

论著

## 自体骨髓基质干细胞移植治疗兔缺血心肌的实验研究

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**摘要** 目的: 用一种接近临床的骨髓移植模型, 观察骨髓基质干细胞 (MSCs) 移植到缺血心肌后是否在心肌的微环境中可以向心肌细胞分化, 提高心功能。方法: 采用自体MSCs移植的方法, MSCs在体外培养扩增。在通过结扎冠状动脉造成心肌缺血1周后, MSCs被5-溴-2-脱氧尿苷 (BrdU) 标记后移植到自体的缺血心肌中。结果: 移植4周后, MSCs向心肌细胞分化, 表达出 $\alpha$ -横纹肌肌动蛋白 (sarcomeric actin), 缺血区血管密度明显增加, 左室收缩功能明显强于对照组。结论: MSCs移植可以提高缺血心肌的心功能可能和MSCs向心肌细胞分化有关。

**关键词** [干细胞](#); [心肌梗死](#); [兔](#)

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## Autologous marrow stromal cell transplantation improves rabbit cardiac performance after myocardial infarction

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### Abstract

<FONT face=Verdana>AIM: We tested the hypothesis that marrow stromal cells (MSCs), when implanted into self-myocardium, can undergo milieu-dependent differentiation, express cardiomyogenic phenotypes and enhance angiogenesis and cardiac function of ischemic hearts in vivo. METHODS: In order to achieve a safe and persistent effect, we explored the potential of autologous MSCs transplantation. One week after myocardial infarction induced by occlusion of left anterior descending artery, autologous MSCs labeled with BrdU (bromodeoxyuridine) in vitro was administered intramyocardially into the infarct area of the same donor rabbits. RESULTS: By 1 months, transplanted MSCs demonstrated to be myogenic differentiation with the expression of  $\alpha$ -sarcomeric actin (5C5). MSCs implantation significantly increased vascular density in the infarct zone and resulted in markedly improved the left ventricular contractility. CONCLUSION: The finding indicates that autologous MSCs transplantation may represent a promising therapeutic strategy with free of ethical concerns and immune rejection. </FONT>

**Key words** [Stem cells](#); [Myocardial infarction](#) [Rabbits](#)

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