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Should the Mild-to-moderate Ischemic Mitral Regurgitation be Corrected in Patients with Impaired Left Ventricular Function Undergoing Simultaneous Coronary Revascularization?

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Introduction:

The objective of this study was to asess the feasibility of MV surgery in concomitance to coronary artery bypass grafting (CABG) in patients with mild-to-moderate and moderate ischemic MVR and impaired LV function.

Materials and Method:

From January 1996 to July 2012, 90 patients (Group I) and 70 patients (Group II) with grade II and III ischemic MVR and LVEF between 17% and 30% underwent combined MV surgery and CABG(Group I) or isolated CABG(Group II). LVEF(%), LVEDD(mm), LVEDP(mmHg), LVESD(mm) were 27.5±5, 67.7±7, 27.7±4, 51.4±7 in Group I versus 27.8±4, 67.5±6, 27.5±5, 51.2±6 in Group II respectively. MV repair was performed in 73(81%) patients and MV replacement in 17(19%) patients in Group I.

Results:

The preoperative data analysis did not reveal any difference between groups. 9(10%) died in Group I versus 9(12.8%) in Group II(p=Ns). Within 6 months after surgery the LV function and its geometry improved significanly in Group I versus Group II (LVEF, p0.001, LVEDD, p=0.002, LVESD, p=0.003 and LVEDP, p0.001 improved significantly in Group I instead of a mild improvement in Group II. The regurgitation fraction decreased significantly in Group I patients after surgery(p0.001). There was an inverse strong correlation between postoperative forward cardiac output and regurgitation fraction(p0.001). The LVEF and LVESD improved significantly in Group I versus Group II patients, p=0.04 and p=0.02 respectively. The cardiac index increased significantly in Group I and II, p0.001 and p=0.03 respectively. The overall survival at 5 years in Group II was significantly lower than Group I (p0.009).

Conclusion:

Both MV repair and replacement preserving subvalvular apparatus in patients with impaired LV function offered acceptable outcome in terms of morbidity and survival. The surgical correction of the mild-to-moderate and moderate MVR in patients with impaired LV function should be taken in consideration yielding in better survival and improved LV function.