DOI: 10.14260/jemds/2015/231

ORIGINAL ARTICLE

STUDY OF CLINICAL PROFILE OF MITRAL VALVE PROLAPSE

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HOW TO CITE THIS ARTICLE:
Ravikumar M, Madhusudan H. C. "Study of Clinical Profile of Mitral Valve Prolapse". Journal of Evolution of Medical and Dental Sciences 2015; Vol. 4, Issue 10, February 02; Page: 1634-1641,
DOI: 10.14260/jemds/2015/231

ABSTRACT: BACKGROUND & OBJECTIVES: Mitral valve prolapse (MVP) is common, with prevalence between 0.6% and 2.4%, but the clinical outcome of MVP remains controversial.[1] There has been an increased appreciation in recent years of the frequent occurrence and clinical importance of the mitral valve prolapse syndrome.[2] It is now clear that this entity is neither rare nor completely benign and may often result in a variety of symptoms. Thus occurrence of severe mitral regurgitation idiopathic angina-like chest pain, ventricular dyssynergy, tachyarrhythmias, and sudden death has been well documented in MVPS[3] Therefore, the availability of an accurate and practical method for the detection of mitral valve prolapse is of considerable importance.[4] This valvular abnormality has been associated with mid-systolic clicks, late systolic murmurs, and serious complications such as bacterial endocarditis, severe mitral regurgitation, and sudden death.[5] This study aims at the study on clinical profile of mitral valve prolapse to spot the disease early. **METHODS:** Patients presenting with a clinical, 2D-echocardiographic and ECG evidence of Mitral valve prolapse to Medicine OPD, Cardiology OPD in VIMS & RC during the study period will be studied. Informed consent will be taken from all. Detailed history and thorough clinical examination will be done as per pre-structured proforma. After which cases will be subjected to 2D-Echocadiography, ECG for diagnosing mitral valve prolapsed. **RESULTS:** 1) Out of 50 cases, 27 cases were females and 23 cases were males. So the disease is common in females. 2) The most common symptom is Chest discomfort followed by Palpitation. 3) The most common sign is click followed by Murmur. 4) The most common involved valve is Posterior Mitral Leaflet. 5) Isolated Mitral Valve Prolapse is the most common presentation and only rarely associated with others like Atrial Septal Defect. 6) The most common ECG abnormality was ST – T changes. 7) Marfanoid habitus was present in 26 patients. 8) Most common complication is congestive cardiac failure. **CONCLUSION:** It is found that disease is more common in girls .Common symptom is chest discomfort, sign is non-ejection systolic click. Most involved prolapse is in the posterior leaflet of mitral valve. Marfanoid habitus is seen in >50% of the patients. Most common complication is congestive cardiac failure.

KEYWORDS: mitral valve prolapsed, 2D-echocardiographic, ECG.

INTRODUCTION: The syndrome of mitral valve prolapse (MVP) is the most common form of valvular heart disease, occurring in 0.6 to 2.4 percent of the population.[6] thus being more common than a bicuspid aortic valve. The incidence of MVP and risk of complications range greatly, depending on the criteria used for its diagnosis, as well as the patient population studied.[1]

The clinical presentation of Mitral Valve Prolapse is also diverse. They present with a variety of symptoms such as fatigability, palpitation, postural giddiness and symptoms of autonomic dysfunction. Patients with Mitral Valve Prolapse may have a variety of cardiac and non-cardiac abnormalities in addition to valvular lesion with its mid-systolic click and murmur. This includes skeletal abnormalities like scoliosis, straight back syndrome, Pectus-excavatum,[7] shallow chest[8] and

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asthenic built, abnormal cardiovascular and electrocardiographic responses to exercise, ST-T changes in resting ECG and a variety of Atrial and ventricular arrhythmias.

The presence of chest pain, ST-T abnormalities and arrhythmias in the absence of hemodynamically significant valvular, myocardial or coronary arterial disease suggests the possibility of a disorder involving autonomic nervous system. Greater attention and enthusiasm on this condition has been developed because of high prevalence of the condition and increased risk of sudden death. Since special therapeutic, prognostic and genetic factors must be considered in Mitral Valve Prolapse syndrome, precise identification of the condition is essential.

AIM OF THE STUDY: The Aim of this study is to study the clinical profile of Mitral Valve Prolapse.

MATERIALS AND METHODS:

INCLUSION CRITERIA

Patients with

1. Age 15 – 50 years
2. Mid systolic click
3. Late systolic murmur
4. Or both
5. ECG and 2D Echo evidence of mitral valve prolapse

EXCLUSION CRITERIA:

1. Patients with coronary artery disease.
2. Patients with other valvular heart disease other than mitral regurgitation.

PLACE AND PERIOD: This study was done in Vydehi Institute of Medical Sciences And Research centre, Bangalore. Study was done for a period of 1 year, from 2011 to 2012. 50 cases were taken into the study.

HISTORY AND EXAMINATION: The patients who were referred for cardiac symptoms, to medical Outpatient Department or admitted patients with ECG and 2D echo evidence of MVP are included in the study. Patients from 15–50 yrs, both males and females were included. People belonging to various socioeconomic classes were included. All patients were questioned for detailed history. In addition to general symptoms, cardiac symptoms like chest pain, palpitation, dyspnoea, syncope, focal neurological deficit were carefully evaluated.

Past history was taken regarding hypertension, other congenital heart diseases (Atrial Septal Defect, etc), Rheumatic heart disease, syphilis, congestive cardiac failure.

Treatment history like surgery, previous admissions and drugs taken for cardiac illness (e.g. arrhythmias) were taken. Family history mainly focused to assess the first degree relatives, with symptoms. If the relatives were available, they were also examined.

Next, careful general examination was done to find pectus excavatum, carinatum, scoliosis, reduced antero-posterior diameter, straight thoracic spine and features of Marfan's syndrome. Blood pressure was taken in both arms, lying and standing positions and with sustained handgrip maneuver. All cases were carefully examined for evidence of congestive cardiac failure, associated anomalies of heart, focal neurological deficit, infective endocarditis and arrhythmias.

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Auscultation of the heart was performed in lying supine, standing and left lateral positions. Other manoeuvres like leg rising, Valsalva, after isometric exercise also performed. Efforts were taken to find out the presence of pulmonary hypertension, Atrial Septal Defect, Aortic Regurgitation, Tricuspid Regurgitation, Dissection, Aneurysm of Aorta and Hypertrophic Cardiomyopathy.

LABORATORY: Blood tests and urine tests were done to check for Diabetes mellitus and Renal diseases. Hemogram to rule out Anemia was done. Chest X-ray PA view was taken in all of the patients to assess the cardiac size, pulmonary vasculature, aortic morphology, thoracic anomalies and mitral annular calcification. A 12 lead ECG was taken to look for ST-T changes, T wave inversions, VPD, if any, that can occur in Mitral Valve Prolapse Syndrome. Echocardiography was done in all cases to confirm the diagnosis and look which cusp are involved and associated lesions. Both M Mode and 2D echo were done. 2D echo was done in all 4 views mainly parasternal long axis view.

Redundancy of valve leaflets, Left ventricular and Left Atrial measurements, Main Pulmonary Artery measurements were taken. Other valves like Tricuspid and Aortic were also screened for any anomalies like prolapse, etc. 50 cases were selected for the study.

OBSERVATION: Although the auscultatory findings of Mitral Valve Prolapse has been known for a century, only three decade have elapsed since wide spread recognition of association of mid systolic clicks or late systolic murmurs or both with clinical features including atypical chest pain, palpitation, stroke and sudden death. The present study was designed to evaluate the clinical profile in a subset of patients.

Out of 50 cases, 27 cases were females and 23 cases were males. So the disease is common in females. It was most common in the young females. 54%were females and 46% were males. In older age groups, it was common in males. 55.55% of males and 44.44% of females in 30 - 50 age groups. Deveseux et al also observed the same occurrences in men.[9]

Age group analysis in our study revealed that maximum occurrence of Mitral Valve Prolapse was in the 15 - 30 year age groups, with 41patients (82%), followed by 31-40 year age group 7 patients (14%).

According to one study done by Rokicki et al, in which, all 67 cases were included below the age of 20 years, 40 were girls, which comes to 59.7% and 27 boys which comes to 40.3%. In our study, in age 14 – 23, 15 were females and 10 were males. This comes to 60% in females and 40 in males.

The incidence of Mitral Valve Prolapse above 24 is 56% in females and 44% in males. Familial occurrence of Mitral Valve Prolapse is very uncommon. But according to Rokicki et al, it was 20%. The same author noticed the associated bony abnormalities in 20% cases. But in our study, it was found to be 16% of cases, 4% less.

Detailed analysis of symptoms in our study found that chest discomfort was found in 68% of cases, followed by palpitation in 60% of cases, dyspnea in 10% of cases, syncope in 8% of cases, Giddiness in10% of cases, Fatigue in 4% of cases and neurological deficit in 0% of cases.

Detailed analysis of signs revealed that, 70% of cases had clicks and murmur in 48% of cases. Murmurs were typed into Late systolic murmur (15), Midsystolic (7) and Holosystolic (2).

ECG analysis revealed that 18% of cases had ST-T changes, 0% of cases had atrial ectopics, 2% of cases had atrial fibrillation, 2% had Supraventricular Tachycardia, 4% of cases had Ventricular

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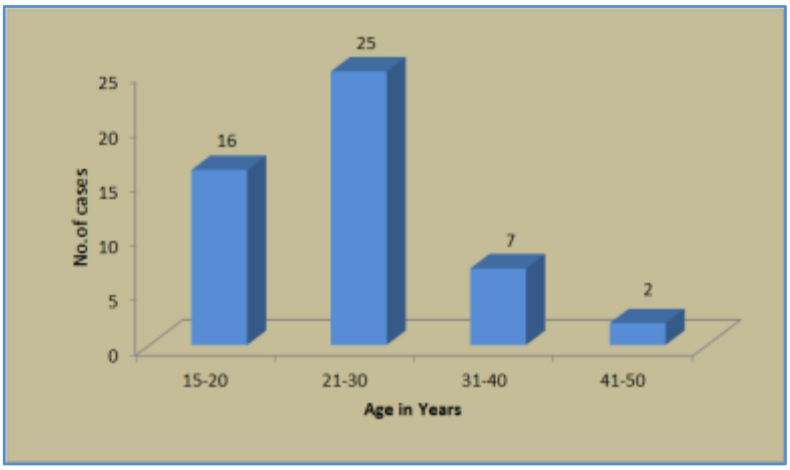
Premature Complexes, 6% of cases had Right Bundle Branch Block, 6% of cases had Early Repolarisation changes.

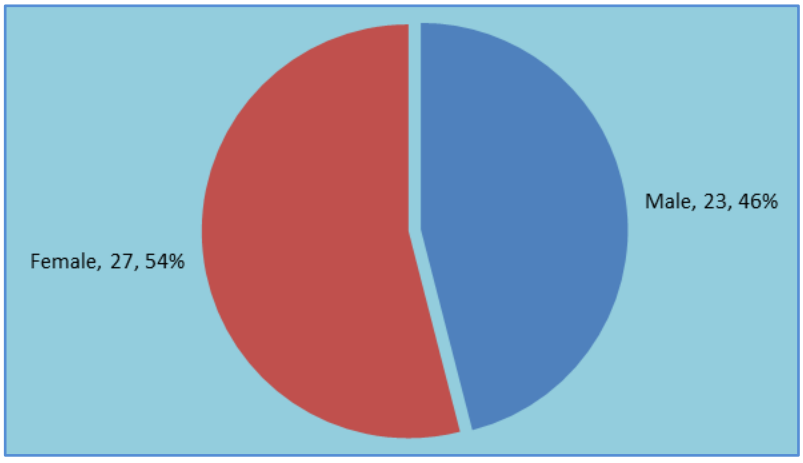
Echocardiography showed that all cases had Mitral Valve Prolapse. Involvement of Posterior leaflet was common. But 3 had involvement of both leaflets.

Associated conditions were also found. ASD was found in 2 cases. Marfanoid habitus was found in 52 % of patients. Scoliosis was present in 12% of Patients, Pectus excavatum in 0% of patients and Straight Back Syndrome in 4% 0f patients.

Analysis of the complications showed that, 10% of cases had Congestive Cardiac Failure, 2 % of cases had Infective Endocarditis, 0 % of cases had stroke.



Agewise distribution



Genderwise distribution

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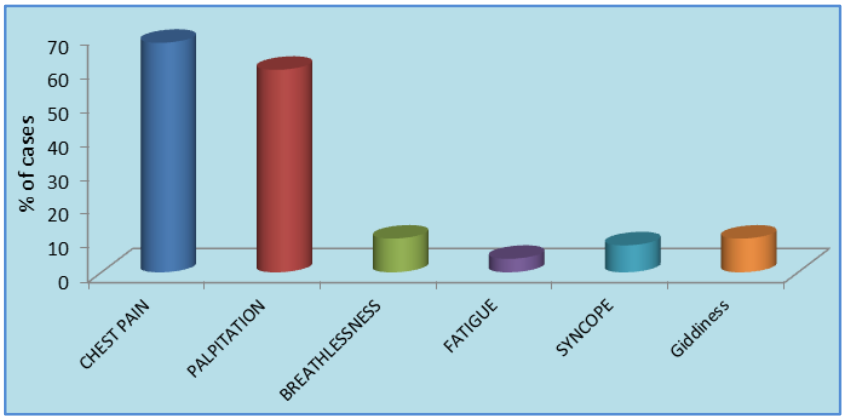
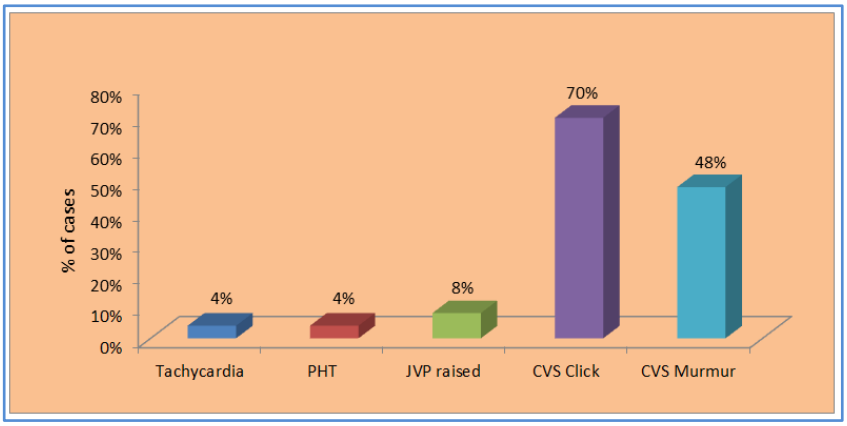
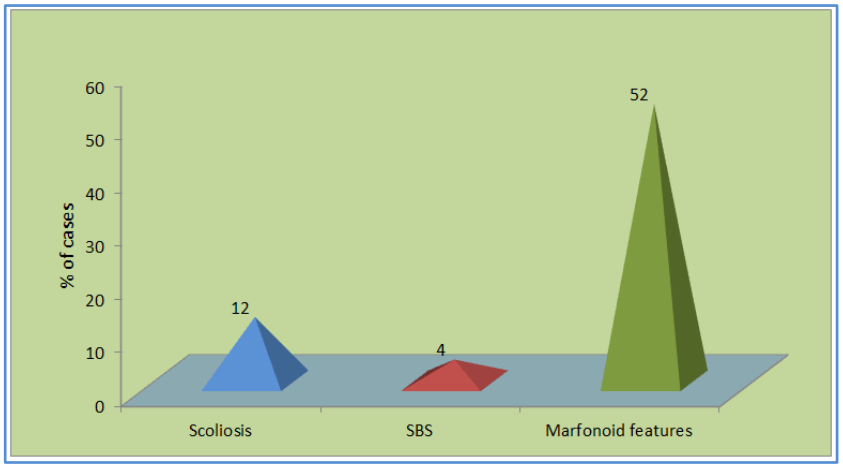


Symptoms



Signs



BONY ABNORMALITIES

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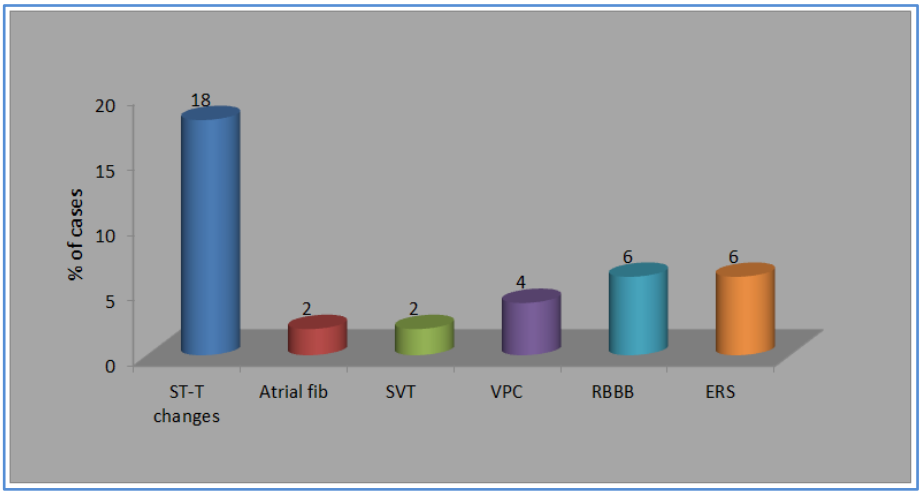
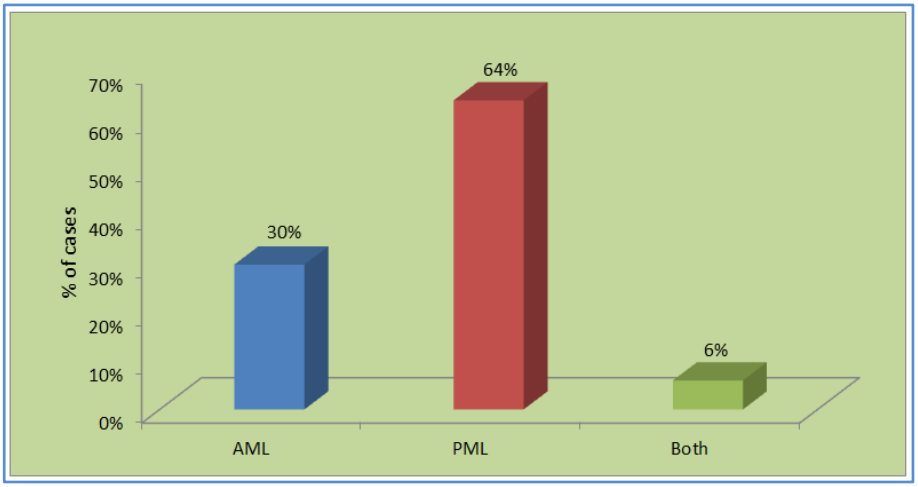


ECG CHANGES



ECHOCARDIOGRAPHY

	No.	%
ASD	2	4
ASSOCIATED CONDITIONS		

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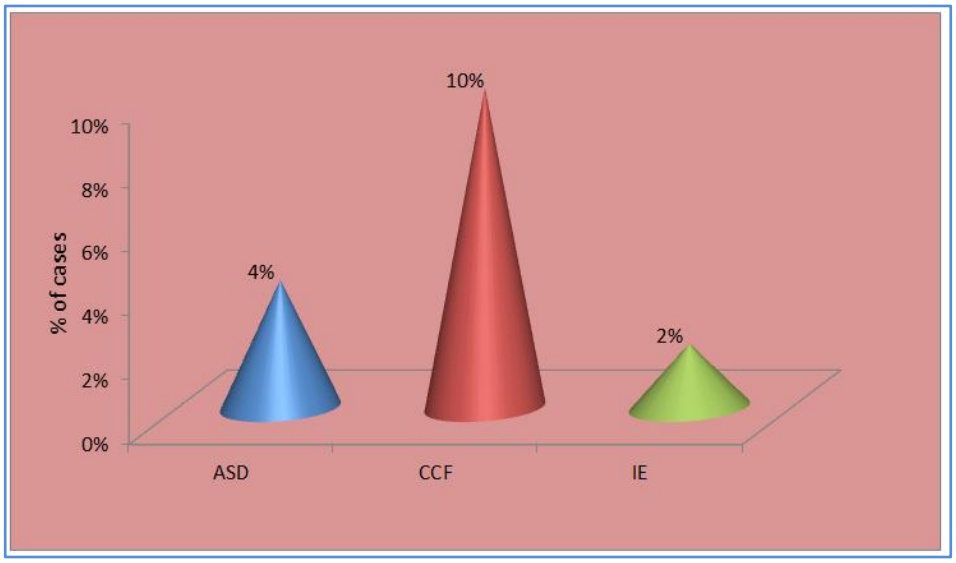

COMPLICATIONS

CONCLUSION: THE PRESENT STUDY INDICATES:

1. Out of 50 cases, 27 cases were females and 23 cases were males. So the disease is common in females.
2. The most common symptom is Chest discomfort followed by Palpitation.
3. The most common sign is click followed by Murmur.
4. The most common involved valve is Posterior Mitral Leaflet.
5. Isolated Mitral Valve Prolapse is the most common presentation and only rarely associated with others like Atrial Septal Defect.
6. The most common ECG abnormality was ST – T changes.
7. Marfanoid Habitus was present in 26 patients.
8. Most common complication is congestive cardiac failure.

SUMMARY: It is found that disease is more common in girls .Common symptom is chest discomfort, sign is non-ejection systolic click. Most involved prolapse is in the posterior leaflet of mitral valve. Marfanoid habitus seen in the >50% of the patients. Most common complication is congestive cardiac failure.

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Date of Submission: 09/01/2015.
Date of Peer Review: 10/01/2015.
Date of Acceptance: 23/01/2015.
Date of Publishing: 30/01/2015.