

Mid-term Results of Mitral Valve Repair: Closed versus Open Annuloplasty Ring

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Background

Closed and open annuloplasty rings are used for mitral valve (MV) repair. This study compares clinical and echocardiography results, in patients with mitral regurgitation secondary to degenerative mitral disease, undergoing MV repair with closed versus open annuloplasty ring.

Methods

From 2004, 377 patients underwent MV repair. Valve pathology was degenerative in 262(70%) patients, all underwent MV repair with annuloplasty ring. Closed ring was used in 129 patients (49.2%) and in 133 patients (50.8%) open ring was used. Choice of ring was usually due to surgeon's preference. Mean age was 58±12 and 60±12, in closed and open groups, respectively (NS). Preoperative NYHA was 2.2±0.8 and 2.1±1.0 in closed and open groups, respectively (NS). Other than annuloplasty, valve repair techniques included leaflet resection (43% and 79%, p<0.01), artificial chordae (49% and 27%, p<0.01), and Alfieri edge-to-edge repair (2.3% and 0%, NS) in closed and open groups, respectively.

Results

There were 1 (0.77%) in hospital death in closed ring group, and 1 (0.75%) in open ring group. Mean follow up was 15±16 month. Freedom from reoperation was 97.7% and 98.5%, in closed and open groups, respectively. At follow-up NYHA was 1.6±0.7 in closed ring versus 1.5±0.6 in open ring group (NS). Echocardiography follow-up revealed 93%(120/129) and 86%(114/133) of patients (closed and open groups, respectively) were free from moderate or severe mitral regurgitation (p=0.086).

Conclusions

Patients with closed annuloplasty ring may have better echocardiographic mid-term result than patients with open ring, with no evidence of systolic anterior motion in the closed ring group.