Value of MHC-II+/CD14+ in monitoring immunologic function and prognostication of sepsis in rats

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[Abstract] Objective To observe the changing trend of MHC-II+/CD14+ in rats that underwent CLP (Cecal Ligation and Puncture) and its relationship with mortality and examine the significance of MHC-II+/CD14+ in monitoring immunologic function and prognostication of septic rats. Methods Classic CLP sepsis models were established among rats. A total of 40 rats were randomly distributed into four groups, the normal control group (C), the sham operation group (S), the one cecal perforation group (P1), and the two cecal perforations group (P2). Blood samples were taken to test the levels of MHC-II+/CD14+ by flow cytometer on days 1, 2, 3, and 4 for groups S, P1, and P2, and on day 4 for group C. The mortality was recorded every day. (2). Based on the levels of MHC-II+/CD14+, the rats were divided into three groups (≥40%, 30%~40%, and <30%). The mortality rate in each group was recorded. The data were processed using Chiss software. The data are expressed as x±s and the MHC-II+/CD14+ levels in each group was analyzed with an F test. The mortality rate in each group and its relationship with the level of MHC-II+/CD14+ were analyzed using the exact probability method (P<0.05, with significant differences). Results Compared with groups C and S, group P1 had apparently higher mortalities on day 2, day 3 and day 4 after successful modeling and P2 does so at days 1, 2, 3, and 4 (P<0.05). The differences between groups C and S and between groups P1 and P2 had no statistical significance (P>0.05). Compared with groups C and S (days 1, 2, 3, and 4 after successful modeling), the CLP rats in groups P1 and P2 had apparently reduced levels of MHC-II+/CD14+ at all time points observed (P<0.05 and P<0.01), the lowest on day 2. Group P2 drops more significantly than group P1 (P<0.05), but the difference between groups C and S had no statistical difference. The group with MHC-II+/CD14+ <30% had more mortalities than groups ≥40% (P<0.05) and 30%~40% (P<0.05). The difference in mortality between groups ≥40% and 30%~40% had no statistical significance. Conclusion MHC-II+/CD14+ levels may be applied to monitor the immunologic function and prognostication of septic rats.

[Key words] sepsis; monitoring, immunologic; genes; MHC class II; antigens; CD14
第 3 例大鼠呈下降趋势 ⑦ 组仅开腹 SCP 组盲肠穿刺一针
之 向 与 SCP 1 3 大鼠死亡 SCP ③ 组大鼠死亡 SCP 与 SCP ① 大鼠呈下降趋势 SCP 回
cell. 组盲肠穿刺一针 SCP 组仅开腹 SCP 组盲肠穿刺一针 SCP 与 SCP ① SCP 组仅开腹 SCP 组盲肠穿刺一针 SCP 与 SCP ① SCP 组仅开腹 SCP

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研究表明，预后密切相关。

值胞分动物存活。

孔者损伤应该更重。

研究成果证明人类单核细胞在脓毒症免疫调节治疗中具有鉴别免疫麻痹和反映预后的重要价值。

胞介导的一系列反应促进了白细胞的增殖和活化，从而导致广泛的损伤效应。

研究亦证明人类单核细胞中CD14的表达水平可用于鉴别脓毒症免疫功能的异常。

盲肠穿刺术中，LPS刺激下的CD14表达水平可能会有显著的变化，由此推测，CD14的表达可以作为预测脓毒症预后及指导免疫调理治疗的初步临床研究。

CD14的表达水平与脓毒症的发病率和死亡率密切相关。

此外，研究还发现，脓毒症患者CD14的表达水平与机体的炎症反应密切相关，可以作为评估脓毒症患者预后的指标。

研究结果提示，CD14的表达水平可以作为脓毒症预后的预测指标，有助于指导脓毒症的免疫调理治疗。