

论著

干细胞移植预处理对骨髓基质细胞形态及生长能力的影响

陈幸华,王苹,张曦,彭贤贵,刘林,孔佩艳

第三军医大学新桥医院血液科, 重庆 400037

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摘要 目的: 探讨外周血干细胞移植后患者骨髓造血微环境损伤的机制。方法: 采用Dexter型方法, 观察21例外周血干细胞移植患者经单化或化放结合两种预处理方案前后不同时间骨髓基质细胞超微结构及集落形成能力(CFU-F)。结果: 光镜和扫描电镜下单化组和放化组骨髓基质细胞出现不同特征的形态学变化。透射电镜观察: 放化组骨髓基质细胞的内质网扩张, 线粒体基质变淡, 嵴消失; 单化组基质细胞的线粒体重度退行性变, 结构紊乱; 放化组骨髓基质细胞集落形成能力于预处理后各时点均显著低于预处理前和单化组预处理后(P<0.01); 单化组于预处理后各时点的CFU-F显著低于预处理前(P<0.01), 至预处理后第90 d仍未恢复。结论: 外周血干细胞移植患者预处理后骨髓基质细胞不同程度损伤, 放化组基质细胞的损伤重于单化组, 是导致造血功能恢复缓慢的原因。

关键词 [骨髓](#); [间质细胞](#); [集落形成单位,成纤维细胞](#); [预处理](#); [造血干细胞移植](#)

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Morphology and growth capacity of bone marrow stromal cells in vitro from APBSCT patients post pretreatment

CHEN Xing-hua,WANG Ping,ZHANG Xi,PENG Xian-gui,LIU Lin,KONG Pei-yan

Department of Hematology, Xinqiao Hospital, Third Military Medical University, Chongqing 400037, China

Abstract

AIM: To investigate the morphology and capacity of bone marrow colony forming unity-fibroblast (CFU-F) from APBSCT patients before and after pretreatment. METHODS: 21 case peripheral blood stem cell transplantation (PBSCT) patients were treated with pretreatment. The changes of morphology of the bone marrow stromal cells were assayed by light microscope and electron microscope, respectively. The numbers of CFU-F were assayed by Dexter type. RESULTS: The bone marrow stromal cells occurred different types of morphology from PBSCT patients treated with chemotherapy or chemotherapy-TBI pretreatment, respectively, compared with controls. The transmission electron microscope showed that the endoplasmic reticula was dilated, the matrix of mitochondria appeared pale and the cristae of mitochondria became shorter in stromal cells from chemotherapy-TBI patients compared with those of controls. The structure of mitochondria from combined chemotherapy-TBI pretreatment appeared severe degeneration and disorder. The numbers of CFU-F from combined radiation-chemotherapy injury were significantly decreased compared with that before pretreatment and the chemotherapy injury (P<0.01), respectively. CONCLUSION: The change of cell morphology and capacity of CFU-F for bone marrow stromal cells is one of impairment injury mechanism of bone marrow hematopoietic inductive microenvironment from PBSCT patients post pretreatment.

Key words [Bone marrow](#) [Stromal cells](#) [Colony forming units](#) [fibroblast](#) [Preconditioning](#) [Hematopoietic stem cell transplantation](#)

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