

HBV-ACLF患者中Th17、Treg细胞的分化、成熟是否受HBV或其他免疫细胞的影响,目前仍无定论,具体机制有待进一步的研究。

笔者通过在用药和系统治疗前观察HBV-ACLF患者外周血中Th17、Treg细胞的变化及其与肝功能和HBV-DNA间的关系,发现Th17和Treg细胞与HBV-ACLF的发生、发展密切相关,其在外周血中的变化可以协助判断机体的免疫状态,有望成为判断肝损伤患者严重程度的一个免疫标志。下一步的研究应该在用药或系统治疗后的不同时间点进一步观察Th17、Treg细胞的变化及其与肝功能和HBV-DNA间的关系,这有利于进一步阐明HBV-ACLF的发病机制,也对制订治疗方案、判断疗效有重要的指导意义。

参考文献

- [1] Liu Y, Wang CM, Cheng J, et al. Hepatitis B virus in tenofovir-naïve Chinese patients with chronic hepatitis B contains no mutation of rtA194T conferring a reduced tenofovir susceptibility [J]. *Chin Med J*, 2009, 122(13): 1585-1586.
- [2] Lee WM, Squires RH, Nyberg SL, et al. Acute liver failure: summary of a workshop [J]. *Hepatology*, 2008, 47(4): 1401-1415.
- [3] Park H, Li Z, Yang XO, et al. A distinct lineage of CD4 T cells regulates tissue inflammation by producing interleukin 17 [J]. *Nature Immunology*, 2005, 6(11): 1133-1141.
- [4] Sakaguchi S, Sakaguchi N, Asano M, et al. Immunologic self-tolerance maintained by activated T cells expressing IL-2 receptor alpha-chains (CD25). Breakdown of a single mechanism of self-tolerance causes various autoimmune diseases [J]. *Journal of Immunology* (Baltimore, Md: 1950), 1995, 155(3): 1151-1164.
- [5] Zhang JY, Zhang Z, Lin F, et al. Interleukin-17-Producing CD4 T cells Increase with severity of liver damage in patients with chronic hepatitis B [J]. *Hepatology*, 2010, 51(1): 81-91.
- [6] Li J, Wu W, Peng GP, et al. HBeAg induces interleukin-10 production, inhibiting HBcAg-specific Th 17 responses in chronic hepatitis B patients [J]. *Immunol Cell Biol*, 2010, 88(8): 834-841.
- [7] 中华医学会肝病学会. 中华医学会感染病学分会. 慢性乙型肝炎防治指南(2010年版) [J]. *中华传染病学杂志*, 2011, 29(3): 65-80.
- [8] 中华医学会感染病学分会肝衰竭与人工肝学组. 中华医学会肝病学会重型肝病与人工肝学组. 肝衰竭诊疗指南[J]. *中华肝脏病杂志*, 2006, 14(6): 643-646.
- [9] 邹正升, 陈菊梅, 辛绍杰, 等. 慢性重型病毒性肝炎发病特点的探讨 [J]. *中华实验和临床病毒学杂志*, 2002, 16(4): 322-325.
- [10] 祝成亮, 李艳, 袁丽. 乙型肝炎病毒对白细胞介素35表达影响的研究 [J]. *海南医学*, 2015, 26(19): 2874-2875.
- [11] Sakaguchi S, Sakaguchi N, Asano M, et al. Immunologic self-tolerance maintained by activated T cells expressing IL-2 receptor alpha-chains (CD25). Breakdown of a single mechanism of self-tolerance causes various autoimmune diseases [J]. *Journal of Immunology* (Baltimore, Md: 1950), 1995, 155(3): 1151-1164.
- [12] Ouyang W, Kolls JK, Zheng Y. The biological functions of T helper 17 cell effector cytokines in inflammation [J]. *Immunity*, 2008, 28(4): 454-467.
- [13] Komiyama Y, Najae S, Matsuki T, et al. IL-17 plays an important role in the development of experimental autoimmune encephalomyelitis [J]. *J Immunol*, 2006, 177: 566-573.
- [14] von Boehmer H. Mechanisms of suppression by suppressor T cells [J]. *Nature immunology*, 2005, 6(4): 338-344.
- [15] 刘志华, 齐青松, 张志安. 慢性HBV感染者血清IL-35含量和外周血Treg细胞的变化及意义 [J]. *海南医学*, 2014, 25(11): 1638-1640.
- [16] Miguel-Carrasco JL, Zambrano S, Blanca AJ, et al. Captopril reduces cardiac inflammatory markers in spontaneously hypertensive rats by inactivation of NF-KB [J]. *J Inflamm (Lond)*, 2010, 7: 21.
- [17] 刘光亮, 周小兰, 陶鹏. Th17/treg细胞亚群数量变化在HBV相关ACLF临床转归中的作用 [J]. *免疫学杂志*. 2014, 30(7): 623-627.
- [18] Wu W, Li J, Chen F, et al. Circulating Th17 cells frequency is associated with the disease progression in HBV infected patients [J]. *Journal of Gastroenterology and Hepatology*, 2010, 25(4): 750-757.
- [19] Zhang GL, Xie DY, Lin BL, et al. Imbalance of interleukin-17-producing CD4 T cells/regulatory T cells axis occurs in remission stage of patients with hepatitis B virus-related acute-on-chronic liver failure [J]. *Journal of Gastroenterology and Hepatology*, 2013, 28(3): 513-521.
- [20] Yang G, Liu A, Xie Q, et al. Association of CD4⁺CD25⁺FoxP3 regulatory T cells with chronic activity and viral clearance in patients with hepatitis B [J]. *International Immunology*, 2007, 19(2): 133-140.

(收稿日期:2015-06-10)