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# A CLINICAL SURVEY OF PATIENTS WITH MITRAL VALVULAR HEART DISEASE IN A TERTIARY HOSPITAL

Surgery

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## ABSTRACT

Mitral valve disease is a troubling and painful condition that affects a great majority of population world over. Mitral valvular disease management has rapidly progressed in the last few years as our understanding of valve patho-physiology has developed. Mitral valve replacement remains the surgical treatment of choice for many practitioners. The aim of this article is to survey and study patients with Mitral Valvular Heart disease in a tertiary hospital , to study the clinical presentation and evaluation of Mitral Valualar Heart Diseases and to evaluate symptoms as a predictor of Mitral Valualar Heart Diseases.

The same criticism may be applied to the paper of Castro Et Al. done in 2015. In this study, a relatively small series of 25 patients with a suspicious symptomatic diagnosis was included.

## KEYWORDS

Mitral Valve, Stenosis, Regurgitation, Pathophysiology, Management, CVA

**Introduction:**

Mitral Valve Diesease is troubling and painful condition that affects a great majority of population world over. The nature and anatomy of Mitral Valve is quite clear, and much is known about the various predisposing and contributing factors that lead to initiation and progression of the disease. The preferred method of treating them, one that results in optimal clinical results to the patients is however open to debate. Mitral Valvular Disease management has rapidly progressed in last few years as understanding of valve-physiology has developed. Mitral valve replacement remains the surgical treatment of choice for many practitioners. Post-operative impairment of valve function remains controversial. Recently invasive methods of treatment have been explored. Mitral surgery has better success rate than medicine that is used to treat long term symptoms. The results last longer, and majority people come back of surgery than after treatment with medicine.

**AIM**

To survey and study patients with mitral valvular heart disease in a tertiary hospital Gandhi hospital

**OBJECTIVES:**

1. To study the clinical presentation and evaluation of mitral valvular heart diseases.
2. To evaluate the role of symptoms as a predictor of mitral valvular heart diseases.

The same criticism may be applied to the paper of *Castro et al*. done in 2015. In this study, a relatively small series of 25 patients with a suspicious symptomatic diagnosis was included

**METHODOLOGY**

***Study site***

The study is conducted at King George Hospital/Andhra Medical College, Visakhaptnam, AP, which is a tertiary care hospital.

***Study Design:*** Observational study.

***Study time frame***

December 2016 to June 2018 i.e 17 months.

***Inclusion Criteria***

All the patients with Mitral Valvular heart disease undergoing surgery with clinical presentation.

***Exclusion Criteria***

Other Valvular heart diseases.

***Sample Size***

All the patients who meet the inclusion criteria were taken into consideration, which is 25 in the present study.

***Study method:***

***Enrolment of subjects:***

Patients of either sex admitted in our tertiary care centre satisfying the above inclusion criteria were enrolled.

***Data collection:***

Medical history and this is a prospective observational study conducted at Andhra Medical college and King George Hospital, a tertiary care center in Visakhapatnam.

Patients admitted with Mitral valvular heart disease during the period of April 2015 to December2016 fulfilling the criteria were included in the study. After a detail thorough physical examination, following laboratory tests were done in a step wise manner.

Chest X-ray:To know about the Chamber enlargement
ECG: 12 lead to rule out MI and right and left ventrilcular enlargements.
2DECHO :To know about valvular pathology
Coronary angiogram:- To rule out coronary pathology
Surgical Profile: To know Hb% and coagulation disorders.
Carotid Doppler: To know the obstruction in carotids
TSH:-To know to status of thyroid disease
ASO Titre:-to rule out endocarditis

***Statistical analysis***

All the data collected was analyzed after editing for completeness and consistency. Since the present study is observational in nature all the descriptive statistics were presented like mean, standard deviation for continuous variables, and median, IQR, and % distribution for categorical variables. Non- parametric tests were used wherever applicable. The analysis is carried out using statistical package for social sciences (SSPS 20th version).

**OBSERVATION AND RESULTS**

A total number of 25 patients, who fit into the inclusion criteria, admitted in the department of Cardiothoracic Surgery, King George Hospital, during the period Dec 2017 to June 2018 are included in the study.

**Inclusion criteria**

- Murmur
- Epilepsy
- Shortness of breath
- Radiological LA enlargement
- History of rheumatic fever with penicillin prophylaxis
- LA clot (left atrial clot)
- PAH(pulmonary arterial hypertention)
- Symptomatology
- Fatigue
- Shortness of breath

- Chest pain
- Haemoptysis
- Epilepsy
- Fatigue

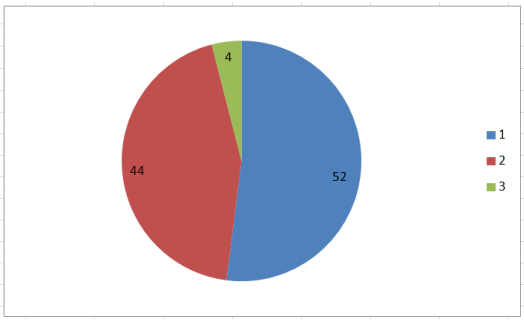


**Figure 1: distribution of the study population into 3 groups**

Out of the 25 patients enrolled in the study 52% patients were in group 1, 44% patients were in group 2, 4% patients were in group 3.

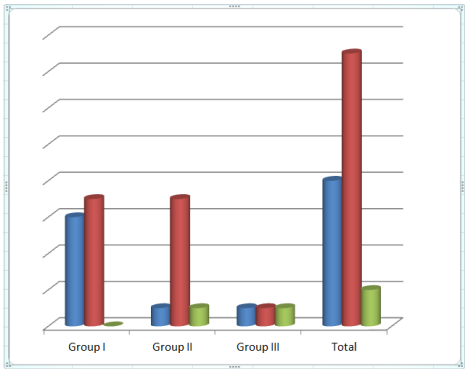


**Figure 2: Age Distribution among 3 groups**

Age distribution among the 3 groups

Out of 25 patients 8 were between 20 and 30 years 15 were between 31 and 45 years, 2 were between 46 and 60 years,

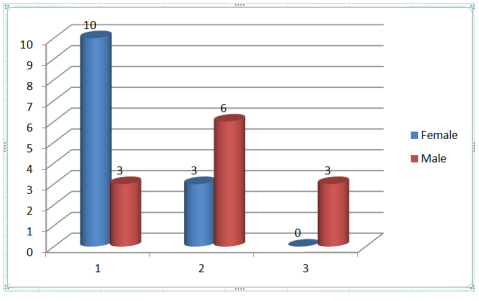


**Figure 3: sex distribution among 3 groups**

Out of 25 cases included in the study 13 were females of all 3 groups & 12 were males of 3 groups .

## DISCUSSION

The relationship between mirtal valve disease and presentation still needs to be defined .It is improbable that symptoms alone act in diagnosing mirtal valve disease.

In this prospective observational study a total no of 25 patients, who fit in to the inclusion criteria were included. Out of 25 patients enrolled in the study 8 were of more than 20 years 11 were between 30-42 years, 5 were between 40-50 years and 1 was above 60 years. Mean age of presentation was 25+- 11 years. There were 3 males and 5 females out of 8 in the age of above 30 years. Study includes out of 25 patients 13 females and 12 were males. A proportionate no of females underwent surgery than males. This is comparable to Kaithin and Abott study of 2015.Out of 25 cases included in the study 14 were of MS and 10 were of MR, 1 was MR+ CABG .In 25 cases included in the study only 3 cases presented with haemoptysis and vague abdominal pain and pedal edema. In the 25 cases included in the study all cases of MS presented with nutritional deficiency and loss of weight. All the 8 cases gave history of Joint pains and were on pencillin prophylaxis. No case of MS and MR presented with pharyngitis.

Prevalence of heart disease in pregnancy varies from 3.33% to present study prevalence of 4.3 %. ours being treating hospital and referral center this may not reflect the true prevalence in population. The percentage of females was higher than males in group1 compared to group2.The general characteristics of subject population in all groups were equally matched except for hypertention and smoking factor. Age and etiology were important factors in valvular lesions. The results prove that rheumatic fever plays a great role in causation of mitral lesions. The relationship of LAClot with development of CVA, pre & postoperatively was analyzed. The presence of lAClot attributed to CVA in 1/8 of patients. Interestingly patients with improved lung function with exercise preoperatively had better surgical outcome. This highlights the importance of exercise and should be encouraged.

## Summary & Conclusions:

1. The study of valvular lesion is OPD and referrals is a randomized study which gives information regarding age of presentation ,and time of presentation.
2. Age is an independent and important risk factor in the development of mitral valvular lesions.
3. Rheumatic fever played an important role in the development of majority of Mitral Valve lesions.
4. The extent of Mitral valvular damage also accounts to some extent in the dysfunction other valves and development of complications like Pulmonary Artery Hypertension.
5. Surgical interventions like mirtal valve replacements are mostly performed in our centre.
6. Our center mainly use ST. Judes valve(Mechanical Prosthesis)
7. Majority of patient post operatively are maintained INR between 2-3 and the ICU stay on a average was three days with one day with an inotropic support per day.
8. In 25 cases we have not come across a single pregnant lady presenting with symptoms as the heart disease in pregnancy varies from 3.33-5%. As ours is a referral center this may not reflect the true prevalence of VHD in population.
9. In 25 pts 1 male presented with though pre OP carotid Doppler was done.
10. 2 males presented with epilepsy pre op which were not of cardiac origin.
11. 4 Patients presented with haemoptysis for which bronchoscopy was done and no lung pathology was found.
12. Most patients of MS & MR lesions presented with Atrial fibrillation and they were treated accordingly prior to taking up for surgery.
13. Patients with severe PAH were treated with tab. sildenafil before Surgical intervention.
14. 2/3 of the patients presented with increased size of LA which lead us to have surgical comfort .
15. Out of 25patients majority presented with sub chordal fusion.
16. In conclusion prevalence of VHD is at risk from 0.7% in those aged 18-44 to 15% in over 60 years of age .The majority disease consisted in our study is MS next to it is MR. There is female Preponderance in MS and Male preponderance in MR. Multivariable analysis suggest that Pre –Operative correction of patient characteristics including anemia, renal in sufficiency and chronic obstructive pulmonary disease [COPD] may decrease the risk of post-operative mortality and morbidity and shorter length of hospital .

## Limitations

This survey was not a population-based epidemiological study and it is not possible to derive any information on the prevalence of different types of VHD, because the selection of participating centres may have introduced a selection bias. The results of this survey should therefore not be generalized to all centres within a particular country or region. On-site auditing concerned only a limited number of patients, and the audit only focused on the accuracy of data entry and not on the validity of the diagnosis because patient management was based on the working diagnosis made by the attending physician, our analysis is suitable for the evaluation of patient management. Due to the nature of the survey and the limits of the existing guidelines, more than performing a strict head to head comparison with guidelines the aim was here to analyse the rationale for management

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