



自体外周血纯化CD34⁺造血干细胞移植治疗系统性红斑狼疮的临床报告

我们对1例常规皮质类固醇激素和免疫抑制剂治疗效果不好的重症系统性红斑狼疮(SLE)患者采用自体外周血纯化CD34⁺造血干细胞移植治疗,疗效满意,现报告如下。

患者女,16岁,确诊为SLE 1年。入院时SLE病情活动度计分(SLEDAI)为21分。应用地塞米松及环磷酰胺治疗3个月,病情无缓解,征得患者家属同意后,拟行自体外周血纯化CD34⁺细胞移植治疗。外周血干细胞动员方案为CTX+粒细胞集落刺激因子(G-CSF)。静脉滴注CTX 2.0 g/次,1次/d,共3 d。待外周血白细胞(WBC)降为0时,皮下注射G-CSF 300 μg,1次/d;当WBC升为11 G/L,用CS-3000 Plus血细胞分离机(Baxter公司产品)采集干细胞,共3次,循环血量为10 L。采集前外周血及采集物分别作单核细胞及FACscan流式细胞仪CD34⁺细胞计数及T细胞和B细胞表型分析。将采集物用CliniMACS(德国Amcell公司)免疫磁珠方法进行CD34⁺细胞的纯化,纯化后CD34⁺细胞纯度为99.2%,细胞数为15.13×10⁶/kg,纯化后T细胞减少3.5个对数级,CD3⁺细胞数仅为1.35×10⁵个/kg·b.w.。预处理方案为CTX+抗胸腺细胞免疫球蛋白(ATG)+甲基强的松龙(MP),其中每天使用CTX 50 mg/kg·b.w.,连续4 d; ATG 2.5 mg/kg·b.w.,连续3 d; MP第1天1.0 g,后2 d为0.5 g,静脉滴注。预处理完成后24 h回输纯化后的CD34⁺细胞,共60 ml。观察移植前后临床表现和免疫指标的变化。结果显示,移植术后患者的临床表现基本消失,异常的免疫学指标恢复正常,自身抗体全部转阴。移植术后4周SLEDAI为0分。目前已停用皮质类固醇激素3月余,经随访各项指标均正常。

摧毁病态免疫、重建正常免疫细胞体系是自体造血干细胞移植治疗SLE的主要机制。去除移植物中自身免疫细胞及移植后进一步清除体内的自身免疫细胞可减少复发,是移植成功的关键。我们的资料证实,纯化的自体外周血CD34⁺造血干细胞移植治疗SLE近期疗效明显,有望获得根治,远期疗效还有待长期随访观察。

We used the transplantation of purified autologous peripheral blood CD34⁺ stem cells to treat a 16-year-old female patient with systemic lupus erythematosus (SLE), who had received unsuccessful treatment with steroids and immunosuppressants, and has achieved satisfactory therapeutic effect.

The diagnosis of SLE was established one year ago, and the patient had SLE Disease Activity Index (SLEDAI) of 21 on admission. After ineffective treatment with dexamethasone and cyclophosphamid (CTX) for 3 months, purified autologous peripheral blood CD34⁺ stem cell transplantation was adopted. Autologous peripheral hematopoietic stem cells were mobilized by intravenous injection of 2.0 g/d cyclophosphamid (CTX) for 3 d and subcutaneous injection of granulocyte colony-stimulating factor (G-CSF, 300 μg/d). A CS-3000plus blood cell separator was used to collect peripheral blood stem cells, and cell count of mononuclear cells and CD34⁺ stem cells and epitope analysis of T and B lymphocytes were performed by FACscan flow cytometry. After purification with CliniMACS, the number of CD34⁺ stem cells reached 15.13×10⁶/kg, while that of CD3⁺ cells were only 1.35×10⁵/kg. Pretreatment of the patient consisted of intravenous injection of CTX(50 mg/kg each day)for 4 consecutive days and antithymocyte globulin (ATG, 2.5 mg/kg each day) for 3 consecutive days with methylprednisolone (MP) at the dose of 1.0 g on the first day

and 0.5 g on the following 2 days. The granulocytes were recovered by G-CSF stimulation. The purified CD34⁺ stem cells (60 ml) were reinfused within 24 h after pretreatment, following which changes in clinical manifestations and immunologic markers were compared with those before the transplantation. Clinical and immunologic remissions were achieved after transplantation, with all the autoantibodies reversed to the negative, suggesting the short-term effectiveness of this therapy. Based on this observation, we conclude that this therapy is possible to effect an eventual cure of SLE in this case, but the long-term effect needs to be further observed in the follow-up study.

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