MYOCARDIAL ISCHEMIA AND INFARCTION

INCREASE IN ENDOTHELIAL PROGENITOR CELLS AFTER ACUTE MYOCARDIAL INFARCTION MAY REDUCE LATE LUMINAL LOSS IN THE STENT DEPLOYED IN INFARC RELATED CORONARY ARTERY

ACC Poster Contributions
Georgia World Congress Center, Hall B5
Sunday, March 14, 2010, 9:30 a.m.-10:30 a.m.

Session Title: Acute Myocardial Infarction--Cell Based Therapy and Cellular Manipulations
Abstract Category: Acute Myocardial Infarction--Therapy
Presentation Number: 1043-256

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Background: Long-term patency of infarct related artery is an important prognostic factor in patients with myocardial infarction (MI). We previously reported CD34 positive, endothelial progenitor cells (CD34+) increased 7 days after acute MI, and the number of CD34+ cells were associated with the improvement in microvascular function in the infarct region. The aim of this study is to elucidate the effects of the increase in CD34+ cells after MI on restenosis of the stented lesion as well as on the cardiac function in the chronic stage.

Methods: Thirty-eight patients with acute MI undergoing primary PCI were enrolled. We counted white blood cells and CD34+ cells at days-1, 7, and 14 of MI. Coronary angiogram and left ventriculogram were performed at day-1 and an average of 8 months later.

Results: Number of CD34+ cells increased from day-1 to day-7 (1.37±0.84 vs. 2.36±1.39 /µL, p<0.001). Mean follow up period was 8 months (6-14 months). Ejection fraction or left ventricular end-diastolic volume index did not show any association with the number of CD34+ cells at day-1, 7, or 14. However, the number of CD34+ cells at day-7 was inversely related to the magnitude of late luminal loss at chronic phase (p<0.05).

Conclusion: CD34+ cells released after AMI would play an important role for the proper reendothelialization in the stent implanted in the infarcted coronary artery. Though they improve microcirculation in the infarct myocardium, their contributions to LV contraction and remodeling could be limited.