

Pre-Operative Echocardiographic Predictors of Recurrent Mitral Regurgitation Post Mitral Annuloplasty and CABG for Ischemic Mitral Regurgitation

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Background: Ischemic mitral regurgitation (IMR) may become significant after remodeling of the ischemic left ventricle, and it is strongly associated with poor outcome.

Objectives: To evaluate echocardiographic (echo) predictors of recurrent mitral regurgitation after valve repair combined with CABG in patients with coronary artery disease and IMR.

Methods and Results: A retrospective chart review and echo. analysis of all patients who underwent ring annuloplasty and CABG for IMR and coronary artery disease between June 2002 and January 2009 was conducted. Pre and post operative echo. studies were collected in 30 patients; mean aged 67.7 ± 8.9 and mean follow up of 3.3 ± 2 years. Patients with intrinsic mitral valve disease were excluded.

Echo. measures of left ventricular ejection fraction (LVEF), MR grade, LV and LA dimensions were assessed. Recurrent MR at follow up was defined when patients had moderate or severe MR based on echo criteria. 9 (30%) patients were found to have recurrent MR. The pre operative echo. data are presented.

Echocardiographic parameters pre-mitral valve repair	Recurrent MR (n=9)	Non Significant MR (n=21)	P value
Infero-lateral MI	9 (100%)	5 (24%)	<0.0001
Mitral Annulus-mm	41 ± 2.3	38 ± 2.6	0.005
LVEDV-ml	185.3 ± 31.9	144.8 ± 34.4	0.008
LVESV-ml	118.2 ± 20.8	89.9 ± 19.4	0.002
LA Area-cm ²	27.2 ± 7.3	21.0 ± 3.0	0.028
LVEF -%	35.5 ± 13.0	39.8 ± 10.1	0.32

Conclusions:

Pre-operative left atrial and ventricular dilatation including inferolateral MI location were associated with recurrent MR after ring annuloplasty combined with CABG.