

## عنوان مقاله:

Initial clinical outcomes of intracoronary infusion of autologous progenitor cells in patients with acute myocardial infarction

## محل انتشار:

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## خلاصه مقاله:

**BACKGROUND:** Myocardial infarction (MI) is an irreversible cardiomyocytes injury which begins after ۱۵-۲۰ minutes of coronary artery occlusion. The extent of infarction is modulated by a number of factors including collateral blood supplies, medications, and ischemic preconditioning. Although angioplasty and thrombolytic agents can relieve the cause of the infarction, the time from the occlusion onset to reperfusion determines the degree of irreversible myocardial injury. Experimental studies suggested that stem cells and progenitor cells derived from bone marrow can be used in the repair of cardiac tissue after acute MI. This study was designed to investigate the feasibility, safety and initial clinical outcome of intracoronary infusion of autologous progenitor cells in patients with acute MI. **METHODS:** Patients with a history of anterior MI and a left ventricular ejection fraction (LVEF) less than ۳۵ % who were candidates for coronary angioplasty were randomly allocated in a ۱:۱ ratio to either control or bone marrow cell groups (each including ۱۶ patients). Thallium scan and ۱۷-segment echocardiography analysis for regional wall motion abnormality were performed before and ۱ and ۶ months after intracoronary infusion of bone marrow cells. The same tests were also conducted for the control group at identical time intervals. Categorical variables were compared by one way analysis of variance (ANOVA). Statistical significance was assumed at a value of  $P < ۰.۰۵$ . **RESULTS:** LVEF in the case and control groups increased to  $۳۹.۳۷ \pm ۲۴.۷\%$  and  $۳۱.۰۰ \pm ۱.۸۷\%$ , respectively ( $P = ۰.۰۶۹$  and  $۰.۱$ , respectively). Wall motion abnormality index (WMAI) decreased insignificantly in both groups. Perfusion defect scores (PDSs) decreased significantly in the case group. **CONCLUSION:** In this study, autologous mesenchymal stem cell transplantation by intracoronary catheter during angioplasty in patients with a history of severe LV dysfunction caused mild increases in LVEF. **Keywords:** Myocardial Infarction Left Ventricular Failure, Stem Cell

کلمات کلیدی:

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