

论著

罗丹明123介导的光动力学疗法预防急性移植物抗宿主病的实验研究

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摘要 目的: 探讨Rh123介导的光动力学疗法(PDT)预防异基因造血干细胞移植急性移植物抗宿主病(aGVHD)的可行性及安全性。方法: 以C57B/6小鼠为供鼠, BALB/c小鼠为受鼠, 建立小鼠异基因骨髓移植的aGVHD模型; 混合脾脏淋巴细胞培养(MLC)加Rh123孵育, 接受氩离子激光30 mW/cm²照射3 min, 再与供者骨髓混合移植给受鼠, 观察受鼠移植后造血重建、aGVHD发生情况及病理改变、生存率; 流式细胞仪检测MLC细胞CD3+CD69+阳性率。结果: 光动力学治疗组的aGVHD发生减少, 肝、皮肤、肠道病理程度减轻, 生存率显著高于未经光动力学治疗组; 光动力学处理后的混合淋巴细胞培养24 h后, CD34+CD69+表达明显下降。结论: Rh123介导的光动力学疗法可有效预防小鼠异基因骨髓移植的aGVHD。

关键词 [光动力学疗法](#); [若丹明123](#); [移植物抗宿主病](#)

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The prevention of acute graft versus host disease by Rhodamine 123-mediated photodynamic therapy

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Abstract

AIM: To evaluate the effect and safety of Rhodamine 123 (Rh123)-mediated photodynamic treatment (PDT) on acute graft versus host disease. METHODS: An acute graft versus host disease (aGVHD) mice model was established using C57B/6 mice as donors and BALB/c mice as recipients. Mixed lymphocytic cells were cultured with Rh123 (50 nmol/L) and irradiated by argon laser 30 mW/cm² for 3 min, then transplanted to BALB/c recipient mice mixed with donor bone marrow. Hepatopoietic recovery, aGVHD occurrence, survival time after transplantation and pathological changes were observed. In addition, CD3+CD69+ positive rates of MLC were examined by flowcytometry. RESULTS: Occurrence of aGVHD decreased, degree of pathological manifestation became milder, survival rates were higher than non PDT groups. CD3+CD69+ rates of MLC cells treated with photodynamic therapy (PDT) and cultured for 24 h significantly decreased. CONCLUSION: Rh123-mediated PDT can effectively prevent aGVHD of allogeneic bone marrow transplantation in mice.

Key words [Photodynamic therapy](#) [Rhodamine123](#) [Graft vs host disease](#)

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