

论著

同种异体骨髓单个核细胞肝内移植治疗急性肝损伤的MVD改变及VEGF的表达

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摘要

目的: 探讨骨髓单个核细胞移植后急性肝损伤模型的血管内皮生长因子(VEGF)表达及微血管密度(MVD)值的动态变化。方法: 随机选择急性肝损伤模型兔42只, 移植组及对照组各21只, 在细胞移植组行骨髓单个核细胞移植后的第7, 14, 28天, 移植组及对照组分别处死7只, 处死前行肝功能检查而后行肝脏病理切片免疫组织化学检查, 测定并比较VEGF表达阳性细胞数及MVD值。结果: 细胞移植前, 移植组与对照组肝功能无差别($P>0.05$), 细胞移植后各观察时点移植组的肝功能指标均好于对照组($P<0.05$), VEGF表达阳性细胞数及MVD值均高于对照组($P<0.05$)。移植组内部各时点相互比较, VEGF表达阳性细胞数逐渐降低, 第7, 14天较第28天高($P<0.05$), 第7天较第14天高($P>0.05$); MVD值逐渐增高, 第14天及第28天较第7天高($P<0.05$), 第28天较第14天高($P>0.05$)。对照组各时点比较, VEGF表达阳性细胞数逐渐降低, 第7天较第14天及第28天高($P<0.05$), 第14天较第28天高($P>0.05$); MVD值逐渐增高, 各时点两两比较差异均有统计学意义($P<0.05$)。结论: 骨髓单个核细胞移植可以促进急性肝损伤模型的VEGF表达及MVD值增加, 有利于肝脏功能的恢复。

关键词 [骨髓单个核细胞; 移植; 肝损伤; 血管内皮生长因子; 微血管密度](#)

分类号

MVD and VEGF expression in the acute liver injury treated with allogeneic MBMCs transplantation

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Abstract

Objective To investigate the dynamical expression of vascular endothelial cell growth factor (VEGF) and the value of microvessel density (MVD) in acute liver injury model after the transplantation of mononuclear bone marrow cells (MBMCs). Methods Forty-two model rabbits with acute liver injury were randomly divided into 2 groups: a transplanted group and a control group ($n=21$). Seven rabbits from each group were killed on day 7, 14, and 28 after the transplantation of MBMCs. A series of comparative assays were performed, including functional assay of liver, immunohistochemical pathological examination of liver sections, VEGF positive cells count, and quantification of MVD value. Results Before the MBMCs transplantation, the difference in liver function was not significant between the transplanted group and the control group. But after the MBMCs transplantation, the liver function of rabbits in the transplanted group were significantly better than that in the control group ($P<0.05$). More VEGF positive cells and higher MVD value were observed in the transplanted group than in the control group ($P<0.05$). In the transplanted group, the number of VEGF positive cells gradually reduced, the number on day 7 was higher than that on day 14 ($P>0.05$), while both were significantly higher than that on day 28 ($P<0.05$). In contrast, the value of MVD increased gradually in the transplanted group, the value on day 28 was higher than that on day 14 ($P>0.05$), while both were significantly higher than that on day 7 ($P<0.05$). In the control group, the number of VEGF positive cells also gradually reduced, that on day 7 was higher than that on day 14 or 28 ($P<0.05$), and that on day 14 was higher than that on day 28 ($P>0.05$). The MVD value significantly increased between each time point ($P<0.05$). Conclusion Transplantation of MBMCs promotes the expression of VEGF, up-regulates the MVD value in the acute injury livers, and facilitates the recovery of liver function.

Key words [mononuclear bone marrow cells; transplantation; injured liver; vascular endothelial cell growth factor; microvessel density](#)

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