

Long term follow-up of intracoronary delivery of autologous bone marrow mononuclear cells in acute myocardial infarction with no evidence of reperfusion

Hala Gabr

University of Cairo, Egypt

Background: Myocardial infarction (MI) is considered the most important reason for heart failure and cardiac deaths. Despite recent therapeutic modalities, only 30% of patients achieve adequate reperfusion before irreversible damage occurs. The approach to acute MI has changed to focus on trying to achieve what was previously unthinkable: to reconstitute dead myocardium.

Objective: To assess the effect of intra-coronary delivery of autologous bone marrow mononuclear cells on left ventricular functions at short term (6 months) and long term (3 years) follow-up periods in patients with acute ST segment elevation myocardial infarction with no evidence of reperfusion.

Subjects & methods: This study was conducted on 42 patients: divided into active (group I) and control (group II) groups. Bone marrow mononuclear cells were delivered intracoronary in the active patient group. Patients were followed up every 3 months until 3 years by clinical, ECG and echocardiographic monitoring.

Results: No significant procedure related complications were encountered. Global systolic functions improved mildly (3.3%) in group I at 6 months but declined to 2.2% at 6 months, and remained so for 3 years. However, no statistically significant difference was detected between groups I and II. No statistically significant improvement in diastolic functions parameters, regional functions, ventriculography parameters or MPI parameters. Subgroup analysis revealed that patients with poorer ventricular ejection fraction (EF) below 45% at baseline had better improvement than those with $EF \geq 45\%$.

Conclusions: Bone marrow derived mononuclear cell delivery intracoronary in patients with acute MI caused mild but consistent improvement in ventricular functions, with no procedure related complications.

Biography

Hala Gabr has completed her Ph.D at the age of 29 years from Cairo University and postdoctoral studies from Cairo University School of Medicine. She is the director of the bone marrow transplantation laboratory, Pediatric University Hospital, Cairo University. She is the director of the Egyptian program for clinical application of stem cell therapy in end stage liver cell failure. She has published papers in stem cell therapy in various disciplines.

halagabr@kasralainy.edu.eg