

Table 2 – Distribution of valve lesions and coronary artery disease.

Valve involved	Total no. of patients	(%) of patients with CAD
Mitral valve	7	13.5
Aortic valve	62	15.3
Combined	7	9.0
Total	188	12.2

Table 3 – Reported prevalence of coronary artery disease in mitral valve disease.

Author	Year	No. of patients Reported	Studied prevalence (%)
Befeler et al.	1970	26	50
Lacy et al.	1977	67	32
Baxter et al.	1978	82	22
Saltups	1982	100	23
Chun et al.	1982	82	26
Czer et al.	1984	56	27
Mattina et al.	1986	96	28
CMC Vellore	2003	96	13.5

Table 4 – Reported prevalence of coronary artery disease in aortic valve disease.

Author	Year	No. of patients reported	Studied prevalence (%)
Coleman & Soloff	1970	77	17.7
Harris et al.	1975	69	23.2
Baxter et al.	1978	47	17
Vandeplass et al.	1988	192	24
Ravi Kishore et al.	1988	106	5.6
CMC Vellore	2003	124	15.3
Saltups	1982	100	30

Conclusions: The overall prevalence of coronary artery disease in a study group of patients with rheumatic heart disease undergoing valve surgery in western India in single centre is 12.2%. This prevalence is much lower than the figures reported earlier in the Western literature.

Risk factor profile in degenerative aortic stenosis with and without associated CAD



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Background: Degenerative aortic stenosis (DAS) and coronary artery disease (CAD) share common risk factors. In some of the previous studies statins have been used to retard the progression of aortic stenosis, but the results are inconsistent

Objective (aim): To study the risk factor profile in degenerative aortic stenosis with and without associated CAD.

Methods: One hundred and ten patients of DAS above the age of 40 years have undergone clinical, biochemical and echocardiographic evaluation. Coronary angiograms were done in 68% of the cases.

Results: Male to female ratio is 2:1. Patients of DAS with CAD showed higher prevalence of diabetes, hypertension, dyslipidemia, smoking and family history of CAD. Prevalence of obesity and bicuspid aortic valve by echocardiogram was high in those without CAD.

Conclusion: Our observations are in agreement with those of Kora/Monica and SEAS studies but the prevalence of diabetes is high in our study. This is the first Indian study to study the risk factor profiles in cases of DAS.

Comparative study of ivabradin and metoprolol in patients of mitral stenosis in sinus rhythm



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Severe MS is usually symptomatic and is treated by BMV or surgery, whereas mild to moderate mitral stenosis is usually asymptomatic or mildly symptomatic and managed medically. Patients in the latter group may become symptomatic during episodes of exercise and increased heart rate. As increase in heart rate occurs mostly at the expense of diastole, there is shortening of the diastolic filling period, and in the presence of obstruction at the mitral valve this results in increased left atrial pressure. Subsequently, pulmonary capillary wedge pressure rises, resulting in effort intolerance and dyspnea. Theoretically, negative chronotropic agents such as blockers and CCBs should be helpful in controlling tachycardia-related symptoms by improving diastolic filling and preventing rise in pulmonary capillary wedge pressure. However, associated negative inotropic effect on myocardium and effect on neuromuscular system may negate the beneficial effects of these drugs. CCBs have little role in controlling heart rate when the patient is in sinus rhythm. Results from various clinical and hemodynamic studies with these agents have been conflicting. We studied 97 patients of mitral stenosis in sinus rhythm presented with exertional symptoms. The effectiveness of metoprolol is compared with ivabradin in alleviating these exertional symptoms in a randomized, open label non cross over study. We also assessed various stress ECG parameters, 24 hr Holter parameters and 2D echo parameters to objectively compare the effect of ivabradin and metoprolol in these patients. The findings are as follows:

- Ivabradin and metoprolol both are effective in controlling exertional symptoms.
- Significant improvement in objective parameters like TMT (work capacity, baseline heart rate and maximum heart rate), 24 hr Holter (minimum heart rate, average heart rate and maximum heart rate) and 2D echocardiography (right ventricular systolic pressure) are seen with both drugs.
- Ivabradin control the exertional symptoms significantly more than metoprolol.
- Objective parameters improve significantly more with ivabradin than metoprolol except average heart rate reduction.

Conclusion: Ivabradin is better than metoprolol in medical management of mitral stenosis patients Ivabradin should be strongly

considered in medical management of mitral stenosis patients where b blockers are contra indicated such as reactive air way disease. The cost of ivabradin is higher than metoprolol which might pose constraints as most of rheumatic heart disease patients belongs to low socioeconomic status. Drawbacks of the study are small sample size and invasive parameters like PCWP which play major role in mitral stenosis has not been assessed in the trial. Longer follow-up study is needed to effectively comment on safety profile of ivabradin.

Evaluation of left atrial morphology by cardiac MRI in patients with post-percutaneous Ballon Mitral Valvotomy for rheumatic mitral stenosis



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Introduction: Percutaneous mitral balloon valvotomy has proved to be an effective method for the treatment of patients with mitral valve stenosis with favourable short and mid-term results. In view of the reduction of the left atrial pressure after successful percutaneous mitral balloon valvotomy, one would anticipate a lower incidence of atrial fibrillation (AF). However, in the past, several studies of the cardiac rhythm after surgery for mitral valve disease have shown that chronic AF persisted in the majority of patients despite successful mitral valve repair or replacement, probably because atrial electrical remodelling strongly contributes to persistence of AF. Information on the short- or long-term course of cardiac rhythm after percutaneous mitral balloon valvotomy remains very limited.

Long-term follow-up studies demonstrated that the development of AF markedly increased the risk of cardiovascular complications. Moreover it is generally accepted that AF concomitant with rheumatic valve disease exhibits a considerably higher relative risk of stroke than AF without valvular disease.

This study is designed to evaluation of atria by cardiac MRI in Post Ballon Mitral Valvotomy rheumatic mitral stenosis patients at tertiary care hospital.

Aims and objectives: Evaluation of left atrial morphology by cardiac MRI in Post percutaneous Ballon Mitral Valvotomy patients.

Materials & methods: This study was prospective having sample size of 10 and sampling method was random with inclusion criteria:

- Post BMV patients with rheumatic valvular disease.
- Hemodynamically stable patients.
- Patients between 12 and 40 yrs of age.

Exclusion criteria:

- Patients not consenting for the study.
- Patients with age <12 yrs.
- Patients with age >40 yrs.
- Patients with nonrheumatic valvular disease.
- Patient with any contraindications for MRI.
- Pregnancy (Risk vs benefit ratio to be assessed).
- Known h/o contrast allergy.

Method: Patients with rheumatic mitral valve stenosis who have undergone percutaneous Balloon Mitral Valve procedure and

satisfying inclusion and exclusion criteria will be included in the study. Patients who were in sinus rhythm preoperatively will be included in the control group while patients having atrial fibrillation preoperatively will be included in cases group.

All the patients will undergo Cardiac MRI to detect the atrial size and fibrosis. MRI will be done on Philips achieve series 3T imager. Patients with atrial fibrillation will be first given anticoagulation (if LA clot is present) followed by cardioversion (DC shock or amiodarone) and brought to sinus rhythm before doing MRI.

Results: Out of total 10 patients in our study 2 patients of atrial fibrillation had LA volume of >30 cm² on cardiac MRI and total 8 patients in sinus rhythm had LA volume of <30 cm². LA scar and subendocardial enhancement was found in total 6 out of 10 patients in our study. However those patients who had atrial fibrillation (n = 2) had not demonstrated any LA morphological abnormality.

Conclusion: LA volume rather than LA morphological abnormality is associated with atrial fibrillation in post-percutaneous mitral balloon valvotomy of rheumatic mitral stenosis. While atrial fibrillation patients with no LA morphological abnormality associated with more likely successful cardioversion and maintenance of sinus rhythm in our short term study.

A study of immediate and long-term results of significant tricuspid regurgitation after percutaneous mitral balloon valvotomy



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Background: Moderate and severe tricuspid regurgitation (TR) in patients with severe mitral stenosis may persist after successful percutaneous mitral balloon valvotomy (PMV). Its clinical importance has been well established because its persistence may contribute to a poor outcome after the procedure. This is a cohort study over a three-year period of cases seen at our centre. The records of patients with significant TR before successful PMV were reviewed in term of the resolution and its persistence immediately and long after the procedure. Clinical outcome were also analysed in relation to significant TR in terms of functional impairment, repeated PMV, mitral surgery and death. Factors associated with persistence of TR were also noted. Survival analysis was performed.

Methods and results: Seventy-nine patients were included in the study. They were divided into two groups, those with insignificant TR and those with significant TR immediately after successful PMV. Majority of the population were female with mean age of 33 ± 8 and 32 ± 9.5 respectively. Tricuspid regurgitation was resolved to trace or mild in 42 (53%) patients and persisted in 37 (47%). On 3 year follow-up TR became insignificant in 15 (41%) patients who initially had moderate to severe TR after PMV, while 22 (59%) continued to have significant TR. Twelve (29%) patients with initially had trace to mild TR after PMV developed significant TR. Patients with moderate to severe TR immediately and after PMV and those who developed significant TR on follow-up had elevated PAP, TVA and RV diameter on the last follow-up. Presence of organic TR was also significantly associated with patients having persistent significant TR. There was a marked reduction of symptoms in almost all of the patients after the procedure, and majority remained remarkably stable on follow-up. However patients with significant TR on follow-up had higher rates of functional impairment compared to those in whom TR resolved to trace or mild. The event free survival rates for trace to mild TR was 80% and 52% for those with moderate to severe TR.