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Cell-based therapy in patients with acute myocardial infarction and impaired left ventricular function could reduce major adverse cardiac events

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Background: Reduced left ventricular ejection fraction (LVEF) after ST-segment elevation myocardial infarction (STEMI) has been recognised as a predictor of morbidity and mortality. The aim of this study was to investigate the effect of autologous bone marrow stem cell (ABMSC) therapy on major adverse cardiovascular events (MACE) in patients with STEMI and impaired LVEF, during a 6 months follow-up.

Materials & Methods: Eighteen patients hospitalized for a first STEMI treated by successful primary percutaneous coronary intervention (PCI) and LVEF < 40% were included. Clinical exams and complete echocardiograms were performed at 1, 3 and 6 months after STEMI, comprising routine angiographic follow-up at 6 months. In the ABMSC group, 50 ml of bone marrow were harvested 7 to 13 days after STEMI, the cell suspension being delivered via intracoronary route during the same day.

Results: Patients with ABMSC therapy had decreased readmission for heart failure and decreased coronary revascularization compared to control patients (14.3% vs 36.4%, $p > 0.05$). There were no deaths during 6 months follow-up period in experimental group, nor in control group.

Conclusions: We observed a positive effect of ABMSC therapy in STEMI patients with severe systolic function impairment regarding the occurrence of MACE, even though there were no significant differences between groups - probably due to small number of patients included and short follow-up period.

Biography

M M Mihaela has an experience for over 14 years in the Clinical Emergency Hospital of Bucharest, where she currently is working as a cardiologist and scientific researcher in the Cardiology Department. She has completed her PhD from the "Carol Davila" University of Medicine and Pharmacy Bucharest in 2012 with the thesis: "New Therapeutic Methods in Acute Myocardial Infarction: Autologous Stem Cell Transplant". Her expertise includes stem cell therapy in cardiovascular diseases, cell culture and flow cytometry. She has participated with studies at over 40 scientific events from various countries and has published papers in different scientific journals.

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