

IL-4及IL-18水平变化与急性移植物抗宿主病的关系

张榜硕, 刘林

400042 重庆, 重庆医科大学附属第一医院血液科

Correlation between IL-4 and IL-18 Levels in Serum of Patients Transplanted with Allogeneic Hematopoietic Stem Cells and Acute Graft Versus Host Disease

Zhang Bangshuo, Liu Lin

Department of Hematology, The First Hospital Affiliated of Chongqing Medical University, Chongqing 400042, China

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摘要 目的

探讨异基因造血干细胞移植(allo-HSCT)前后受者血清IL-4及IL-18的变化及与急性移植物抗宿主病(aGVHD)的关系,为临床早期诊断aGVHD提供可靠细胞因子。方法20例血液病患者行allo-HSCT,于移植前后不同时间点采集外周血,采用ELISA法检测其血清IL-4及IL-18水平(pg/ml)。16例自体造血干细胞移植(auto-HSCT)患者作为对照组。结果实验组和对照组在预处理及干细胞回输前后血清IL-4及IL-18水平变化差异无统计学意义($P>0.05$)。实验组有6例患者发生aGVHD,其中I~II度3例,III~IV度3例,血清IL-4及IL-18水平变化早于临床症状出现。aGVHD诊断时血清IL-4及IL-18水平分别显著低于和高于移植后7天($P<0.05$),抗aGVHD治疗后其水平又明显升高和下降($P<0.05$)。结论血清IL-4及IL-18水平和aGVHD的发生存在相关性,其水平检测有助于aGVHD的预测和早期诊断。

关键词: 急性移植物抗宿主病 异基因造血干细胞移植 白介素-4 白介素-18

Abstract: Objective To explore the change of IL-4 and IL-18 levels in serum of recipients transplanted with allogeneic hematopoietic stem cells and its relationship with acute graft versus host disease (aGVHD) and to provide reliable cytokines for the diagnosis of aGVHD. Methods ELISA (double sandwich enzyme-linked immunosorbent assay) was used to detect serum level of IL-4 and IL-18. Twenty patients underwent allo-HSCT (experimental group) and 16 underwent auto-HSCT (control group) were enrolled in this study. Samples were collected on 14 days, 1 day before hematopoietic stem cell infusion, then every week until the 8 weeks after transplantation. In patients with aGVHD, samples were taken twice a week. Results The IL-4 and IL-18 levels in serum demonstrated no significant difference between 14 day and 1 day before stem cell infusion or 1 day before infusion and 7 day after infusion in both experimental and control groups ($P>0.05$). aGVHD was happened in six patients of experimental group, including 3 aGVHD I~II, 3 aGVHD III~IV; The serum level of IL-4 and IL-18 demonstrated no significant difference before and after transplantation in the non-aGVHD patients in experimental group. The aGVHD patients in experimental group demonstrated aGVHD clinical symptom between 16 day to 52 day after transplantation, the time of serum IL-4 and IL-18 level changed was earlier than that of clinical symptom. The diagnosed IL-4 and IL-18 levels in serum demonstrated a significant decrease and increase compared with that of the 7 day levels for those patients respectively ($P<0.05$); while the indicators also demonstrated a significant increase and decrease after anti-aGVHD treatment relief ($P<0.05$); the time of interval of first IL-4 decrease in serum was 11 day to 43 day after transplantation for aGVHD patients in the experimental group, significantly lower than that of those in the control groups ($P<0.05$). The time of interval of first IL-18 increase in serum was 11 day to 47 day after transplantation for aGVHD patients in the experimental group, significantly higher than that of those in the control groups ($P<0.05$). Conclusion It suggests that there is a relationship between serum level of IL-4 and IL-18 and the presentation of aGVHD. The detection of serum IL-4 and

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IL-18 is helpful to the prediction and early diagnosis of aGVHD.

Key words: Acute graft versus host disease Allogeneic hematopoietic stem cell transplantation Interleukin -4

Interleukin-18

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