferation was examined by MTT; CD80 and CD86 frequencies were detected by flow cytometry; and anti-AChRIgG and isotypes anti-AChR-IgG1, 2, 3 in the supernatant were detected by ELISA. Results: qPCR revealed that the expression of miR-155 in the B cells was much higher than that in the controls, and the miR155 expression decreased after DXM treatment. flow cytometry showed that there was no significant difference in the proliferation and the expressions of CD80 and CD86 in the B cells between the DXM group and the PBS group. The concentration of anti-AChR-IgG1 was obviously lower in the DXM group than in the PBS group, but the concentration of anti-AChRIgG, anti-AChR-IgG2, and anti-AchR-IgG3 was similar. Conclusion: high expression of miR-155 may be associated with myasthenia gravis progression. DXM may disturb the antibody class switch of B cells by suppressing the expression of miR-155 and improve the symptom of MG patients.

Keywords: myasthenia gravis miR-155 dexamethasone Ig class switch

收稿日期 2012-06-03 修回日期 网络版发布日期

DOI: 10.3969/j.issn.1672-7347.2012.08.004

基金项目:

国家自然科学基金(30971033);湖南省科技计划基金(2008JT3016);中南大学研究生教育创新工程基金(2009ssxt167)。

通讯作者: 李静,Email: jing_neurology@hotmail.com

作者简介: 陈晓莉,硕士研究生,医师,主要从事神经免疫学研究。现在陕西省人民医院神经内二科工作。

扩展功能

本文信息

- Supporting info
- PDF(KB)
- [HTML全文]
- 参考文献[PDF]
- 参考文献

服务与反馈

- 把本文推荐给朋友
- 加入我的书架
- 加入引用管理器
- 引用本文
- Email Alert
- 文章反馈
- 浏览反馈信息

本文关键词相关文章

- 重症肌无力
- miR-155
- 地塞米松
- 抗体类别转换

本文作者相关文章

- 陈晓莉
- 陈毓茜
- 王玉忠
- 颜梅
- 张俊美
- 刘群
- 杨欢
- 李静

PubMed

- Article by CHEN Xiaoli
- Article by CHEN Yuqian
- Article by WANG Yuzhong
- Article by YAN Mei
- Article by ZHANG Junmei
- Article by LIU Qun
- Article by YANG Huan
- Article by LI Jing

参考文献:

1. Faraoni I, Antonetti FR, Cardone J, et al. MiR-155 gene: A typical multifunctional microRNA [J] . Biochim Biophys Acta, 2009, 1792(6):497-505.
2. Kathryn C. MicroRNA-155 function in B cells [J] . Immunity, 2007,27(6): 825-827.
3. 张勇, 杨欢, 肖波, 等. RelB基因沉默的髓源树突状细胞负载Ta146-162对TACHR预致敏T细胞免疫反应的影响 [J] .中南大学学报(医学版), 2010, 35(1): 38-44. ZHANG Yong, YANG Huan, XIAO Bo, et al. Immune influence of RelB silenced marrow dendritic cells loaded with Ta 146-162 on TACHR primed T cells [J] . Journal of Central South University. Medical Science, 2010, 35(1): 38-44.
4. ai TH, Calado DP, Casola S, et al. Regulation of the germinal center response by microRNA-155 [J] . Science, 2007, 316(5824): 604-608.
5. Lu LF, Thai TH, Calado DP, et al. Foxp3-dependent microRNA155 confers competitive fitness to regulatory T cells by targeting SOCS1 protein [J] . Immunity, 2009, 30(1): 80-91.
6. Lu C, Huang X, Zhang X, et al. MiR-221 and MiR-155 regulate human dendritic cell development, apoptosis, and IL-12 production through targeting of p27kip1, KPC1, and SOCS-1 [J] . Blood, 2011, 117(16):4293-4303.
7. Rodriguze A, Vigorito E, Clare S, et al. Requirement of bic/microRNA-155 for normal immune function [J] . Science, 2007,316(5824): 608-611.
8. Lu LF, Liston A. MicroRNA in the immune system, microRNA as an immune system [J] . Immunology, 2009, 127(3): 291-298.
9. Gopal M, Vanessa B, Akanksha M, et al. Silencing microRNA-155 ameliorates experimental autoimmune encephalomyelitis [J] . Blood, 2011, 117(16): 4293-4303.
10. Bluml S, Bonelli M, Niederreiter B, et al. Essential role of microRNA-155 in the pathogenesis of autoimmune arthritis in mice [J] . Arthritis Rheum, 2011, 63(5): 1281-1288.
11. Berg A, Kroesen BJ, Kooistra K, et al. High expression of B-cell receptor inducible gene BIC in all subtypes of Hodgkin lymphoma [J] . Genes, Chromosomes Cancer, 2003, 37(1): 20-28.
12. Yin Q, Wang X, McBride J, et al. B-cell receptor activation induces BIC/miR-155 expression through a conserved AP-1 element [J] . Biol Chem, 2008, 283(5): 2654-2662.
13. Sabbele NR, Oudenaren AV, Hooijkaas H, et al. The effect of corticosteroids upon murine B cells in vivo and in vitro as determined in the LPS-culture system [J] . Immunology, 1987, 62(2): 285-290.
14. Antony R, Elena V, Simon C, et al. Requirement of bic/microRNA-155 for normal immune function [J] . Science, 2007, 316(5824): 608-611.
15. ai TH, Calado DP, Casola S, et al. Regulation of the germinal center response by microRNA-155 [J] . Science, 2007, 316(5824): 604-608.
16. Vigorito E, Perks KL, Goodger CA, et al. microRNA-155 regulates the generation of immunoglobulin class-switched plasma cells [J] . Immunity, 2007, 27(6): 847-859.
17. Haasch D, Chen YW, Reilly RM, et al. Tcellactivation induces a noncoding RNA transcript sensitive to inhibition by immunosuppressant drugs and encoded by the proto-oncogene, BIC [J] . Cell Immunol, 2002, 217(1): 78-86.
18. Geng CD, Vedeckis WV. c-Myb and members of the c-Ets family of transcription factors act as molecular switches to mediate opposite steroid regulation of the human glucocorticoid receptor 1A promoter [J] . J Biol Chem, 2005, 280(52): 43264-43271.

本刊中的类似文章

1. 吕国华; 李晶; 周江南; 李康华; .腰椎间盘组织的炎症诱导效应的实验研究[J]. 中南大学学报(医学版), 2001,26(6): 531-
2. 张位星, 陈胜喜, 罗万俊.胸腔镜胸腺扩大切除治疗重症肌无力及围术期处理[J]. 中南大学学报(医学版), 2009,34(07): 680-683
3. 沈亚梅1, 龚伟2, 刘建新2.血浆置换在重症肌无力患者围术期的应用及疗效[J]. 中南大学学报(医学版), 2007,32(06): 1089-1092
4. 张勇, 杨欢, 肖波, 鲁特飞.ReIB基因沉默的髓源树突状细胞负载Ta146~162对TACHR预致敏T细胞免疫反应的影响[J]. 中南大学学报(医学版), 2010,35(1): 38-44
5. 刘竞, 李昕, 桂嵘, 蒋铁斌, 王二华.PDCD5蛋白对地塞米松诱导的多发性骨髓瘤细胞凋亡的影响及机制初探[J]. 中南大学学报(医学版), 2010,35(7): 725-
6. 何群, 赵谢兰, 贺艳娟, 谭达人.硼替佐米联合地塞米松治疗多发性骨髓瘤的临床分析[J]. 中南大学学报(医学版), 2010,35(8): 864-
7. 席兴华; 秦波; 姜德咏; 唐罗生; 曹燕娜; .环孢霉素A和地塞米松防治穿透性角膜移植术后排斥反应的临床观察[J]. 中南大学学报(医学版), 2003,28(6): 627-
8. 胡波, 田晓琳, 黄慧芬, 翦爱, 欧阳松, 尹炜凡, 段维维, 杨欢.重症肌无力患者外周血中IL-21的表达及其与血清抗AChR抗体类别转换的关系[J]. 中南大学学报(医学版), 2010,35(9): 958-
9. 曹励之; 俞燕; 杨于嘉; 陶永光.黄芩甙与甘露醇、地塞米松对大鼠感染性脑水肿保护作用比较[J]. 中南大学学报(医学版), 2000,25(2): 109-
10. 俞燕; 杨于嘉; 陶永光; 尹飞; .黄芩甙、地塞米松对大鼠感染性脑水肿细胞因子的影响[J]. 中南大学学报(医学版), 2000,25(6): 519-

11. 向旭东; 周淮英; 陈平; 高洁生; .硝酸甘油、地塞米松对哮喘肺泡巨噬细胞源性一氧化氮、内皮素的影响
[J]. 中南大学学报(医学版), 2000,25(4): 363-

Copyright by 中南大学学报(医学版)