

Mitral Valve Repair in Degenerative Disease: Implications of Mild or Less Residual Regurgitation on Late Repair Outcome

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Background:

Mitral valve (MV) repair has been signified the procedure of choice in degenerative mitral regurgitation (MR). However, the effect of residual regurgitation on late repair-outcome and its implications remain undetermined. Patient subsets allocated to sub-annular repair constitute higher risk.

Methods:

Repair-outcome of 63 patients operated for isolated degenerative MR (Carpentier type II) (2006-2012) was assessed by degree of residual regurgitation. Repair comprised of closed semi-rigid ring annuloplasty and posterior or bi-leaflet PTFE neo-chordae without leaflet resection. Patients undergoing isolated annuloplasty, concomitant procedures or chordal transfer or shortening were excluded.

Results:

Respective rates of posterior, anterior and bi-atrial leaflet prolapse were 76%, 10% and 14%, (anterior leaflet prolapse in 24%). Mean number of implanted PTFE neo-chordae was 4.69 ± 2 (range, 4-12), 3.68 ± 2.4 and 4.3 ± 1.6 to anterior and posterior leaflets, respectively. There was no operative mortality; persisting systolic anterior motion (SAM) necessitated one early reoperation (1.6%). Residual intraoperative regurgitation was none-to-trivial in 81% (50/63) and mild in 19%, consistent between trans-esophageal and fifth-day transthoracic echocardiography (TTE). New mild MR. appeared by the fifth-day TTE in 5 patients.

By follow-up TTE (range 5-64 months, median 27) the degree of late MR was none-to-trivial in 72.5% (45/62), mild in 25% (16/62) and moderate in 3.2% (two patients). Analysis by initial residual MR showed no recurrence in the none-trivial subgroup; initial mild residual MR was associated with persisting mild grade (n=12), MR resolution (n=4) and deterioration to moderate MR (n=2). Mild residual MR was not associated with negative echocardiographic ventricular remodeling or clinical symptoms. 5-year freedom from mortality and cardiac-mortality was 95.3% and 100%, respectively.

Conclusions:

Neochordal MV repairs without leaflet resection confers reproducible and durable outcome. Mild or less residual regurgitation is not associated with late echocardiographic or clinical deterioration.