
Dangas G, Ambrose JA, Sharma SK, Shao JH, Feldman D, Cohen AM, Marmur JD, Cocke TP, Duvvuri S, Goldman ME.

Zena and Michael A. Wiener Cardiovascular Institute, Mount Sinai School of Medicine, New York, USA.

**BACKGROUND:** Patients with angina after a Q-wave myocardial infarction benefit from elective revascularization, but it is not known whether asymptomatic patients, including those with a totally occluded infarct-related artery, improve after revascularization.

**OBJECTIVE:** To determine the effect of early postinfarction revascularization of asymptomatic patients on left ventricular remodeling.

**METHODS:** We prospectively studied 31 consecutive asymptomatic patients (aged 57 +/- 2 years, 24 with anterior infarcts) after Q-wave myocardial infarction with > or = 70% stenosis of the infarct-related artery (IRA) who underwent early elective revascularization (days 4-10 after myocardial infarction). Group I consisted in patients with a totally occluded IRA (n = 10), and group II consisted in patients with a patent, though stenosed, IRA (n = 21). Resting echocardiography and low-dose dobutamine echocardiography were performed at baseline (day 3 +/- 1), and rest echocardiography was repeated after an 8-week follow-up. Significant myocardial viability was defined as > or = 2 wall segments improved (in a 16-segment model of left ventricle) versus baseline, and significant functional recovery as > or = 2 segments improved versus baseline on follow-up examination. Left ventricular end-systolic volume indices (ESVI) and end-diastolic volume indices and ejection fractions were measured by using a modified version of Simpson's rule (using apical two-chamber and four-chamber views).

**RESULTS:** The left ventricular ESVI of patients in group I had decreased by 4.2 +/- 1.9 ml/m2, whereas for patients in group II the left ventricular ESVI had increased by 4.2 +/- 1.7 ml/m2 (P = 0.006). Similarly, the left ventricular end-diastolic volume index had decreased by 0.7 +/- 2.4 ml/m2 versus baseline at follow-up for patients in group I and increased by 7.8 +/- 2.1 ml/m2 for patients in group II (P = 0.02). The left ventricular ejection fraction increased by 7.3 +/- 3% for patients in group I and decreased by 0.4 +/- 2% for patients in group II (P = 0.04).

**CONCLUSION:** There is less global left ventricular remodeling, a potentially deleterious process, after elective revascularization early after Q-wave myocardial infarction in asymptomatic patients who had had a totally occluded IRA before revascularization than there is in patients who had already had a patent, though stenosed, IRA before revascularization. These results suggest that restoration of patency of IRA after a Q-wave myocardial infarction is beneficial even for asymptomatic patients.

PMID: 10376198 [PubMed - indexed for MEDLINE]