

Mitral valve repair for severe
mitral regurgitation secondary to
atrial fibrillation

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- Functional MR may be caused by a combination of mitral annular dilatation and/or LV dysfunction both of which occur in patients with lone AF

Otsuji Y. Circulation 1997;96:1999-2008

Zhou X. Circ J 2002;66;913-916

- Lone AF can lead to isolated annular dilatation and functional MR

Feinberg MS. Circulation 1994;90:II285-292

Mitral annuloplasty may be combined with techniques aimed at restoring sinus rhythm

Annular dilatation also leads to TR and concomitant repair of the tricuspid valve may be warranted

Kilic A . Ann Thorac Surg 2010;90:1343-1345

Aim of study

To assess the outcome of surgery for significant mitral regurgitation due to isolated annular dilatation secondary to atrial fibrillation and associated atrial remodelling

Patients and Methods

- MV Repair for MR secondary to Lone AF between Nov 2007 and Oct 2010
- Exclusions: MR secondary to rheumatic heart disease, degenerative MV disease, MV leaflet perforation, ischemic heart disease or cardiomyopathy
- n=14
- Median age: 78.5 years (45-82 years)
- Mean preoperative duration of AF: 78.8 ± 96 months
- Impaired LV: n=5
- Mean logistic EuroSCORE: 7.9 ± 5.8
- Mean follow-up: 18.1 ± 13.1 months

Preoperative Characteristics

	n (%)
Male	4 (28.6)
Presenting symptoms	
Shortness of breath	13 (92.9)
Syncope and palpitations	1 (7.1)
Preoperative NYHA Class	
I/II	2 (14.3)
III/IV	12 (85.7)
Preoperative echocardiography	
Good LVEF	9 (64.3)
Mean LVEDD	5.5±0.8cm
Mean LVESD	3.9±0.7cm
Left atrial diameter	6.0±1.8cm
Severe MR	14 (100.0)
Severe TR	8 (57.1)
Mean SPAP	52.3±12.0 mmHg

Operative Characteristics

	n (%)
Procedures performed	
MV repair + TV repair + LAAA	4 (28.6)
MV repair + TV repair + Cox-Maze procedure	3 (21.4)
MV repair + LAAA	2 (14.3)
MV repair + TV repair + LAAA + PVI	1 (7.1)
MV repair + PVI	1 (7.1)
MV repair + Cox-Maze procedure	1 (7.1)
MV repair + LAAA + CABG	1 (7.1)
MV repair + Cox-Maze procedure + CABG	1 (7.1)
Median annuloplasty ring size (range)	30 (24-36) mm
Annuloplasty ring	
Physio	6 (42.9)
Physio II	8 (57.1)

Post-operative Characteristics

	n (%)
Mortality	0 (0.0)
Median post-op stay in days (range)	10.5 (7-37)
MR	
None/Trivial	12 (85.7)
Mild/Moderate	2 (14.3)
TR	
None/Trivial	8 (57.1)
Mild/Moderate	6 (42.9)
Good LVEF	11 (78.6)
Mean LVEDD	4.9±0.7cm
Mean LVESD	3.3±0.7cm
Left atrial diameter	5.2±1.0cm
Mean MV gradient	3.4±1.0 mmHg
MV area	3.0±0.6cm ²
Mean SPAP	40.3±15.8 mmHg

Follow-up

- No deaths
- No thrombo-embolic complications, endocarditis or re-operation
- NYHA class at last follow-up improved in all patients
- Out of 7 patients who underwent Cox-Maze/PVI, 5 in SR

Conclusions

MV annuloplasty for annular dilatation secondary to AF has a good mid-term outcome with symptomatic improvement